U.S. Department of Transportation
Federal Highway Administration

Brent Spence Bridge
Replacement/Rehabilitation Project

Air Quality Technical Report: Carbon Monoxide

PID No. 75119
HAM-71/75-0.00/0.22
KYTC Project Item No. 6-17

November 2010








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Disposition of Comments

Air Quality Technical Report
Brent Spence Bridge Replacement/Rehabilitation Project

No.	Comment	Response
1	Because the design year ADT is >140,000, this project is in the "higher potential of MSAT effect" category and a Quantitative MSAT Analysis is required. Please have the consultant follow the guidance found on the following link. http://www.dot.state.oh.us/Divisions/TranssSysDev/Environment/NEPA_policy_issues/AIR_QUALITY/Documents/ODOT%20Technical%20Guidance%20for%20Analysis%20Mobile%20Source%20Air%20Toxics.PDF	The link provides references to FHWA's February 3, 2006 guidance. FHWA issues an Interim Guidance Update on MSAT analysis in NEPA documents on September 30, 2009. The link to this guidance can be found at: http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm While many aspects of the updated guidance echoes the 2006 guidance there are a few important differences. They include: MSAT to be analyzed – The 2006 guidance listed 6 priority MSAT, as defined by EPA. EPA no longer supports this. The new FHWA guidance refers to 7 compounds that EPA identified as having significant contributions from mobile sources. The FHWA considers these the priority mobile source air toxics. • Reference language and figures have been updated to reflect impacts of the new EPA rules on future MSAT emissions and VMT growth. It has been our experience that running FHWA's EMIT model on regional traffic data is the appropriate analysis procedure for projects with "higher potential of MSAT effects". EMIT however, does not currently reflect all the MSAT referenced in the 2009 update. To estimate all the MSAT of concern, MOBILE6 will be run outside of the EMIT model to obtain emission factors for POM (which requires the summation of 15 individual MSAT) and naphthalene. These emission factors will be applied to the regional VMT to obtain build and no build emission burden estimates.
2	Because the project involves design year ADT>125,000 and diesel truck volume > 8% of the ADT, a PM2.5 Hotspot Analysis is required to be prepared for the project.	A PM2.5 Hotspot Analysis was completed for the project.

No.	Comment	Response
3	Relative to CO, state that a CO analysis was conducted because “The constructed project will result in an increase in the ADT of more than 10,000 vehicles within 10 years of project completion date. Also, the project involves a new project right-of-way that will have an ADT of more than 20,000 vehicles within 10 years of construction. Hence, a carbon monoxide analysis is required.” CO analysis should be a separate report under a separate cover.	The text was revised as requested. A separate report was prepared for the CO analysis.
4	CO, PM2.5 and MSAT analyses should be separate reports under separate covers. Please have the consultant separate these out and resubmit.	The report was revised into three separate reports for CO, PM2.5 and MSAT.

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1.0 INTRODUCTION

This Air Quality Technical Report has been prepared in support of the Brent Spence Bridge Replacement/Rehabilitation Project. The objective of this report is to evaluate the project's potential air quality impacts within the study area. This includes the following:

- Evaluate the project's impact on regional air quality levels;
- Evaluate whether this project will cause or contribute to a new localized exceedance of carbon monoxide (CO) ambient air quality standards ; and
- Evaluate the construction emissions of the project.

1.1 Project Description

Interstate 75 (I-75) within the Greater Cincinnati/Northern Kentucky region; is a major thoroughfare for local and regional mobility. Locally, it connects to I-71, I-74 and US Route 50. The Brent Spence Bridge provides an interstate connection over the Ohio River and carries both I-71 and I-75 traffic (Exhibit 1). The bridge also facilitates local travel by providing access to downtown Cincinnati, Ohio and Covington, Kentucky. Safety, congestion and geometric problems exist on the structure and its approaches. The Brent Spence Bridge, which opened to traffic in 1963, was designed to carry 80,000 vehicles per day. Currently, approximately 160,000 vehicles per day use the Brent Spence Bridge and traffic volumes are projected to increase to 200,000 vehicles per day in 2035.

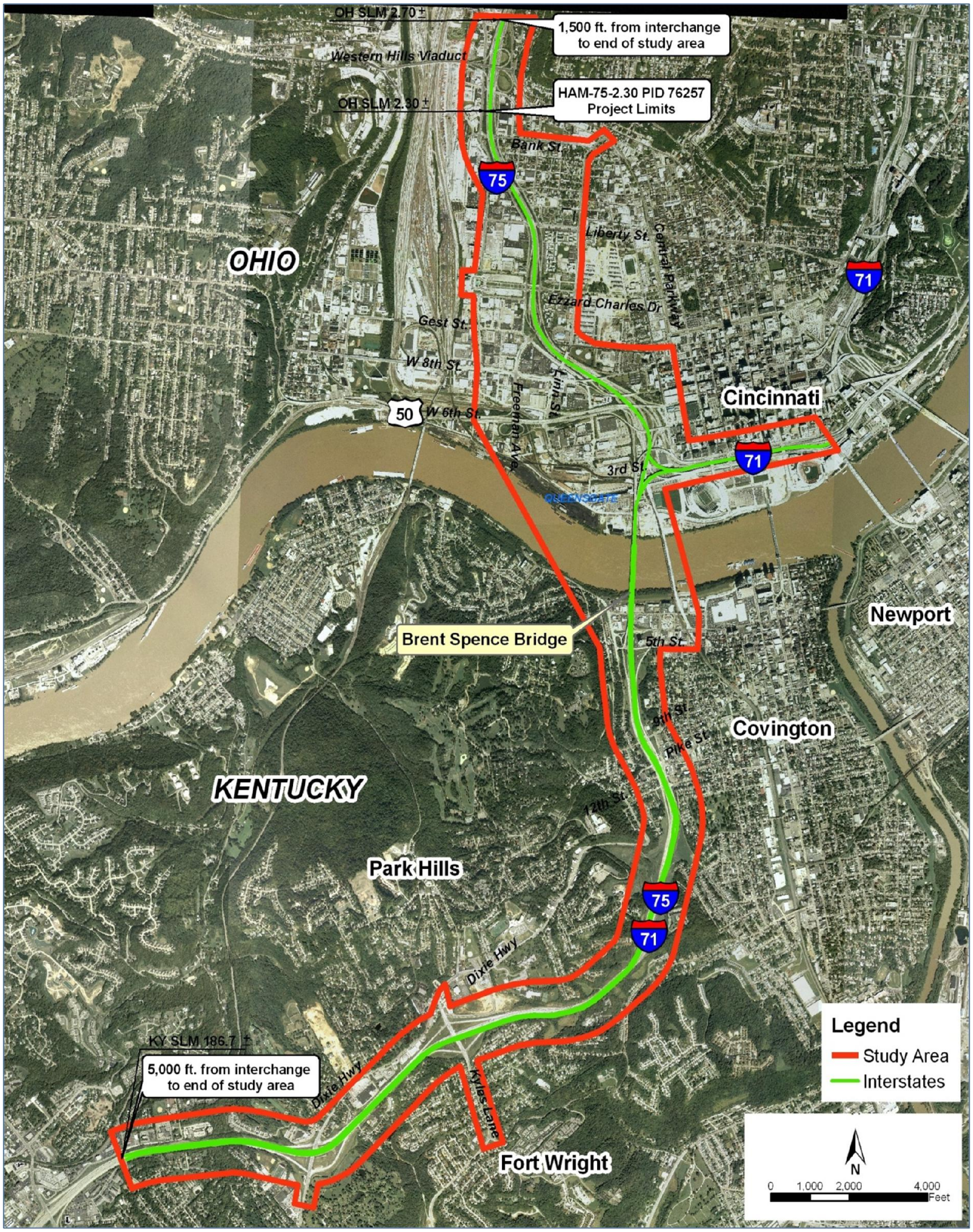
The I-75 corridor within the Greater Cincinnati/Northern Kentucky region is experiencing problems, which threaten the overall efficiency and flexibility of this vital trade corridor. Areas of concern include, but are not limited to, growing demand and congestion, land use pressures, environmental concerns, adequate safety margins, and maintaining linkage in key mobility, trade, and national defense highways.

The I-75 corridor has been the subject of numerous planning and engineering studies over the years and is a strategic link in the region's and the nation's highway network. As such, the Ohio Department of Transportation (ODOT) and the Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA), are proposing to improve the operational characteristics of I-75 and the Brent Spence Bridge in the Greater Cincinnati/Northern Kentucky region through a major transportation project.

1.2 Purpose and Need

The Brent Spence Bridge Replacement/Rehabilitation Project is intended to improve the operational characteristics within the I-71/I-75 corridor for both local and through traffic. In the Greater Cincinnati/Northern Kentucky region, the I-71/I-75 corridor suffers from congestion and safety–related issues as a result of inadequate capacity to accommodate current traffic demand. The objectives of this project are to:

- Improve traffic flow and level of service;
- Improve safety;
- Correct geometric deficiencies; and
- Maintain connections to key regional and national transportation corridors.



U.S. Department of Transportation Federal Highway Administration

Kentucky

Exhibit 1. Project Study Area Limits

1.3 Study Corridor

The overall project corridor is located along a 7.8-mile segment of I-75 within the Commonwealth of Kentucky (state line mile 186.7) and the State of Ohio (state line mile 2.7). The southern limit of the project is 5,000 feet south of the midpoint of the Dixie Highway Interchange on I-71/I-75 in Fort Wright, south of Covington, Kentucky. The northern limit of the project is 1,500 feet north of the midpoint of the Western Hills Viaduct Interchange on I-75 in Cincinnati, Ohio. The eastern and western limits of the study area generally follow the existing alignment of I-75. The project study area limit's for which the air analysis was completed is depicted in Exhibit 1.

1.4 Feasible Alternatives

The Brent Spence Bridge Rehabilitation/Reconstruction project is currently in Steps 6 and 7 of ODOT's Project Development Process (PDP). Two feasible alternatives and the No Build Alternative are being developed and studied in more detail. The two alternatives selected for the Step 6 and 7 are Alternative E and Alternative I, which is a combination of Conceptual Alternatives C and D from Step 5 of the PDP.

1.4.1 Alternative E

Alternative E utilizes the existing I-71/I-75 alignment from the southern project limits at the Dixie Highway Interchange north to the Kyles Lane Interchange. The Dixie Highway and Kyles Lane interchanges will be modified slightly to accommodate a Collector-Distributor (C-D) roadway, which will be constructed along both sides of I-71/I-75 between the two interchanges. North of the Kyles Lane Interchange, the alignment shifts to the west to accommodate additional I-71/I-75 travel lanes. Between Kyles Lane and KY 12th Street, six lanes will be provided in each direction for a total of 12 travel lanes.

Near KY 12th Street, the northbound alignment separates into two routes; one for interstate traffic and one for a local C-D roadway. Between Pike Street and KY 9th Street, the interstate separates into I-71 and I- 75 only routes. The C-D roadway will carry local traffic northbound and provide access to Covington at KY 12th and 5th streets and access from KY 9th and 4th streets. The southbound C-D roadway will carry traffic from Ohio over I-71/I-75 and provide access to both the interstate and into Covington at KY 9th Street.

A new double deck bridge will be built just west of the existing Brent Spence Bridge to carry northbound and southbound I-71 and I-75 traffic. On the upper deck, I-71 southbound will have three lanes and I-71 northbound will have two lanes. On the lower deck, I-75 will have three northbound and three southbound lanes. The existing Brent Spence Bridge will be rehabilitated to carry northbound and southbound local traffic with two lanes in the southbound direction and three lanes in the northbound direction.

In Ohio, Alternative E reconfigures I-75 through the I-71/I-75/US 50 Interchange and eliminates some of the existing access points along I-75. Existing ramps to I-71, US 50 and downtown Cincinnati will be reconfigured. The existing direct connections between I-75 to westbound and from eastbound US 50 will be maintained in Alternative E. US 50 will be reconfigured to eliminate left-hand entrances and exits. The OH 5th Street overpass will be eliminated and the 6th Street Expressway will be reconfigured as a two-way, six-lane elevated roadway with a new signalized intersection for US 50 access and egress. Access between southbound I-71 (Fort

Washington Way) and northbound I-75 will be provided near OH 9th Street as a direct connection. Both I-75 southbound and US 50 (Sixth Street Expressway) will have access to northbound I-71 (Fort Washington Way). Access to OH 3rd Street at the Clay Wade Bailey Bridge intersection will also be available via the I-75 southbound to northbound I-71 (Fort Washington Way) connection.

A local C-D roadway will carry local traffic northbound from the existing Brent Spence Bridge and provide access to OH 2nd, 5th, and 9th streets, Winchell Avenue and access from OH 4th before reconnecting to I-75 just south of the Linn Street overpass. The northbound ramps from OH 6th and 9th Street to I-75 will be removed requiring traffic from these points to utilize a new local roadway parallel to I-75 and access the interstate at Bank Street. Southbound I-75 traffic will separate from the local C-D roadway near Ezzard Charles Drive. The southbound C-D roadway will carry traffic over I-75 to OH 7th Street, allowing traffic to either; access downtown at 7th Street, travel south to OH 5th and 2nd streets, or travel across the existing Brent Spence Bridge into Covington. Access to the local southbound C-D roadway will be provided at Western Avenue and at OH 4th and 8th streets.

Alternative E also improves Western and Winchell avenues to facilitate traffic flow and increase capacity. The ramps to Western Avenue and from Winchell Avenue just north of Ezzard Charles Drive will be removed. The ramp from Freeman Avenue to I-75 northbound and the ramp from I-75 southbound to Freeman will remain. Between Ezzard Charles Drive and Western Hills Viaduct, southbound I-75 will have six lanes, northbound I-75 will have five lanes, and one auxiliary lane to the Western Hills Viaduct. The Western Hills Viaduct Interchange will be reconfigured to provide a full movement interchange. The improved interchange will be a Single Point Urban Interchange (SPUI) design.

1.4.2 Alternative I

Alternative I utilizes the existing I-71/I-75 alignment from the southern project limits at the Dixie Highway Interchange north to the Kyles Lane Interchange. The Dixie Highway and Kyles Lane interchanges will be modified slightly to accommodate a connector-distributor (C-D) roadway, which will be constructed along both sides of I-71/I-75 between the two interchanges. North of the Kyles Lane Interchange, the alignment shifts to the west to accommodate additional I-71/I-75 travel lanes. Between Kyles Lane and KY 12th Street, six lanes will be provided in each direction for a total of 12 travel lanes. Near KY 12th Street, the alignment separates into three routes for I-71, I-75 and a local C-D roadway.

In Alternative I, access into Covington from the interstate will be provided by the local C-D roadway; at KY 12th Street for northbound traffic and at KY 5th and 9th streets for southbound traffic. Direct access to I-71 from Covington will be provided at KY 9th Street with traffic to I-75 northbound using the C-D roadway through downtown Cincinnati and connecting at the Ezzard Charles merge. Access for southbound interstate traffic is located at KY 12th Street. Access from Covington to downtown Cincinnati will be provided by the C-D roadway from KY 9th and 4th streets. Bullock Street will be extended north from Pike Street to KY 9th, 5th, and 4th streets and Jillian's Way will be extended north from Pike Street to KY 9th and 5th streets.

A new double deck bridge will be built just west of the existing Brent Spence Bridge to carry northbound and southbound I-75 (three lanes in each direction), two lanes for southbound I-71 and three lanes for southbound local traffic. The existing Brent Spence Bridge will be rehabilitated to carry two lanes for northbound I-71 and three lanes for northbound local traffic.

Alternative I re-configures I-75 through the I-71/I-75/US 50 Interchange and eliminates all access to and from I-75 from KY 12th Street to the US 50/6th Street overpass in the northbound direction. Alternative I also eliminates access to and from I-75 southbound between KY 12th Street and the Freeman Avenue exit.

In Ohio, a local C-D roadway will be constructed along both sides of I-75. The local northbound C-D roadway will carry local traffic from the existing bridge and provide access ramps to OH 2nd Street, I-71 northbound, US 50 westbound, OH 5th Street, and Winchell Avenue before reconnecting to I-75 just south of Ezzard Charles Drive. The northbound ramps from OH 6th and 9th streets to I-75 will be removed requiring traffic from these three points to utilize a new local roadway parallel to the northbound C-D roadway for access to I-75 around the Western Hills Viaduct Interchange. The northbound ramps from OH 4th Street will utilize the new local northbound C-D roadway for access to I-75. The southbound C-D roadway begins near the Ezzard Charles Drive overpass and carries both downtown Covington and Cincinnati traffic. The southbound C-D roadway will provide access to OH 7th, 5th, 3rd, and 2nd streets, as well as connecting to access ramps from Western Avenue, OH 9th Street, and US 50 eastbound. The C-D roadway will continue south over the new bridge into Covington.

Between Ezzard Charles Drive and the Western Hills Viaduct, northbound I-75 will have five lanes and southbound I-75 will have six lanes, for a total of 11 travel lanes. The ramps to Western Avenue and from Winchell Avenue just north of Ezzard Charles Drive to the Interstate will be eliminated. The southbound ramp to Freeman Avenue and the northbound ramp from Freeman Avenue to I-75 will remain. Alternative I also improves Western and Winchell avenues to facilitate traffic flow and increase capacity. Ramps to Western Avenue and from Winchell Avenue will be provided around the Western Hills Viaduct Interchange, which will be reconfigured to be a tight diamond design.

1.4.3 No Build Alternative

The No Build Alternative consists of minor, short-term safety and maintenance improvements to the Brent Spence Bridge and I-75 corridor, which would maintain continuing operations. The No Build Alternative does not meet the Purpose and Need goals; however, this alternative will be carried forward as a baseline for evaluation of the feasible alternatives.

2.0 EXISTING CONDITIONS

“Air Pollution” is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants degrade the atmosphere by reducing visibility, damaging property, reducing the productivity or vigor of crops or natural vegetation, and/or reducing human or animal health. Air quality is a term used to describe the amount of air pollution the public is exposed to.

Air quality in the United States is governed by the Federal Clean Air Act (CAA) and is administered by the United States Environmental Protection Agency (USEPA).

2.1 United States Environmental Protection Agency

The USEPA is responsible for establishing the National Ambient Air Quality Standards (NAAQS) and enforcing the CAA, and regulates emission sources, such as aircraft, ships, and certain types of locomotives, under the exclusive authority of the federal government. The USEPA also has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards.

2.2 Clean Air Act Amendments of 1990

The Clean Air Act Amendments (CAAA) of 1990 direct the USEPA to implement environmental policies and regulations that will ensure acceptable levels of air quality.

Under the CAAA, a project cannot:

- Cause or contribute to any new violation of any NAAQS in any area;
- Increase the frequency or severity of any existing violation of any NAAQS in any area; or
- Delay timely attainment of any NAAQS or any required interim emission reductions or other milestones in any area.

2.3 National and State Ambient Air Quality Standards

As required by the CAA, NAAQS have been established for six major air pollutants. These pollutants are: CO, nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). These standards are summarized in Table 1. The “primary” standards have been established to protect the public health. The “secondary” standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare.

2.4 Ambient Air Quality Data

2.4.1 Local Meteorology

The proposed project is located in the Greater Cincinnati / Northern Kentucky region. The study area is located within the northern limit of the humid subtropical climate and the southern limit of

Table 1. National Ambient Air Quality Standards.

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm ($10 mg/m^3$)	8-hour [1]	None	
	35 ppm ($40 mg/m^3$)	1-hour [1]		
Lead	$0.15 µg/m^3$ [2]	Rolling 3-Month Average	Same as Primary	
	$1.5 µg/m^3$	Quarterly Average	Same as Primary	
Nitrogen Dioxide	0.053 ppm ($100 µg/m^3$)	Annual (Arithmetic Mean)	Same as Primary	
	0.100 ppm	1-hour [3]	None	
Particulate Matter (PM_{10})	$150 µg/m^3$	24-hour [4]	Same as Primary	
Particulate Matter ($PM_{2.5}$)	$15.0 µg/m^3$	Annual [5] (Arithmetic Mean)	Same as Primary	
	$35 µg/m^3$	24-hour [6]	Same as Primary	
Ozone	0.075 ppm (2008 std)	8-hour [7]	Same as Primary	
	0.08 ppm (1997 std)	8-hour [8]	Same as Primary	
	0.12 ppm	1-hour [9]	Same as Primary	
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Mean)	0.5 ppm (1300 $µg/m^3$)	3-hour [1]
	0.14 ppm	24-hour [1]		

(1) Not to be exceeded more than once per year.
(2) Final rule signed October 15, 2008.
(3) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
(4) Not to be exceeded more than once per year on average over 3 years.
(5) To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m3.
(6) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m3 (effective December 17, 2006).
(7) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)
(8) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.
(c) USEPA is in the process of reconsidering these standards (set in March 2008).
(9) (a) USEPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard (“anti-backsliding”).
(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is $\leq$1.

Source: http://www.epa.gov/air/criteria.html the humid continental climate zone, with average temperatures by US standards. Summers are hot, humid and wet. July is the warmest month, with an average high of 87°F (31°C) and an average low of 68°F (20°C). Winters are generally cool to cold, with occasional snowfall. January is the coldest month, with an average high of 38°F (3°C) and an average low of 21°F (-6°C). Precipitation is fairly evenly distributed each month, averaging 41 inches of rainfall and 14 inches of snowfall annually.

2.4.2 Local Monitored Air Quality

The monitored information for the three monitoring stations nearest the study area—two in Cincinnati, Ohio and one in Highland Heights, Kentucky—are presented in Table 2. This table presents the last three years of available monitored at each of these stations in order to illustrate the study area's general air quality trends. Detailed monitored data can be found Appendix A.

2.5 Pollutant Description

2.5.1 Criteria Pollutants

Pollutants that have established national standards are referred to as "criteria pollutants." The sources of these pollutants, their effects on human health and the nation's welfare, and their final deposition in the atmosphere vary considerably. A brief description of each pollutant is provided below.

Exhibit 2. Ozone in the Atmosphere.

Source: Ozone NY

2.5.1.1 Ozone

Ozone (O_3) is a colorless toxic gas. As shown in (Exhibit 2), O_3 is found in both the Earth's upper and lower atmospheric levels. In the upper atmosphere, O_3 is a naturally occurring gas that helps to prevent the sun's harmful ultraviolet rays from reaching the earth. In the lower layer of the atmosphere, O_3 is human-made.

Although O_3 is not directly emitted, it forms in the lower atmosphere through a chemical reaction between hydrocarbons (HC), also referred to as Volatile Organic Compounds (VOC), and nitrogen oxides (NOx), which are emitted from industrial sources and from automobiles. HC are compounds comprised primarily of atoms of hydrogen and carbon. Total organic gases (TOG) and reactive organic gases (ROG) are the two classes of HC that are inventoried by CARB and SCAQMD. ROG have relatively high photochemical reactivity. The principal nonreactive HC is methane (CH_4), which is also a greenhouse gas. The major source of ROG is the incomplete combustion of fossil fuels in internal combustion engines. Other sources of ROG include the evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products. Adverse effects on human health are not caused directly by ROG, but rather by reactions of ROG to form secondary pollutants. ROG are also transformed into organic aerosols in the atmosphere, contributing to higher levels of fine particulate matter and lower visibility. The term "ROG" is used by CARB for air quality analysis, and is defined the same as the Federal term VOC.

Table 2. Air Quality Summary for Study Area Monitoring Station.

Air Pollutant	Standard/ Exceedance	100 E. 5th Street Cincinnati, OH			250 Wm Howard Taft Road Cincinnati, OH			524a John Hill Road Highland Heights, KY		
		2006	2007	2008	2006	2007	2008	2006	2007	2008
Carbon Monoxide	Maximum 1-hour Concentration (ppm)	10.6	4.9	5.9	NM	NM	NM	NM	NM	NM
	Maximum 8-hour Concentration (ppm)	4.3	3.1	3.6	NM	NM	NM	NM	NM	NM
	# Days>Federal 1-hour Standard of >35 ppm	0	0	0	NM	NM	NM	NM	NM	NM
	# Days>Federal 8-hour Standard of >9 ppm	0	0	0	NM	NM	NM	NM	NM	NM
Ozone	Maximum 1-hour Concentration (ppm)	NM	NM	NM	0.101	0.118	0.101	NM	0.105	0.090
	Maximum 8-hour Concentration (ppm)	NM	NM	NM	0.089	0.097	0.086	NM	0.095	0.084
	# Days>Federal 8-hour Standard Of >0.075 ppm	NM	NM	NM	8	15	7	NM	19	2
Nitrogen Dioxide	Maximum 1-hour Concentration (ppm)	NM	NM	NM	0.061	0.081	0.079	NM	0.044	0.044
	Annual Average (ppm)	NM	NM	NM	0.018	0.017	0.016	NM	0.006	0.006
Sulfur Dioxide	Maximum 24-hour Concentration (ppm)	NM	NM	NM	NM	NM	NM	NM	0.020	0.017
	Annual Average (ppm)	NM	NM	NM	NM	NM	NM	NM	0.004	0.003
	# Days>Federal 24-hour Standard of >0.14 ppm	NM	NM	NM	NM	NM	NM	NM	0	0
Suspended Particulates (PM_{10})	Maximum 24-hour Concentration (μg/m^3)	NM	NM	NM	58.0	46.0	46.0	NM	NM	NM
	#Days>Fed. 24-hour Standard of>150 μg/m^3	NM	NM	NM	0	0	0	NM	NM	NM
Suspended Particulates ($PM_{2.5}$)	Maximum 24-hour Concentration (μg/m^3)	NM	NM	NM	34.5	41.9	31.5	NM	34.0	30.5
	#Days>Fed. 24-hour Standard of>35 μg/m^3	NM	NM	NM	0	0	0	NM	0	0
	National Annual Average (μg/m^3)	NM	NM	NM	13.57	15.09	12.13	NM	14.36	11.98
	#Days>Fed. Annual Standard of>15.0 μg/m^3	NM	NM	NM	0	1	0	NM	0	0
Lead	Maximum Monthly Concentration (μg/m^3)	NM	NM	NM	NM	NM	NM	NM	NM	NM
	# Months Exceeding Federal Standard	NM	NM	NM	NM	NM	NM	NM	NM	NM

Source: USEPA AIRSData: http://www.epa.gov/air/data/geosel.html
NM = not measured

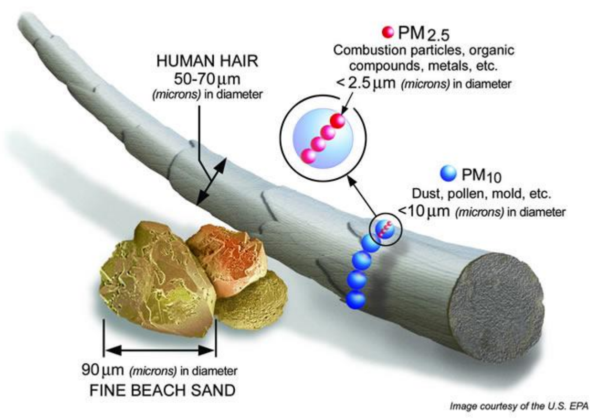
Substantial O_3 formations generally require a stable atmosphere with strong sunlight; thus high levels of O_3 are generally a concern in the summer. O_3 is the main ingredient of smog. O_3 enters the bloodstream through the respiratory system and interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen. O_3 also damages vegetation by inhibiting its growth. The effects of changes in VOC and NOx emissions for the proposed project are examined on a regional and statewide level.

2.5.1.2 Particulate Matter (PM)

Particulate pollution is composed of solid particles or liquid droplets that are small enough to remain suspended in the air. In general, particulate pollution can include dust, soot, salts, acids, metals, and smoke; these can be irritating but usually are not poisonous. Particulate pollution also can include bits of solid or liquid substances that can be highly toxic. Of particular concern are those particles that are smaller than, or equal to, 10 microns (PM_{10}) or 2.5 microns ($PM_{2.5}$) in size.

PM_{10} refers to PM less than 10 microns in diameter, about one-seventh the thickness of a human hair (Exhibit 3). PM also forms when gases emitted from motor vehicles undergo chemical reactions in the atmosphere.

Exhibit 3. Relative Particulate Matter Size.



Source: USEPA Office of Air and Radiation

Major sources of PM_{10} include motor vehicles; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Suspended particulates produce haze and reduce visibility.

Data collected through numerous nationwide studies indicate that most of the PM_{10} comes from the following:

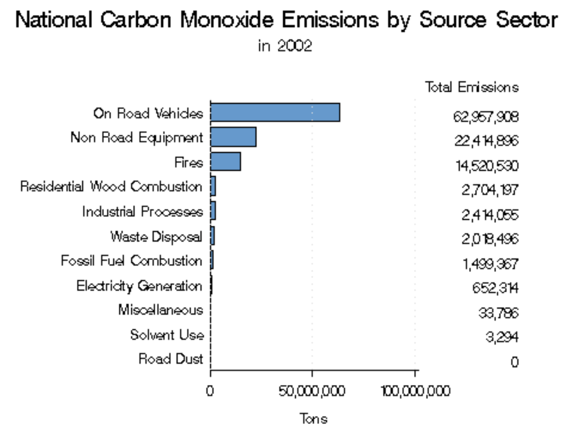
- Fugitive dust
- Wind erosion
- Agricultural and forestry sources

A small portion of PM is the product of fuel combustion processes. In the case of $PM_{2.5}$, the combustion of fossil fuels accounts for a significant portion of this pollutant. The main health effect of airborne particulate matter is on the respiratory system. $PM_{2.5}$ refers to particulates that are 2.5 microns or less in diameter, roughly 1/28th the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_x, and VOCs. Like PM_{10}, $PM_{2.5}$ can penetrate the human respiratory system's natural defenses and damage the respiratory tract when inhaled. Whereas particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues. The effects of PM_{10} and $PM_{2.5}$ emissions for the project are examined on a localized, or microscale, basis, a regional basis and a statewide basis.

2.5.1.3 Carbon Monoxide

Carbon monoxide (CO) is a colorless gas that interferes with the transfer of oxygen to the brain. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. As shown in (Exhibit 4), on-road motor vehicle exhaust is the primary source of CO. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Prolonged exposure to high levels of CO can cause headaches, drowsiness, loss of equilibrium, or heart disease. CO levels are generally highest in the colder months of the year when inversion conditions (when warmer air traps colder air near the ground) are more frequent.

Exhibit 4. Sources of CO.



Source: USEPA

CO concentrations can vary greatly over relatively short distances. Relatively high concentrations of CO are typically found near congested intersections, along heavily used roadways carrying slow-moving traffic, and in areas where atmospheric dispersion is inhibited by urban “street canyon” conditions. Consequently, CO concentrations must be predicted on a microscale basis.

2.5.1.4 Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a brownish gas that irritates the lungs. It can cause breathing difficulties at high concentrations. As with O_3, NO_2 is not directly emitted but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as nitrogen oxides (NO_x) and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10}. At atmospheric concentrations, NO_2 can be potentially irritating. In high concentrations, the result is a brownish-red cast to the atmosphere and reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. An increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 parts per million (ppm).

2.5.1.5 Lead

Lead (Pb) is a stable element that persists and accumulates both in the environment and in animals. Its principal effects in humans are on the blood-forming, nervous, and renal systems. Pb levels from mobile sources in the urban environment have decreased significantly due to the federally-mandated switch to lead-free gasoline, and they are expected to continually decrease. An analysis of lead emissions from transportation projects is therefore not warranted.

2.5.1.6 Sulfur Dioxide

Sulfur Dioxide (SO_2) is a product of high-sulfur fuel combustion. The main sources of SO_2 are coal and oil used in power stations, industry, and domestic heating. Industrial chemical manufacturing is another source of SO_2. SO_2 is an irritant gas that attacks the throat and lungs.

It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and corrode iron and steel. Although diesel-fueled heavy duty vehicles emit SO_2, transportation sources are not considered by USEPA (and other regulatory agencies) to be significant sources of this pollutant, thus an analysis of emissions from transportation projects is not warranted.

2.6 Attainment Status

Section 107 of the 1977 CAAA requires that the USEPA publish a list of all geographic areas in compliance with the NAAQS, plus those not attaining the NAAQS. Areas not in NAAQS compliance are deemed non-attainment areas. Areas that have insufficient data to make a determination are deemed unclassified, and are treated as being attainment areas until proven otherwise. An area's designation is based on the data collected by the state monitoring network on a pollutant-by-pollutant basis.

The study area is located in Hamilton County, Ohio and Kenton County, Kentucky. As shown Table 3, the USEPA has classified both counties as nonattainment areas for O_3 and for $PM_{2.5}$.

Table 3. Study Area Attainment Status.

Pollutant	Federal Attainment Status Hamilton County, OH	Federal Attainment Status Kenton County, KY
Ozone (O_3)	Nonattainment	Nonattainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Particulate Matter (PM_{10})	Attainment	Attainment
Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Lead (Pb)	Attainment	Attainment

Source: USEPA, 2010

2.7 State Implementation Plan and Transportation Improvement Program Status

Under the CAAA, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and the Transportation Equity Act for the 21st Century (TEA-21), proposed transportation projects must be derived from a long-range transportation plan (LRP) or Regional Transportation Plan(RTP) that conforms with the state air quality plans as outlined in the SIP. The SIP sets forth the state's strategies for achieving air quality standards. Projects must also be included in a Transportation Improvement Program (TIP) that conforms with the SIP, and localized impacts from proposed projects must conform to state air quality plans in non-attainment and maintenance areas.

The Ohio-Kentucky-Indiana Regional Council of Governments (OKI) is the Metropolitan Planning Organization for the greater Cincinnati area. Every four years, OKI updates the OKI 2030 Regional Transportation Plan. The Plan is the long-range, comprehensive transportation-planning document for the three-state, eight-county Greater Cincinnati region. It defines the overarching goals for transportation in the region, establishes existing and future transportation needs of the region and allocates projected revenue to transportation programs and projects that address those needs.

The latest regional emissions and air quality conformity analysis was completed in June 2008 with the adoption of OKI's 2030 Regional Transportation Plan and amended FY 2008-FY 2011 Transportation Improvement Program. With the Plan's local adoption, it has been submitted to the federal highway and federal transit administrations for their review and approval. The Brent Spence Bridge Rehabilitation/Replacement project, identified as KYTC Project ID #6-17.03, 6-17.04, and ODOT PID 75119, was included in this analysis. This analysis found that the plan and, therefore, the individual projects contained in the plan, are conforming projects, and will have air quality impacts consistent with those identified in the SIPs for achieving the NAAQS.

3.0 ENVIRONMENTAL IMPACT/ENVIRONMENTAL CONSEQUENCES

Pollutants that can be traced principally to motor vehicles are relevant to the evaluation of the project's impacts; these pollutants include carbon monoxide (CO), hydrocarbons (HC), nitrous oxides (NO_x), ozone (O_3), Particulate Matter (PM_{10} and $PM_{2.5}$), and mobile source air toxics (MSAT). Transportation sources account for a small percentage of regional emissions of sulfur oxide (SO_x) and lead (Pb); thus, a detailed analysis is not required.

HC volatile organic compounds (VOC) and NO_x emissions from automotive sources are a concern primarily because they are precursors in the formation of O_3 and PM. Ozone is formed through a series of reactions that occur in the atmosphere in the presence of sunlight. Since the reactions are slow and occur as the pollutants are diffusing downwind, elevated O_3 levels often are found many miles from the sources of the precursor pollutants. Therefore, the effects of HC and NO_x emissions generally are examined on a regional or "mesoscale" basis.

PM_{10} and $PM_{2.5}$ impacts are both regional and local. A significant portion of particulate matter, especially PM_{10}, comes from disturbed vacant land, construction activity, and paved road dust. $PM_{2.5}$ also comes from these sources. Motor vehicle exhaust, particularly from diesel vehicles, is also a source of PM_{10} and $PM_{2.5}$. PM_{10}, and especially $PM_{2.5}$, can also be created by secondary formation from precursor elements such as sulfur dioxide (SO_2), NO_X, VOCs, and ammonia (NH_3). Secondary formation occurs due to chemical reaction in the atmosphere generally downwind some distance from the original emission source. Thus it is appropriate to predict concentrations of PM_{10} and $PM_{2.5}$ on both a regional and a localized basis.

CO impacts are generally localized. Even under the worst meteorological conditions and most congested traffic conditions, high concentrations are limited to a relatively short distance (300 to 600 feet) of heavily traveled roadways. Vehicle emissions are the major sources of CO. The project could change traffic patterns within the study area. Consequently, it is appropriate to predict concentrations of CO on both a regional and a localized or "microscale" basis.

MSAT impacts are both regional and local. On February 3, 2006, the Federal Highway Administration (FHWA) released *Interim Guidance on Air Toxic Analysis in NEPA Documents.* This guidance was superseded on September 30, 2009 by FHWA's *Interim Guidance Update on Air Toxic Analysis in NEPA Documents.* According to these documents, regardless of the alternative chosen, MSAT emissions will likely be lower than present levels in the design year as a result of the United States Environmental Protection Agency's (USEPA) national control programs that are projected to reduce annual MSAT emissions by 72 percent between 1999 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle miles traveled (VMT) growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

3.1 Regional Emissions Analysis

The regional (or mesoscale) analysis of a project determines a project's overall impact on regional air quality levels. A transportation project is analyzed as part of a regional transportation network developed by the County or State. Projects included in this network are found in the area's Transportation Improvement Plan (TIP). The TIP is the basis for the regional analysis which utilizes VMT and vehicle hours traveled (VHT) within the region to estimate daily "pollutant burden" levels. The results of this analysis determine if an area is in conformity with regulations set forth in the Final Conformity Rule.

The Brent Spence Bridge Replacement/Rehabilitation project, identified as KYTC Project ID #6-17.03, 6-17.04, and ODOT PID 75119, was included in the regional emissions analysis conducted by the Ohio Kentucky Indiana Regional Council of Governments (OKI) for the 2030 Regional Transportation Plan and the Fiscal Year 2008-2011 TIP, dated June 2008. This analysis found that the plan and, therefore, the individual projects contained in the plan, are conforming projects, and will have air quality impacts consistent with those identified in the state implementation plans (SIPs) for achieving the National Ambient Air Quality Standards (NAAQS).

Though the conformity analysis conducted by OKI determined that the project conforms to the air quality goals of the area, a project level regional analysis was conducted to highlight the project's impact on regional air quality levels. The regional analysis utilizes VMT and VHT within the region, with corresponding emission factors for HC, NO_x, CO, PM_{10} and $PM_{2.5}$ from USEPA's latest emission factor program, MOBILE6.2, to determine daily "pollutant burden" levels under each alternative.

The regional emissions analysis was conducted for the No Build and two Build Alternatives (Alternative E and Alternative I). The analysis was based on regional VMT estimates by roadway type along with associated VHT estimates. Emission factors were obtained using USEPA's MOBILE6.2 emission factor program with area specific data supplied by OKI. The results for the study area are shown in Table 4. The project is predicted to reduce overall VMT and emissions of VOC, PM_{10} and $PM_{2.5}$ by approximately 0.1 percent. It is expected to increase CO and NO_x emissions by approximately 0.1 to 0.2 percent. These increases are due to increased speeds under the Build Alternatives which increase emission rates for these particular pollutants. The overall effect of the project on regional pollutant levels, however, is less than 0.5 percent and will likely result in no measurable increase or decrease in regional pollutant levels.

3.1.1 Carbon Monoxide (CO)

The localized assessment of air quality was conducted to address CO, PM_{10} and $PM_{2.5}$ impacts, as well as mobile source air toxics (MSAT). This report focuses on the CO analysis.

A CO analysis was conducted because the constructed project will result in an increase in the ADT of more than 10,000 vehicles within 10 years of project completion date. Also, the project involves a new project right-of-way that will have an ADT of more than 20,000 vehicles within 10 years of construction. Hence, a carbon monoxide analysis is required.

Microscale air quality modeling was performed using the most recent version of the USEPA mobile source emission factor model (MOBILE6.2) and the CAL3QHC version 2.0 air quality dispersion model to estimate future No Build Alternative and the Build Alternatives, CO levels at selected locations in the study area.

3.1.2 Site Selection and Receptor Locations

The sites chosen for the CO analysis were selected using a screening analysis based on overall intersection volume, changes in intersection volume, and changes in traffic level of service

Table 4. Regional Emission Burden Assessment.

Alternative	Vehicle Miles Travelled (miles)	Average Speed (mph)	Emission Burden (Tons per Day)					Percent Change from No Build					
			CO	VOC	NO_x	PM_{10}	$PM_{2.5}$	VMT	CO	VOC	NOx	PM_{10}	$PM_{2.5}$
No Build	89,731,288	32.0	1,230	33.6	32.5	2.7	1.3	N/A	N/A	N/A	N/A	N/A	N/A
Alternative E	89,667,285	32.0	1,231	33.5	32.6	2.7	1.3	-0.1%	0.1%	-0.1%	0.1%	-0.1%	-0.1%
Alternative I	89,667,285	32.0	1,231	33.5	32.6	2.7	1.3	-0.1%	0.1%	-0.1%	0.2%	-0.1%	-0.1%

(LOS). Intersections that demonstrate a LOS of A, B, or C are not expected to cause a violation of the NAAQS. Intersections that the project causes to operate at or below LOS D, increase delay of an intersection with a LOS of worse than D, or increase overall traffic volumes, have the potential to cause a violation of the NAAQS, and therefore fail the screening analysis.

As shown in Table 5, a total of 70 intersections within the study corridor were screened based on this methodology. Seven sites in Kentucky and nine sites in Ohio failed the screening analysis. These sites are highlighted in Table 5. Of these 16 sites, seven intersections, represented by four analysis sites, were chosen for detailed analysis. These four modeled sites are representative of the worst-case conditions and, therefore, the highest CO levels in the project area. These sites are:

- **Kentucky**
  - **Kyles Lane and Dixie Highway** – This site has the highest traffic volume and worst LOS and delay of all the intersections screened in Kentucky.
  - **KY 5th Street and Bakewell Street** – This site is predicted to operate at LOS F in the AM peak period under Alternative I. Given the close proximity of this site to the intersections of **KY 5th Street & Philadelphia Street** and **KY 5th Street & Main Street** (which also failed the screening analysis), these additional two intersections were included in the microscale analysis for this location.
- **Ohio**
  - **OH 4th Street and Central Avenue -** This site has the worst LOS under the Build Alternatives (Alternative E, PM peak) of all the intersections screened in Ohio. In Alternative E OH 4th Street will also be connecting with the C-D Roadway (intersection of **OH 4th Street and C-D Roadway**), which is also a high volume site that failed the screening analysis.
  - **Western Hills and I-75 Southbound ramp -** This intersection has the highest traffic volume of all the intersections in Ohio that failed the screening analysis. It is close to the intersection of **Central Parkway and McMillan Street,** which has the highest non-ramp intersection volumes of all the Ohio intersections screened. Given the distance from this site to the nearest sensitive receptors, the intersections of **Central Parkway and McMillan Street** and **Western Hills and the I-75 Northbound ramp** were also included in this analysis location.

The sites chosen for detailed analysis are shown in (Exhibit 5) and listed in Table 6. Receptors were chosen at each site in accordance with the guidelines found in the USEPA's *Guideline for Modeling Carbon Monoxide from Roadway Intersections* (USEPA-454/R-92-005). Microscale CO levels were modeled at these locations using the USEPA-authorized MOBILE6.2 program to develop emissions and the CAL3QHC dispersion program to calculate concentrations.

3.1.2.1 Emission Model

Vehicular emissions were estimated using the USEPA MOBILE6.2 vehicular emission factor model. (*User's Guide to MOBILE6.2, Mobile Source Emission Factor Model, Ann Arbor, Michigan, USEPA*420-R-02-028, October 2002). Input parameters were provided by OKI.

Table 5. CO Site Selection Screening Analysis.

	No Build (2035)						Alternative E						Alternative I					
	AM			PM			AM			PM			AM			PM		
Intersection	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume
Ohio																		
Bank Street & Dalton Avenue	B	12.6	1,270	B	15.6	1,950	B	12.9	1,410	B	15.9	2,200	B	13.1	1,430	B	19.7	2,280
Bank Street & Winchell Avenue	B	12.0	610	B	12.7	1,070	B	11.6	530	B	12.1	910	B	12.6	710	B	13.2	1,180
Central Parkway & Linn Street	B	15.2	2,060	B	15.6	2,710	B	18.5	3,080	C	25.2	3,910	B	15.2	2,060	B	15.6	2,710
Bank Street & Linn Street	B	10.0	430	B	11.3	710	B	10.6	550	B	12.6	910	B	10.5	540	B	13.4	910
Dalton Avenue & Findlay Street	B	12.6	1,210	B	13.3	1,620	B	12.6	1,380	B	13.7	1,870	B	12.8	1,340	B	14.1	1,800
Findlay Street & Western Avenue	B	11.9	950	B	11.6	770	B	11.3	610	B	11.3	620	B	11.5	800	B	11.6	820
Findlay Street & Winchell Avenue	B	11.6	690	B	11.9	890	B	11.4	550	B	11.7	730	B	11.8	800	B	12.5	1,110
Dalton Avenue & Liberty Street	B	12.9	1,050	B	14.4	1,830	B	12.9	1,510	B	14.3	2,050	B	13.3	1,420	B	14.6	1,900
Western Avenue & Liberty Street	C	20.2	950	B	12.1	1,000	B	19.9	720	B	19.7	760	C	20.3	960	C	20.2	900
Liberty Street & Winchell Avenue	B	12.5	1,090	B	12.8	1,270	B	12.1	830	B	12.4	990	B	13.0	1,090	B	13.2	1,280
Liberty Avenue & Linn Street	B	12.4	1,440	B	13.1	1,930	B	12.2	1,230	B	12.8	1,690	B	12.3	1,230	B	12.9	1,670
Ezzard Charles Drive (WB) & Western Avenue	B	11.2	940	B	11.3	900	B	10.7	440	B	10.9	620	B	10.7	480	B	10.6	400
Ezzard Charles Drive (WB) & Winchell Avenue	B	10.9	570	B	11.7	1,050	B	10.9	540	B	11.5	900	B	11.1	670	B	12.3	1,350
Ezzard Charles Drive (EB) & Western Avenue	B	11.3	910	B	11.4	930	B	11.0	410	B	11.0	660	B	10.7	430	B	10.7	430
Ezzard Charles Drive (EB) & Winchell Avenue	B	12.1	1,030	B	11.2	800	B	11.6	910	B	11.3	680	B	11.8	1,050	B	11.6	1,130
Ezzard Charles Drive & Linn Street	B	12.5	1,430	B	12.4	1,900	B	12.2	1,380	B	12.3	1,760	B	12.1	1,340	B	12.3	1,710
Gest Street & Dalton Avenue	B	11.9	1,410	B	12.7	1,730	B	12.0	1,400	B	12.7	1,720	B	11.9	1,420	B	12.8	1,800

Table 5. CO Site Selection Screening Analysis (continued).

	No Build (2035)						Alternative E						Alternative I					
	AM			PM			AM			PM			AM			PM		
Intersection	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume
Ohio																		
Gest Street & Western Avenue	B	11.3	670	B	11.2	740	B	11.3	820	B	11.5	880	B	10.9	510	B	11.2	640
Gest Street & Freeman Avenue	C	29.0	1,810	C	20.2	1,690	C	22.5	1,940	C	21.2	1,920	C	31.1	1,980	C	21.0	1,870
Linn Street & Gest Street	B	12.1	850	B	12.6	1,180	B	12.0	800	B	12.9	1,120	B	12.0	810	B	12.4	1,100
Court Street & Linn Street	C	16.8	950	C	23.2	1,200	B	14.0	750	C	23.5	1,100	B	11.4	520	B	14.9	740
8th Street & Dalton Avenue	B	12.5	1,860	B	12.9	2,090	B	12.5	1,730	B	12.8	1,920	B	12.5	1,860	B	12.9	2,110
8th Street & Freeman Avenue	B	13.2	2,450	B	13.3	2,520	B	13.4	2,630	B	13.6	2,500	B	13.1	2,400	B	13.5	2,540
8th Street & Linn Street	B	13.6	1,850	C	20.2	2,430	B	13.7	2,170	B	16.2	2,820	B	13.6	1,930	B	18.9	2,470
Western Hills Viaduct & Spring Grove Avenue	B	14.0	1,860	B	19.3	2,750	B	19.1	2,230	C	21.9	3,480	B	14.0	1,860	B	19.3	2,750
Dalton Avenue & Linn Street	B	12.5	1,160	B	15.7	1,620	B	12.3	1,210	B	16.2	1,890	B	12.5	1,180	B	15.6	1,710
6th Street & Linn Street	A	8.6	670	B	14.8	1,530	A	9.1	790	D	34.7	1,840	A	8.5	690	C	15.4	1,570
Court Street & Central Avenue	B	16.5	1,100	B	12.1	860	B	16.7	1,240	B	12.3	850	B	13.1	900	B	12.0	820
9th Street & Central Avenue	B	18.9	1,020	D	35.1	2,830	B	11.2	660	B	19.8	1,320	B	18.6	760	C	23.8	1,870
7th Street & Central Avenue	B	17.8	2,750	B	12.4	1,150	C	24.7	2,830	B	12.9	1,200	B	17.6	2,610	B	12.2	1,070
6th Street & Central Avenue	B	15.1	970	C	23.8	2,110	D	38.9	1,850	D	50.1	2,110	B	11.9	750	B	13.2	1,510
5th Street & Central Avenue	C	26.6	2,500	B	17.5	1,570	D	41.7	3,010	C	20.5	1,840	C	22.2	2,100	B	16.9	1,360
4th Street & Central Avenue	B	15.3	910	D	38.8	2,600	B	15.7	1,090	E	55.4	3,250	B	14.1	750	C	27.0	2,310
3rd Street & Central Avenue	D	39.2	1,730	D	44.0	2,620	D	37.6	1,450	C	31.5	1,870	D	41.1	1,570	D	43.8	2,060
4th Street & Plum Street	B	11.3	580	B	13.0	1,400	B	11.5	710	B	14.6	1,780	B	11.3	590	B	13.2	1,430

Table 5. CO Site Selection Screening Analysis (continued).

	No Build (2035)						Alternative E						Alternative I					
	AM			PM			AM			PM			AM			PM		
Intersection	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume
Ohio																		
3rd Street & Plum Street	B	12.5	990	B	12.6	1,020	B	12.3	910	B	12.1	780	B	12.2	900	B	12.4	940
4th Street & Elm Street	B	12.6	1,390	B	14.3	2,200	B	13.0	1,490	B	15.4	2,410	B	12.7	1,320	B	14.2	2,140
3rd Street & Elm Street	B	14.1	2,050	B	14.6	2,500	B	13.5	1,900	B	14.4	2,440	B	13.5	1,890	B	14.9	2,610
2nd Street & Elm Street	B	16.2	3,480	B	15.3	2,350	B	16.1	3,560	B	14.1	2,320	B	15.2	3,270	B	14.0	2,300
3rd Street & Clay Wade Bailey Bridge	C	23.0	1,280	C	32.9	2,420	B	15.5	1,030	C	30.7	1,980	C	24.1	1,460	D	37.5	2,110
Central Parkway & McMillan Street	C	20.0	2,860	D	41.9	3,690	A	8.4	3,040	B	19.1	3,310	C	20.0	2,860	D	41.9	3,690
Central Parkway & McMillan Street	-	-	-	-	-	-	B	17.0	2,630	A	9.7	3,620	-	-	-	-	-	-
Western Hills Viaduct & I-75 Southbound Ramp	-	-	-	-	-	-	D	40.1	6,030	C	33.0	4,900	A	3.7	2,140	A	9.4	1,800
Western Hills Viaduct & I-75 Northbound Ramp	-	-	-	-	-	-	-	-	-	-	-	-	C	21.6	1,330	B	16.8	1,440
C-D Road & 4th Street	-	-	-	-	-	-	B	17.9	2,900	D	49.1	4,550	-	-	-	-	-	-
C-D Road & 5th Street	-	-	-	-	-	-	B	18.7	3,980	A	6.4	4,600	-	-	-	-	-	-
I-71 Southbound/I-75 Northbound & 6th Street	-	-	-	-	-	-	C	28.6	4,740	C	33.7	4,900	-	-	-	-	-	-
C-D Road & 7th Street	-	-	-	-	-	-	D	41.5	4,130	B	14.7	2,230	-	-	-	-	-	-

Table 5. CO Site Selection Screening Analysis (continued).

	No Build (2035)						Alternative E						Alternative I					
	AM			PM			AM			PM			AM			PM		
Intersection	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume
Kentucky																		
4th Street & Crescent Avenue	C	21.9	800	F	121.1	940	B	17.9	1,700	B	18.8	1,750	C	18.2	700	C	18.0	740
4th Street & Philadelphia Street	D	54.5	2,370	F	83.5	2,930	F	100.8	2,610	B	14.4	2,090	C	32.2	2,020	B	14.0	2,020
4th Street & Bakewell Street	B	12.1	1,300	B	14.0	1,880	B	13.0	1,650	B	12.7	1,460	B	11.9	1,200	B	12.3	1,310
4th Street & Main Street / Clay Wade Bailey Bridge	B	16.1	2,040	C	28.6	2,890	B	15.8	2,120	D	36.3	2,630	B	13.1	1,670	D	45.9	2,660
5th Street & Crescent Avenue	B	11.4	600	C	15.3	780	-	-	-	-	-	-	B	11.0	590	C	15.9	780
5th Street & Philadelphia Street	B	17.3	1,820	B	15.3	1,540	B	17.7	1,750	B	16.0	1,500	B	15.9	1,630	B	13.8	1,310
5th Street & Bakewell Street	E	42.6	1,310	C	21.1	1,000	F	53.9	1,400	D	32.9	1,210	F	106.7	1,250	D	25.3	930
5th Street & Main Street	B	17.6	1,940	B	16.3	2,050	B	15.9	1,870	D	35.7	2,500	B	16.0	1,930	C	31.9	2,570
Pike Street & Bullock Street	C	22.5	2,380	C	34.1	2,160	B	13.4	2,010	B	19.6	2,890	C	24.1	2,450	C	22.7	2,910
Pike Street & Jillians Way	D	49.4	2,630	B	16.2	1,850	B	13.9	1,690	B	13.1	1,550	B	19.8	3,080	B	19.3	2,560
12th Street & Bullock Street	C	15.6	1,090	C	15.4	1,130	B	13.1	1,500	B	14.3	2,100	B	13.4	1,410	B	16.9	1,850
12th Street & Jillians Way	F	565.3	1,480	F	302.7	1,560	B	12.5	1,530	B	13.1	1,670	C	24.1	2,370	B	14.6	2,120
Kyles Lane & Dixie Highway	F	214.6	3,430	F	171.3	3,560	F	222.8	3,480	F	165.9	3,650	F	222.8	3,480	F	166.1	3,650
Kyles Lane & I-75 SB Ramp	C	26.8	2,350	D	47.9	3,230	B	19.7	2,350	C	24.0	3,260	B	19.7	2,350	C	24.0	3,260
Kyles Lane & I-75 NB Ramp	F	108.7	3,160	C	32.3	3,490	C	20.2	3,220	C	24.6	3,500	C	20.2	3,220	C	24.6	3,500
Kyles Lane & Highland Avenue	F	105.7	2,960	F	137.7	3,410	F	90.0	3,060	F	102.8	3,470	F	90.0	3,060	F	102.8	3,470
Dixie Highway & I-75 NB	C	22.0	1,970	B	18.1	2,050	C	22.2	2,060	B	16.2	2,080	C	22.2	2,060	B	16.2	2,080
Dixie Highway & I-75 SB	B	18.6	2,250	C	20.2	2,510	B	17.6	2,360	C	20.5	2,590	B	17.6	2,360	C	20.5	2,590

Table 5. CO Site Selection Screening Analysis (continued).

	No Build (2035)						Alternative E						Alternative I					
	AM			PM			AM			PM			AM			PM		
Intersection	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume
Kentucky																		
9th & Jillians Way	-	-	-	-	-	-	C	22.4	1,440	C	26.9	1,770	B	12.7	870	B	12.0	740
9th & Bullock Street	-	-	-	-	-	-	B	13.0	1,930	C	21.9	3,180	B	13.4	1,160	B	16.0	1,690
5th & Exit Ramp	-	-	-	-	-	-	B	16.6	1,670	B	14.5	1,510	B	14.1	1,340	B	12.6	960
4th & Exit Ramp	-	-	-	-	-	-	C	19.3	1,210	E	37.6	1,310	-	-	-	-	-	-

Table 6. CO Microscale Analysis Sites.

Analysis Site #	Location
1	Kyles Lane and Dixie Highway
2	KY 5th Street and Bakewell Street
3	OH 4th Street and Central Avenue
4	Western Hills Viaduct and I-75 southbound ramp

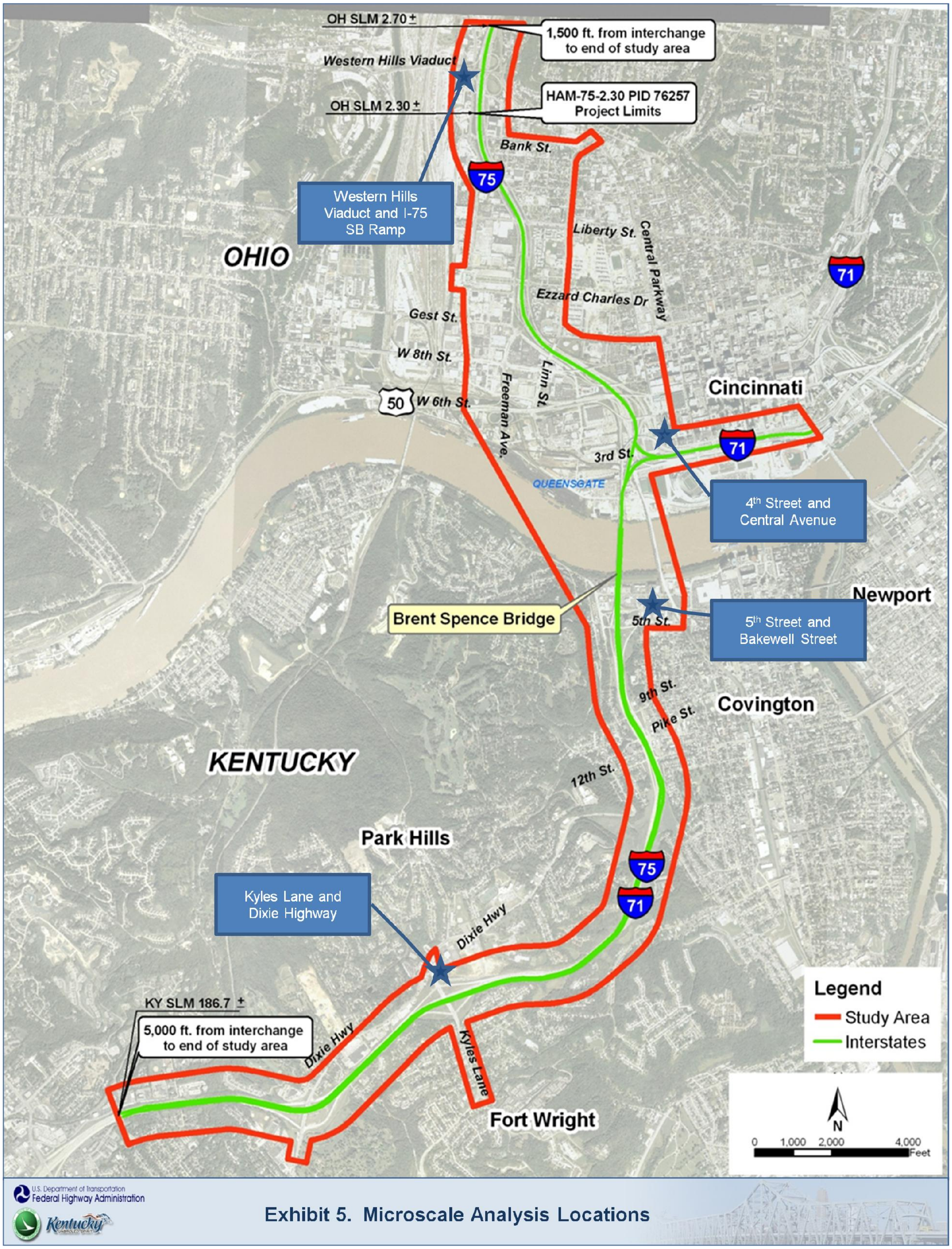


Exhibit 5. Microscale Analysis Locations

MOBILE6.2 is a mobile source emission estimate program that provides current and future estimates of emissions from highway motor vehicles. The latest in the MOBILE series, dating back to 1978, MOBILE6.2 was designed by the USEPA to address a wide variety of air pollution modeling needs. This latest version of MOBILE differs significantly in both structure and data requirements from previous versions. MOBILE6.2 incorporates updated information on basic emission rates, more realistic driving patterns, separate start and running emissions, improved correction factors, and changing fleet composition. Input and output files for the MOBILE6.2 program can be found in Appendix B.

3.1.2.2 Dispersion Model

Mobile source models are the basic analytical tools used to estimate CO concentrations expected under given traffic, roadway geometry, and meteorological conditions. The mathematical expressions and formulations that comprise the various models attempt to describe an extremely complex physical phenomenon as closely as possible. The dispersion modeling program used in this study for estimating pollutant concentrations near roadway intersections is the CAL3QHC (Version 2.0) dispersion model developed by the USEPA and released in 1992.

CAL3QHC is a Gaussian model recommended in the USEPA *Guidelines for Modeling Carbon Monoxide from Roadway Intersections* (EPA-454/R-92-005). Gaussian models assume that the dispersion of pollutants downwind of a pollution source follow a normal distribution from the center of the pollution source.

Different emission rates occur when vehicles are stopped (idling), accelerating, decelerating, and moving at different average speeds. CAL3QHC simplifies these different emission rates into two components:

- Emissions when vehicles are stopped (idling) during the red phase of a signalized intersection
- Emissions when vehicles are in motion during the green phase of a signalized intersection

The CAL3QHC (Version 2.0) air quality dispersion model has undergone extensive testing by USEPA and has been found to provide reliable estimates of inert (nonreactive) pollutant concentrations resulting from motor vehicle emissions. A complete description of the model is in the *User's Guide to CAL3QHC version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations near Roadway Intersections* (EPA-454/R-92-006). The CAL3QHC input and output files used for the microscale modeling are presented in Appendix C.

3.1.2.3 Meteorological Conditions

The transport and concentration of pollutants emitted from motor vehicles are influenced by three principal meteorological factors: wind direction, wind speed, and the temperature profile of the atmosphere. The values for these parameters were chosen to maximize pollutant concentrations at each prediction site (i.e., to establish a conservative worst case situation).

The selection of these meteorological parameters was based on recommendations from the OKI and USEPA's Guidelines:

- **Wind Direction**. Maximum CO concentrations are normally found when the wind is assumed to blow approximately parallel to a single roadway adjacent to the receptor location. At complex intersections, however, it is difficult to predict which wind angle will result in maximum concentrations. At each receptor location, therefore, the approximate wind angle that would result in maximum pollutant concentrations was used in the analysis. All wind angles from 0° to 360° (in 5° increments) were considered.
- **Wind Speed**. CO concentrations are greatest at low wind speeds. A conservative wind speed of 1.0 meter per second (2.2 miles per hour) was used to predict CO concentrations during peak traffic periods.
- **Temperature and Profile of the Atmosphere**. Minimum and maximum winter temperatures of 19^{o}C and 37^{o}C, respectively, a “mixing” height (the height in the atmosphere to which pollutants rise) of 1000 meters, and neutral atmospheric stability (stability class D) conditions will be used in estimating microscale CO concentrations.

The CO levels estimated by the model are the maximum concentrations which could be expected to occur at each air quality receptor site analyzed, given the assumed simultaneous occurrence of a number of worst case conditions: peak hour traffic conditions, conservative vehicular operating conditions, low wind speed, low atmospheric temperature, neutral atmospheric conditions, and maximizing wind direction.

3.1.2.4 Persistence Factor

Peak eight-hour concentrations of CO were obtained by multiplying the highest peak hour CO estimates by a persistence factor. The persistence factor accounts for the fact that:

- Over eight-hours (as distinct from a single hour) vehicle volumes will fluctuate downward from the peak hour.
- Vehicle speeds may vary.
- Meteorological conditions including wind speed and wind direction will vary compared to the conservative assumptions used for the single hour.

A persistence factor of 0.7 was used in this analysis. This factor is recommended for use by the USEPA.

3.1.2.5 Background Concentrations

Microscale modeling is used to predict CO concentrations resulting from emissions from motor vehicles using roadways immediately adjacent to the locations at which predictions are being made. A CO background level must be added to this value to account for CO entering the area from other sources upwind of the receptors. The CO background level should be located away from the influence of local traffic congestion. For the study area, the data collected at the 100 E. 5th Street monitoring station located in Cincinnati, Ohio was used for a background concentration. The use of this monitor is conservative because, though it is the closest monitor to the general study area, it is a microscale monitor, therefore it already accounts for local traffic. The second highest maximum monitored value was used as a background concentration. The second highest monitored one-hour CO concentration during the period of 2006 – 2008 (2009 data is not currently validated) was 9.9 ppm; the second highest eight-hour average was 3.0 ppm. These values were conservatively used as the background for all CO modeling analyses. Future CO background levels are anticipated to be lower than existing levels due to mandated emission source reductions.

3.1.2.6 Traffic Information

Traffic data for the air quality analysis were derived from traffic counts and other information developed as part of an overall traffic analysis for the project. Output from the Highway Capacity model was used to obtain signal timing parameters. The microscale CO analysis was performed based on data from this analysis for the AM and PM peak traffic periods. These are the periods when maximum traffic volumes occur on local streets and when the greatest traffic and air quality effects of the proposed project are expected.

3.1.2.7 Analysis Years

CO concentrations were predicted for the design year (2035) of the project.

3.1.3 Analysis Results

Maximum one-hour and eight-hour CO levels were predicted at receptor sites within the study area. Maximum one-hour CO concentrations are shown in Table 7. Maximum eight-hour CO concentrations are shown in Table 8.

No violations of the NAAQS are predicted under any alternative.

Table 7. Predicted Worst-Case One-hour CO Concentrations (ppm).

No	Site Description	No Build		Alternative E		Alternative I	
		AM	PM	AM	PM	AM	PM
1	Kyles Lane and Dixie Highway	12.5	12.5	12.6	12.7	12.6	12.5
2	5th Street and Bakewell Street	11.5	12.4	12.9	12.0	12.5	12.6
3	4th Street and Central Avenue	11.9	13.0	10.8	12.3	11.9	14.6
4	Western Hills & I-75 SB ramp	11.8	13.2	12.1	13.2	12.3	13.5

Note: Concentrations include one-hour CO background = 9.9 ppm; One-hour NAAQS = 35 ppm

Table 8. Predicted Worst-Case Eight-hour CO Concentrations (ppm).

No	Site Description	No Build	Alternative E	Alternative I
1	Kyles Lane and Dixie Highway	4.8	5.0	4.9
2	5th Street and Bakewell Street	4.8	5.1	4.9
3	4th Street and Central Avenue	5.2	4.7	6.3
4	Western Hills & I-75 SB ramp	5.3	5.3	5.5

Note: Concentrations include one-hour CO background = 3.0 ppm; Eight-hour NAAQS = 9 ppm,

3.2 Construction Assessment

Construction-related effects of the project would be limited to short-term increased fugitive dust and mobile-source emissions during construction. State and local regulations regarding dust control and other air quality emission reduction controls will be followed.

Once a detailed construction schedule is developed, a more refined construction analysis will be conducted to determine the air quality impacts of construction.

3.3 Fugitive Dust Emissions

Fugitive dust is airborne particulate matter, generally of a relatively large particulate size. Construction-related fugitive dust would be generated by haul trucks, concrete trucks, delivery trucks, and earth-moving vehicles operating around the construction sites. This fugitive dust would be due primarily to particulate matter re-suspended ("kicked up") by vehicle movement over paved and unpaved roads, dirt tracked onto paved surfaces from unpaved areas at access points, and material blown from uncovered haul trucks.

Generally, the distance that particles drift from their source depends on their size, the emission height, and the wind speed. Small particles (30 – 100 micron range) can travel several hundred feet before settling to the ground. Most fugitive dust, however, is comprised of relatively large particles (that is, particles greater than 100 microns in diameter). These particles are responsible for the reduced visibility often associated with this type of construction. Given their relatively large size, these particles tend to settle within 20 to 30 feet of their source.

In order to minimize the amount of construction dust generated, the guidelines below should be followed. The following preventive and mitigative measures should be taken to minimize the potential particulate pollution problem:

- **Site Preparation**
  - Minimize land disturbance.
  - Use watering trucks to minimize dust.
  - Cover trucks when hauling dirt.
  - Stabilize the surface of dirt piles if they are not removed immediately.
  - Use windbreaks to prevent accidental dust pollution.
  - Limit vehicular paths and stabilize these temporary roads.
  - Pave all unpaved construction roads and parking areas to road grade for a length no less than 50 feet from where such roads and parking areas exit the construction site. This prevents dirt from washing onto paved roadways.

- **Construction**
  - Cover trucks when transferring materials.
  - Use dust suppressants on unpaved traveled paths.
  - Minimize unnecessary vehicular and machinery activities.
  - Minimize dirt track-out by washing or cleaning trucks before leaving the construction site. An alternative to this strategy is to pave a few hundred feet of the exit road just before entering the public road.

- **Post-Construction**
  - Re-vegetate any disturbed land not used.
  - Remove unused material.
  - Remove dirt piles.
  - Re-vegetate all vehicular paths created during construction to avoid future off-road vehicular activities.

3.4 CO Emissions

Since CO emissions from motor vehicles generally increase with decreasing vehicle speed, disruption of traffic during construction (such as the temporary reduction of roadway capacity and the increased queue lengths) could result in short-term, elevated concentrations of CO. In order to minimize the amount of emissions generated, every effort should be made during the construction phase to limit disruption to traffic, especially during peak travel hours.

4.0 CONCLUSION

The Brent Spence Bridge Replacement/Rehabilitation project, identified as Kentucky Transportation Cabinet Project ID 6-17.03, 6-17.04, and Ohio Department of Transportation PID 75119, was included in the regional emissions analysis conducted by the Ohio Kentucky Regional Council of Governments for the 2030 Regional Transportation Plan and the Fiscal Year 2008-2011 Transportation Improvement Plan, dated June 2008. This analysis found that the plan and, therefore, the individual projects contained in the plan, are conforming projects, and will have air quality impacts consistent with those identified in the State Implementation Plans for achieving the National Ambient Air Quality Standards (NAAQS). In addition, the result of the air quality analyses conducted for the proposed project is that it would not cause an exceedance of the carbon monoxide NAAQS.

5.0 REFERENCES

Federal Highway Administration. *Transportation Conformity Reference Guide. 2008.* http://www.fhwa.dot.gov/environment/conform.htm

Kentucky Transportation Cabinet, August, 2010. http://transportation.ky.gov/

Ohio, Kentucky, Indiana Regional Council of Governments. Air Quality Conformity Determination of the OKI 2030 Regional Transportation Plan", 2010. http://www.oki.org/environment/aqtransportation.html

US Environmental Protection Agency, Air Quality Analysis Branch, User's Guide to Mobile6.2, USEPA-TEB-92-01 http://www.epa.gov/oms/m6.htm

US Environmental Protection Agency, Airsdata, 2010. http://www.epa.gov/air/data/geosel.html

US Environmental Protection Agency, Office of Air Quality Planning and Standards, User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations near Roadway Intersections, USEPA -454/R-92-006 http://nepis.epa.gov

Appendix A Monitored Data
Appendix B MOBILE6.2 Input and Output Files
Appendix C CAL3QHC Input and Output Files

Appendix A

Monitored Data

AirData - Monitor Values Report - Criteria Air Pollutants
Generated on Thursday, April 1, 2010

AirData

EPA is assessing its data systems, including AirData reports and maps. Data updates are suspended while the assessment is underway. The last update included data through January 10, 2009; see database status for details. For more recent air quality data, visit the AirExplorer and Air Emission Sources sites.

Monitor Values Report - Criteria Air Pollutants

Geographic Area: Kentucky, Ohio
Pollutant: Carbon Monoxide
Year: 2006, 2007, 2008

EPA Air Quality Standards:
Carbon Monoxide: 35 ppm (1-hour average), 9 ppm (8-hour average)

ppm = parts per million

46 Rows
See Disclaimer

	CO (ppm)														
	1-Hour Values				8-Hour Values			Monitor Number							
Row #	# Obs	1st Max	2nd Max	# Exceed	1st Max	2nd Max	# Exceed		Year	Site ID	Site Address	City	County	State	EPA Region
SORT															
1	7,928	2.6	2.6	0	1.8	1.8	0	1	2006	391530022	177 S. Broadway	Akron	Summit Co	OH	05
2	8,389	2.2	2.0	0	1.7	1.4	0	1	2006	391530020	800 Patterson Ave.	Akron	Summit Co	OH	05
3	8,363	2.7	2.5	0	1.2	1.1	0	1	2007	391530022	177 S. Broadway	Akron	Summit Co	OH	05
4	8,382	2.3	1.7	0	1.6	1.4	0	1	2007	391530020	800 Patterson Ave.	Akron	Summit Co	OH	05
5	7,003	1.7	1.6	0	1.3	1.1	0	1	2008	391530020	800 Patterson Ave.	Akron	Summit Co	OH	05
6	6,948	2.0	1.5	0	0.9	0.8	0	1	2008	391530022	177 S. Broadway	Akron	Summit Co	OH	05
7	7,750	3.5	3.3	0	2.7	2.2	0	1	2006	391510020	420 Market	Canton	Stark Co	OH	05
8	8,311	2.1	2.1	0	1.8	1.7	0	1	2007	391510020	420 Market	Canton	Stark Co	OH	05
9	6,158	2.9	2.9	0	2.6	2.5	0	1	2008	391510020	420 Market	Canton	Stark Co	OH	05
10	8,636	10.6	9.9	0	4.3	3.0	0	1	2006	390610021	100 E. 5th St.	Cincinnati	Hamilton Co	OH	05

11	8,706	4.9	4.1	0	3.1	2.8	0	1	2007	390610021	100 E. 5th St.	Cincinnati	Hamilton Co	OH	05
12	6,358	5.9	5.1	0	3.6	2.7	0	1	2008	390610021	100 E. 5th St.	Cincinnati	Hamilton Co	OH	05
13	8,592	7.8	7.3	0	5.8	3.9	0	1	2006	390350051	1301 E. 9th St.	Cleveland	Cuyahoga Co	OH	05
14	8,441	5.0	2.8	0	1.8	1.6	0	1	2006	390350048	2026 East 9th St.	Cleveland	Cuyahoga Co	OH	05
15	8,533	5.0	4.0	0	2.2	2.0	0	1	2006	390350053	4169 Pearl Rd.	Cleveland	Cuyahoga Co	OH	05
16	8,590	2.5	2.3	0	1.6	1.5	0	1	2006	390350070	13013 Corlett Ave.	Cleveland	Cuyahoga Co	OH	05
17	8,576	3.8	3.0	0	2.0	1.5	0	1	2007	390350070	13013 Corlett Ave.	Cleveland	Cuyahoga Co	OH	05
18	8,282	7.0	6.7	0	3.1	2.9	0	1	2007	390350051	1301 E. 9th St.	Cleveland	Cuyahoga Co	OH	05
19	8,581	6.0	5.0	0	3.4	2.6	0	1	2007	390350048	2026 East 9th St.	Cleveland	Cuyahoga Co	OH	05
20	8,642	2.5	2.5	0	2.5	2.3	0	1	2007	390350053	4169 Pearl Rd.	Cleveland	Cuyahoga Co	OH	05
21	6,967	4.8	4.8	0	2.1	1.5	0	1	2008	390350048	2026 East 9th St.	Cleveland	Cuyahoga Co	OH	05
22	7,252	2.0	2.0	0	1.2	1.2	0	1	2008	390350053	4169 Pearl Rd.	Cleveland	Cuyahoga Co	OH	05
23	7,023	7.8	6.3	0	3.3	2.4	0	1	2008	390350051	1301 E. 9th St.	Cleveland	Cuyahoga Co	OH	05
24	7,232	2.0	1.8	0	1.5	1.3	0	1	2008	390350070	13013 Corlett Ave.	Cleveland	Cuyahoga Co	OH	05
25	8,582	3.6	2.9	0	2.4	2.1	0	1	2006	390490005	1585 Morse Rd.	Columbus	Franklin Co	OH	05
26	8,607	2.9	2.4	0	2.0	1.6	0	1	2006	390490036	122 S. Front St.	Columbus	Franklin Co	OH	05
27	6,722	1.7	1.6	0	1.1	1.1	0	1	2007	390490036	122 S. Front St.	Columbus	Franklin Co	OH	05
28	8,590	2.4	2.3	0	1.6	1.6	0	1	2007	390490005	1585 Morse Rd.	Columbus	Franklin Co	OH	05
29	7,183	2.7	2.3	0	1.6	1.4	0	1	2008	390490005	1585 Morse Rd.	Columbus	Franklin Co	OH	05
30	8,724	2.8	2.6	0	2.0	1.9	0	1	2006	391130034	117 South Main St.	Dayton	Montgomery Co	OH	05
31	8,711	4.5	4.2	0	2.6	1.5	0	1	2006	391130028	901 West Fairview Ave.	Dayton	Montgomery Co	OH	05
32	8,680	4.7	4.2	0	2.5	1.6	0	1	2007	391130028	901 West Fairview Ave.	Dayton	Montgomery Co	OH	05
33	8,719	4.4	3.0	0	1.5	1.5	0	1	2007	391130034	117 South Main St.	Dayton	Montgomery Co	OH	05
34	8,739	2.3	2.3	0	1.6	1.5	0	1	2008	391130034	117 South Main St.	Dayton	Montgomery Co	OH	05
35	8,720	1.5	1.4	0	1.1	1.0	0	1	2008	391130028	901 West Fairview Ave.	Dayton	Montgomery Co	OH	05
36	8,398	4.3	3.2	0	3.1	2.7	0	1	2006	211110046	3510 Goldsmith Lane, Seneca High School	Louisville	Jefferson Co	KY	04
37	8,598	11.4	4.9	0	3.1	2.8	0	1	2006	211111019	1735 Bardstown Rd, Fire Station #20	Louisville	Jefferson Co	KY	04
38	8,538	4.1	3.7	0	2.2	2.1	0	1	2007	211111019	1735 Bardstown Rd, Fire Station #20	Louisville	Jefferson Co	KY	04

AirData

EPA is assessing its data systems, including AirData reports and maps. Data updates are suspended while the assessment is underway. The last update included data through January 10, 2009; see database status for details. For more recent air quality data, visit the AirExplorer and Air Emission Sources sites.

Monitor Values Report - Criteria Air Pollutants

Geographic Area: Kentucky, Ohio
Pollutant: Nitrogen Dioxide
Year: 2006, 2007, 2008

EPA Air Quality Standards:
Nitrogen Dioxide: 0.053 ppm (annual mean)

ppm = parts per million

36 Rows
See Disclaimer

	NO2 (ppm)													
	1-Hour Values			Annual		Monitor Number							
Row #	# Obs	1st Max	2nd Max	Mean	# Exceed		Year	Site ID	Site Address	City	County	State	EPA Region
SORT													
1	7,183	0.049	0.043	0.010	0	1	2006	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	KY	04
2	8,158	0.059	0.055	0.011	0	1	2007	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	KY	04
3	6,207	0.056	0.050	0.010	0	1	2008	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	KY	04
4	7,891	0.046	0.045	0.008	0	1	2006	210290006	2nd & Carpenter Sts	Shepherdsville	Bullitt Co	KY	04
5	1,662	0.052	0.047	0.011	0	1	2007	210290006	2nd & Carpenter Sts	Shepherdsville	Bullitt Co	KY	04
6	1,597	0.052	0.048	0.011	0	1	2006	210370003	700 Alexandria Pk, Water Plt, Ft Thomas	Fort Thomas	Campbell Co	KY	04
7	3,926	0.044	0.041	0.006	0	1	2007	210373002	524a John Hill Road	Highland Heights	Campbell Co	KY	04

8	6,219	0.044	0.044	0.006	0		1	2008	210373002	524a John Hill Road	Highland Heights	Campbell Co	KY	04
9	7,928	0.041	0.041	0.006	0		1	2006	210590005	Wyndall Shpg Ctr Us 60 & Plsnt Valley Rd	Owensboro	Daviess Co	KY	04
10	8,310	0.051	0.049	0.005	0		1	2007	210590005	Wyndall Shpg Ctr Us 60 & Plsnt Valley Rd	Owensboro	Daviess Co	KY	04
11	5,265	0.042	0.038	0.007	0		1	2008	210590005	Wyndall Shpg Ctr Us 60 & Plsnt Valley Rd	Owensboro	Daviess Co	KY	04
12	8,220	0.061	0.061	0.012	0		1	2006	210670012	650 Newtown Pike, Fayette Co Health Dept	Lexington-Fayette (Corporate N	Fayette Co	KY	04
13	8,126	0.066	0.062	0.011	0		1	2007	210670012	650 Newtown Pike, Fayette Co Health Dept	Lexington-Fayette (Corporate N	Fayette Co	KY	04
14	6,120	0.051	0.050	0.008	0		1	2008	210670012	650 Newtown Pike, Fayette Co Health Dept	Lexington-Fayette (Corporate N	Fayette Co	KY	04
15	7,914	0.050	0.050	0.015	0		2	2006	211111021	1918 Mellwood Avenue, Wlky-Tv	Louisville	Jefferson Co	KY	04
16	8,323	0.058	0.055	0.016	0		2	2007	211111021	1918 Mellwood Avenue, Wlky-Tv	Louisville	Jefferson Co	KY	04
17	6,821	0.077	0.064	0.015	0		2	2008	211111021	1918 Mellwood Avenue, Wlky-Tv	Louisville	Jefferson Co	KY	04
18	6,471	0.060	0.060	0.014	0		1	2006	211170007	1401 Dixie Hwy, University College	Covington	Kenton Co	KY	04
19	4,300	0.063	0.062	0.015	0		1	2007	211170007	1401 Dixie Hwy, University College	Covington	Kenton Co	KY	04
20	7,829	0.051	0.051	0.009	0		1	2006	211451024	2901 Powell St, Jackson Purchase Recc	Paducah	McCracken Co	KY	04
21	8,178	0.049	0.047	0.009	0		1	2007	211451024	2901 Powell St, Jackson Purchase Recc	Paducah	McCracken Co	KY	04
22	6,092	0.061	0.053	0.008	0		1	2008	211451024	2901 Powell St, Jackson Purchase Recc	Paducah	McCracken Co	KY	04
23	6,911	0.021	0.020	0.002	0		2	2007	212218001	Old Dover Highway Cadiz, Ky		Trigg Co	KY	04
24	1,329	0.033	0.032	0.004	0		2	2008	212218001	Old Dover Highway Cadiz, Ky		Trigg Co	KY	04
25	7,946	0.049	0.048	0.008	0		1	2006	212270008	Oakland Elementary Sch, Ky 179, Oakland	Oakland	Warren Co	KY	04
26	8,252	0.040	0.037	0.005	0		1	2007	390090004	7760 Blackburn Road	Athens	Athens Co	OH	05
27	7,639	0.064	0.053	0.005	0		1	2008	390090004	7760 Blackburn Road	Athens	Athens Co	OH	05
28	8,396	0.068	0.065	0.018	0		1	2006	390350060	E. 14th & Orange	Cleveland	Cuyahoga Co	OH	05
29	8,390	0.073	0.070	0.020	0		1	2007	390350060	E. 14th & Orange	Cleveland	Cuyahoga Co	OH	05

30	7,103	0.075	0.073	0.017	0	1	2008	390350060	E. 14th & Orange	Cleveland	Cuyahoga Co	OH	05
31	8,457	0.175	0.075	0.014	0	1	2006	390350070	13013 Corlett Ave.	Cleveland	Cuyahoga Co	OH	05
32	8,508	0.098	0.075	0.016	0	1	2007	390350070	13013 Corlett Ave.	Cleveland	Cuyahoga Co	OH	05
33	7,052	0.074	0.069	0.014	0	1	2008	390350070	13013 Corlett Ave.	Cleveland	Cuyahoga Co	OH	05
34	8,596	0.061	0.061	0.018	0	1	2006	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
35	8,726	0.081	0.072	0.017	0	1	2007	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
36	7,264	0.079	0.073	0.016	0	1	2008	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
Grand Total					0		2007						
					0		2006						
					0		2008						

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Disclaimer: AirData reports are produced from a monthly extract of EPA's air pollution database, AQS. Data for this report were extracted on January 10, 2009. They represent the best information available to EPA from state agencies on that date. However, some values may be absent due to incomplete reporting, and some values subsequently may be changed due to quality assurance activities. The AQS database is updated daily by state and local organizations who own and submit the data. Please contact the pertinent state agency to report errors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.

AirData

EPA is assessing its data systems, including AirData reports and maps. Data updates are suspended while the assessment is underway. The last update included data through January 10, 2009; see database status for details. For more recent air quality data, visit the AirExplorer and Air Emission Sources sites.

Monitor Values Report - Criteria Air Pollutants

Geographic Area: Kentucky, Ohio
Pollutant: Ozone
Year: 2006, 2007, 2008

EPA Air Quality Standards:
Ozone: 0.12 ppm (1-hour average), 0.075 ppm (8-hour average)

ppm = parts per million

238 Rows
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	O3 (ppm)																								
	1-Hour Values										8-Hour Values														
Row #	1st Max	2nd Max	3rd Max	4th Max	# Exceed Actual	# Exceed Estimated	Required Days	# Days	% Days	Missing Days	1st Max	2nd Max	3rd Max	4th Max	Days > Std	Required Days	# Days	% Days	Monitor Number	Year	Site ID	Site Address	City	County	State	EPA Region
SORT																										
1	0.078	0.075	0.073	0.073	0	0.0	245	245	100	0	0.067	0.065	0.065	0.063	0	245	245	100	1	2006	211950002	101 North Mayo Trail, Dot District Offic	Pikeville	Pike Co	KY	04
2	0.094	0.094	0.089	0.089	0	0.0	245	244	100	1	0.082	0.080	0.080	**0.079**	9	245	244	100	1	2007	211950002	101 North Mayo Trail, Dot District Offic	Pikeville	Pike Co	KY	04
3	0.083	0.082	0.081	0.080	0	0.0	245	245	100	0	0.075	0.074	0.074	0.071	0	245	245	100	1	2008	211950002	101 North Mayo Trail, Dot District Offic	Pikeville	Pike Co	KY	04
4	0.091	0.086	0.085	0.085	0	0.0	245	243	99	2	0.081	0.078	0.077	**0.076**	5	245	241	98	1	2006	210470006	10800 Pilot Rock Road, Williamson Res.		Christian Co	KY	04
5	0.105	0.097	0.097	0.092	0	0.0	245	242	99	1	0.092	0.091	0.091	**0.089**	24	245	243	99	1	2007	210470006	10800 Pilot Rock Road, Williamson Res.		Christian Co	KY	04
6	0.071	0.070	0.064	0.062	0	0.0	245	31	13	0	0.066	0.065	0.059	0.058	0	245	31	13	1	2008	210470006	10800 Pilot Rock Road, Williamson Res.		Christian Co	KY	04
7	0.085	0.076	0.076	0.075	0	0.0	242	242	100	0	0.072	0.072	0.069	0.069	0	242	242	100	2	2008	210470006	10800 Pilot Rock Road, Williamson Res.		Christian Co	KY	04
8	0.095	0.092	0.092	0.092	0	0.0	214	213	100	1	0.084	0.084	0.082	**0.081**	9	214	213	100	1	2006	390610006	11590 Grooms Rd	Cincinnati	Hamilton Co	OH	05
																						11590 Grooms				

36	0.098	0.098	0.097	0.097	0	0.0	214	214	100	0	0.091	0.090	0.086	**0.086**	16	214	214	100	1	2007	391670004	2000 4th Street	Marietta	Washington Co	OH	05
37	0.105	0.093	0.092	0.087	0	0.0	214	214	100	0	0.095	0.082	0.079	**0.078**	4	214	213	100	1	2008	391670004	2000 4th Street	Marietta	Washington Co	OH	05
38	0.105	0.095	0.088	0.087	0	0.0	214	213	100	1	0.087	0.082	0.073	0.072	2	214	213	100	1	2006	390870006	2120 S. 8th	Ironton	Lawrence Co	OH	05
39	0.109	0.106	0.100	0.095	0	0.0	214	212	99	2	0.089	0.078	0.077	**0.076**	4	214	210	98	1	2007	390870006	2120 S. 8th	Ironton	Lawrence Co	OH	05
40	0.104	0.097	0.093	0.091	0	0.0	214	212	99	2	0.092	0.086	0.083	**0.082**	5	214	212	99	1	2008	390870006	2120 S. 8th	Ironton	Lawrence Co	OH	05
41	0.101	0.093	0.088	0.088	0	0.0	214	214	100	0	0.087	0.081	0.077	**0.077**	7	214	212	99	1	2006	390250022	2400 Clermont Center Dr.	Batavia	Clermont Co	OH	05
42	0.104	0.104	0.104	0.101	0	0.0	214	210	98	1	0.093	0.092	0.090	**0.086**	17	214	209	98	1	2007	390250022	2400 Clermont Center Dr.	Batavia	Clermont Co	OH	05
43	0.082	0.077	0.077	0.076	0	0.0	214	208	97	0	0.072	0.071	0.071	0.071	0	214	207	97	1	2008	390250022	2400 Clermont Center Dr.	Batavia	Clermont Co	OH	05
44	0.093	0.091	0.089	0.088	0	0.0	214	209	98	0	0.085	0.081	0.079	**0.079**	8	214	208	97	1	2006	391510021	245 W. 5th St.	Brewster	Stark Co	OH	05
45	0.096	0.095	0.091	0.091	0	0.0	89	75	84	0	0.087	0.086	0.083	**0.082**	14	89	75	84	1	2007	391510021	245 W. 5th St.	Brewster	Stark Co	OH	05
46	0.101	0.093	0.092	0.092	0	0.0	214	214	100	0	0.089	0.080	0.079	**0.078**	8	214	212	99	1	2006	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
47	0.118	0.104	0.103	0.101	0	0.0	214	212	99	1	0.097	0.093	0.088	**0.086**	15	214	212	99	1	2007	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
48	0.101	0.094	0.091	0.087	0	0.0	214	213	100	1	0.086	0.083	0.081	**0.080**	7	214	213	100	1	2008	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
49	0.092	0.085	0.084	0.083	0	0.0	214	214	100	0	0.086	0.080	0.076	**0.076**	4	214	213	100	1	2006	390490028	2521 Fairwood	Columbus	Franklin Co	OH	05
50	0.099	0.099	0.097	0.090	0	0.0	214	214	100	0	0.085	0.082	0.081	**0.078**	8	214	214	100	1	2007	390490028	2521 Fairwood	Columbus	Franklin Co	OH	05
51	0.090	0.078	0.076	0.076	0	0.0	112	111	99	0	0.078	0.070	0.069	0.069	1	112	111	99	1	2008	390490028	2521 Fairwood	Columbus	Franklin Co	OH	05
52	0.103	0.090	0.088	0.085	0	0.0	214	213	100	1	0.090	0.082	0.082	0.075	3	214	211	99	1	2006	390030002	2650 Bible Rd.		Allen Co	OH	05
53	0.095	0.091	0.086	0.084	0	0.0	214	214	100	0	0.088	0.080	0.079	**0.078**	7	214	214	100	1	2007	390030002	2650 Bible Rd.		Allen Co	OH	05
54	0.082	0.078	0.076	0.073	0	0.0	214	214	100	0	0.072	0.068	0.068	0.067	0	214	213	100	1	2008	390030002	2650 Bible Rd.		Allen Co	OH	05
55	0.095	0.089	0.086	0.084	0	0.0	245	245	100	0	0.084	0.077	0.075	0.075	2	245	245	100	1	2006	211451024	2901 Powell St, Jackson Purchase Recc	Paducah	McCracken Co	KY	04
56	0.098	0.091	0.089	0.088	0	0.0	245	240	98	0	0.083	0.083	0.080	**0.079**	7	245	239	98	1	2007	211451024	2901 Powell St, Jackson Purchase Recc	Paducah	McCracken Co	KY	04
57	0.091	0.086	0.085	0.079	0	0.0	245	245	100	0	0.074	0.072	0.072	0.071	0	245	245	100	1	2008	211451024	2901 Powell St, Jackson Purchase Recc	Paducah	McCracken Co	KY	04
58	0.108	0.103	0.102	0.099	0	0.0	245	245	100	0	0.087	0.083	0.081	**0.079**	5	245	245	100	1	2006	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	KY	04
59	0.103	0.098	0.090	0.088	0	0.0	245	244	100	0	0.080	0.076	0.076	0.072	3	245	244	100	1	2007	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	KY	04
60	0.093	0.088	0.086	0.080	0	0.0	245	244	100	1	0.080	0.079	0.077	0.073	3	245	242	99	1	2008	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	KY	04
61	0.088	0.084	0.084	0.082	0	0.0	214	209	98	0	0.080	0.080	0.075	0.074	2	214	209	98	1	2006	390950081	2930 131st St.	Toledo	Lucas Co	OH	05
62	0.107	0.092	0.092	0.092	0	0.0	214	214	100	0	0.088	0.080	0.077	**0.077**	4	214	214	100	1	2007	390950081	2930 131st St.	Toledo	Lucas Co	OH	05
63	0.095	0.093	0.091	0.088	0	0.0	245	241	98	2	0.085	0.079	0.078	**0.076**	8	245	239	98	1	2006	210910012	2nd & Caroline, Lewisport Elementary Sch	Lewisport	Hancock Co	KY	04
64	0.097	0.093	0.093	0.092	0	0.0	245	243	99	0	0.087	0.085	0.081	**0.081**	15	245	240	98	1	2007	210910012	2nd & Caroline, Lewisport Elementary Sch	Lewisport	Hancock Co	KY	04
																						2nd & Caroline,				

96	0.102	0.099	0.096	0.096	0	0.0	245	245	100	0	0.086	0.086	0.085	**0.083**	10	245	244	100	1	2006	211850004	Rd, Dot Garage, Buckner	Buckner	Oldham Co	KY	04
97	0.108	0.099	0.099	0.093	0	0.0	245	245	100	0	0.088	0.086	0.086	**0.084**	18	245	244	100	1	2007	211850004	3995 Morgan Rd, Dot Garage, Buckner	Buckner	Oldham Co	KY	04
98	0.099	0.095	0.089	0.088	0	0.0	245	239	98	1	0.089	0.080	0.080	**0.077**	4	245	238	97	1	2008	211850004	3995 Morgan Rd, Dot Garage, Buckner	Buckner	Oldham Co	KY	04
99	0.110	0.104	0.100	0.099	0	0.0	214	214	100	0	0.092	0.090	0.088	**0.086**	12	214	214	100	1	2006	391650007	416 Southeast St.	Lebanon	Warren Co	OH	05
100	0.115	0.106	0.100	0.095	0	0.0	214	214	100	0	0.103	0.089	0.088	**0.088**	32	214	214	100	1	2007	391650007	416 Southeast St.	Lebanon	Warren Co	OH	05
101	0.099	0.096	0.093	0.092	0	0.0	214	208	97	0	0.092	0.087	0.084	**0.082**	11	214	204	95	1	2008	391650007	416 Southeast St.	Lebanon	Warren Co	OH	05
102	0.100	0.099	0.096	0.096	0	0.0	125	109	87	2	0.091	0.085	0.083	**0.083**	10	125	107	86	1	2007	391510022	45 S. Wabash Avenue, S.R 93	Brewster	Stark Co	OH	05
103	0.099	0.090	0.083	0.081	0	0.0	214	208	97	3	0.081	0.079	0.077	**0.076**	5	214	204	95	1	2008	391510022	45 S. Wabash Avenue, S.R 93	Brewster	Stark Co	OH	05
104	0.082	0.079	0.076	0.073	0	0.0	214	214	100	0	0.077	0.072	0.069	0.069	1	214	212	99	1	2006	390930018	4706 Detroit Rd.	Sheffield	Lorain Co	OH	05
105	0.092	0.091	0.086	0.085	0	0.0	214	214	100	0	0.084	0.082	0.079	**0.078**	4	214	212	99	1	2007	390930018	4706 Detroit Rd.	Sheffield	Lorain Co	OH	05
106	0.104	0.085	0.083	0.082	0	0.0	214	214	100	0	0.088	0.076	0.076	0.075	3	214	212	99	1	2008	390930018	4706 Detroit Rd.	Sheffield	Lorain Co	OH	05
107	0.089	0.087	0.086	0.086	0	0.0	214	198	93	3	0.083	0.081	0.080	**0.078**	9	214	195	91	1	2006	391510016	515 25th. St.	Canton	Stark Co	OH	05
108	0.099	0.096	0.095	0.095	0	0.0	214	205	96	3	0.089	0.087	0.086	**0.084**	18	214	204	95	1	2007	391510016	515 25th. St.	Canton	Stark Co	OH	05
109	0.088	0.088	0.086	0.082	0	0.0	214	206	96	2	0.082	0.080	0.078	**0.077**	4	214	204	95	1	2008	391510016	515 25th. St.	Canton	Stark Co	OH	05
110	0.104	0.097	0.090	0.087	0	0.0	214	214	100	0	0.091	0.081	0.077	**0.076**	5	214	214	100	1	2006	390230001	5171 Urbana	Springfield	Clark Co	OH	05
111	0.100	0.096	0.095	0.093	0	0.0	214	214	100	0	0.096	0.086	0.081	**0.078**	9	214	214	100	1	2007	390230001	5171 Urbana	Springfield	Clark Co	OH	05
112	0.103	0.094	0.089	0.084	0	0.0	214	213	100	1	0.090	0.084	0.078	0.075	3	214	213	100	1	2008	390230001	5171 Urbana	Springfield	Clark Co	OH	05
113	0.105	0.104	0.099	0.096	0	0.0	123	123	100	0	0.095	0.092	0.088	**0.086**	19	123	123	100	1	2007	210373002	524a John Hill Road	Highland Heights	Campbell Co	KY	04
114	0.090	0.090	0.083	0.083	0	0.0	245	243	99	0	0.084	0.083	0.075	0.075	2	245	242	99	1	2008	210373002	524a John Hill Road	Highland Heights	Campbell Co	KY	04
115	0.101	0.097	0.086	0.083	0	0.0	214	214	100	0	0.087	0.081	0.078	0.074	3	214	214	100	1	2006	390230003	5400 Spangler		Clark Co	OH	05
116	0.097	0.095	0.093	0.090	0	0.0	214	213	100	1	0.089	0.084	0.080	**0.078**	5	214	212	99	1	2007	390230003	5400 Spangler		Clark Co	OH	05
117	0.108	0.091	0.091	0.090	0	0.0	214	211	99	1	0.089	0.077	0.076	0.075	3	214	210	98	1	2008	390230003	5400 Spangler		Clark Co	OH	05
118	0.106	0.096	0.087	0.087	0	0.0	214	214	100	0	0.085	0.082	0.081	**0.079**	5	214	214	100	1	2006	390570006	541 Ledbetter Rd.,	Xenia	Greene Co	OH	05
119	0.101	0.092	0.091	0.090	0	0.0	214	213	100	1	0.092	0.085	0.081	**0.077**	7	214	213	100	1	2007	390570006	541 Ledbetter Rd.,	Xenia	Greene Co	OH	05
120	0.094	0.093	0.089	0.086	0	0.0	214	212	99	0	0.083	0.078	0.076	0.075	3	214	211	99	1	2008	390570006	541 Ledbetter Rd.,	Xenia	Greene Co	OH	05
121	0.096	0.094	0.086	0.084	0	0.0	214	214	100	0	0.085	0.084	0.080	**0.077**	4	214	212	99	1	2006	390490081	5750 Maple Canyon	Columbus	Franklin Co	OH	05
122	0.101	0.095	0.094	0.092	0	0.0	214	214	100	0	0.086	0.083	0.080	**0.079**	8	214	213	100	1	2007	390490081	5750 Maple Canyon	Columbus	Franklin Co	OH	05
123	0.099	0.083	0.075	0.074	0	0.0	214	214	100	0	0.088	0.073	0.066	0.066	1	214	214	100	1	2008	390490081	5750 Maple Canyon	Columbus	Franklin Co	OH	05
124	0.100	0.093	0.093	0.090	0	0.0	214	211	99	2	0.090	0.085	0.083	**0.081**	8	214	210	98	1	2006	390355002	6116 Wilson Mills	Mayfield	Cuyahoga Co	OH	05
125	0.098	0.091	0.090	0.089	0	0.0	214	213	100	1	0.086	0.084	0.082	**0.080**	5	214	209	98	1	2007	390355002	6116 Wilson Mills	Mayfield	Cuyahoga Co	OH	05

AirData

EPA is assessing its data systems, including AirData reports and maps. Data updates are suspended while the assessment is underway. The last update included data through January 10, 2009; see database status for details. For more recent air quality data, visit the AirExplorer and Air Emission Sources sites.

Monitor Values Report - Criteria Air Pollutants

Geographic Area: Kentucky, Ohio
Pollutant: Particles < 2.5 micrometers diameter
Year: 2006, 2007, 2008

EPA Air Quality Standards:
Particles < 2.5 micrometers diameter: 35 µg/m3 (24-Hour Average), 15.0 µg/m3 (annual mean)

µg/m3 = micrograms per cubic meter

237 Rows
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	PM2.5 (µg/m3)																	
	24-Hour Values							Annual		Monitor Number								
Row #	# Obs	1st Max	2nd Max	3rd Max	4th Max	98th Pct	# Exceed	Mean	# Exceed		Year	Site ID	Site Address	City	County	State	EPA Region
SORT																	
1	61	30.2	25.7	24.5	24.1	25.7	0	13.75	0	1	2006	210130002	Middlesboro Airport, 34th & Dorchester	Middlesborough (Corporate Name	Bell Co	KY	04
2	59	40.7	29.5	28.2	27.5	29.5	0	**15.24**	1	1	2007	210130002	Middlesboro Airport, 34th & Dorchester	Middlesborough (Corporate Name	Bell Co	KY	04
3	55	30.3	24.4	23.1	23.1	24.4	0	12.78	0	1	2008	210130002	Middlesboro Airport, 34th & Dorchester	Middlesborough (Corporate Name	Bell Co	KY	04
4	115	48.6	28.9	28.6	28.0	28.6	0	13.76	0	1	2006	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	KY	04
													2924 Holt				

5	117	40.4	39.0	38.5	35.2	**38.5**	1	14.34	0	1	2007	210190017	St, Fivco Health Dept	Ashland	Boyd Co	KY	04
6	110	27.8	25.8	24.3	23.8	24.3	0	12.17	0	1	2008	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	KY	04
7	117	39.0	34.3	33.5	30.9	33.5	0	14.14	0	1	2006	210290006	2nd & Carpenter Sts	Shepherdsville	Bullitt Co	KY	04
8	118	46.8	37.7	35.1	34.0	35.1	0	**15.14**	1	1	2007	210290006	2nd & Carpenter Sts	Shepherdsville	Bullitt Co	KY	04
9	111	29.3	25.9	25.4	24.8	25.4	0	13.13	0	1	2008	210290006	2nd & Carpenter Sts	Shepherdsville	Bullitt Co	KY	04
10	18	25.2	19.8	17.0	16.8	25.2	0	11.54	0	1	2006	210370003	700 Alexandria Pk, Water Plt, Ft Thomas	Fort Thomas	Campbell Co	KY	04
11	50	34.0	33.5	26.3	26.0	34.0	0	14.36	0	1	2007	210373002	524a John Hill Road	Highland Heights	Campbell Co	KY	04
12	109	30.5	27.3	26.1	24.4	26.1	0	11.98	0	1	2008	210373002	524a John Hill Road	Highland Heights	Campbell Co	KY	04
13	112	43.2	26.3	25.5	24.9	25.5	0	11.49	0	1	2006	210430500	Camp Webb Grayson Lake		Carter Co	KY	04
14	116	36.7	31.8	30.9	30.8	30.9	0	12.81	0	1	2007	210430500	Camp Webb Grayson Lake		Carter Co	KY	04
15	111	25.2	24.5	22.6	21.2	22.6	0	10.33	0	1	2008	210430500	Camp Webb Grayson Lake		Carter Co	KY	04
16	115	36.8	30.9	30.3	27.1	30.3	0	12.63	0	1	2006	210470006	10800 Pilot Rock Road, Williamson Res.		Christian Co	KY	04
17	116	43.6	39.5	35.5	35.5	**35.5**	1	13.99	0	1	2007	210470006	10800 Pilot Rock Road, Williamson Res.		Christian Co	KY	04
18	107	28.4	27.9	27.2	26.7	27.2	0	12.08	0	1	2008	210470006	10800 Pilot Rock Road, Williamson Res.		Christian Co	KY	04
19	114	42.7	38.2	30.0	28.8	30.0	0	13.05	0	1	2006	210590005	Wyndall Shpg Ctr Us	Owensboro	Daviess Co	KY	04

127	113	39.0	38.3	34.0	32.8	34.0	0	13.42	0	1	2006	390490025	1700 Ann St.	Columbus	Franklin Co	OH	05
128	109	40.0	35.6	35.5	31.6	**35.5**	1	14.67	0	1	2007	390490025	1700 Ann St.	Columbus	Franklin Co	OH	05
129	93	32.6	27.1	26.8	26.4	27.1	0	11.81	0	1	2008	390490025	1700 Ann St.	Columbus	Franklin Co	OH	05
130	87	32.0	31.2	29.9	28.8	31.2	0	12.89	0	1	2006	390490081	5750 Maple Canyon	Columbus	Franklin Co	OH	05
131	106	45.1	38.5	33.5	30.9	33.5	0	13.11	0	1	2007	390490081	5750 Maple Canyon	Columbus	Franklin Co	OH	05
132	95	43.8	30.3	25.3	24.6	30.3	0	10.43	0	1	2008	390490081	5750 Maple Canyon	Columbus	Franklin Co	OH	05
133	119	31.5	28.8	26.5	26.5	26.5	0	11.94	0	1	2006	390570005	100 Dayton St.	Yellow Springs	Greene Co	OH	05
134	116	38.7	34.6	32.6	32.2	32.6	0	13.28	0	1	2007	390570005	100 Dayton St.	Yellow Springs	Greene Co	OH	05
135	109	33.3	26.9	26.8	25.3	26.8	0	11.64	0	1	2008	390570005	100 Dayton St.	Yellow Springs	Greene Co	OH	05
136	118	35.0	34.6	33.3	31.8	33.3	0	13.29	0	1	2006	390610006	11590 Grooms Rd	Cincinnati	Hamilton Co	OH	05
137	296	40.8	39.2	38.1	37.2	34.7	0	14.63	0	1	2007	390610006	11590 Grooms Rd	Cincinnati	Hamilton Co	OH	05
138	154	33.9	28.1	28.1	27.0	27.0	0	12.03	0	1	2008	390610006	11590 Grooms Rd	Cincinnati	Hamilton Co	OH	05
139	58	36.3	35.2	31.5	27.1	35.2	0	**15.51**	1	1	2006	390610014	Seymour & Vine St.	Cincinnati	Hamilton Co	OH	05
140	109	41.5	38.1	36.5	36.2	**36.5**	1	**16.59**	1	1	2007	390610014	Seymour & Vine St.	Cincinnati	Hamilton Co	OH	05
141	99	37.7	33.0	31.7	29.7	33.0	0	14.52	0	1	2008	390610014	Seymour & Vine St.	Cincinnati	Hamilton Co	OH	05
142	48	40.1	33.0	32.1	28.3	**40.1**	1	14.51	0	2	2008	390610014	Seymour & Vine St.	Cincinnati	Hamilton Co	OH	05
143	121	34.5	33.7	32.8	32.3	32.8	0	13.57	0	1	2006	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
144	107	41.9	35.3	34.7	33.1	34.7	0	**15.09**	1	1	2007	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
145	90	31.5	26.6	25.5	25.0	26.6	0	12.13	0	1	2008	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
146	122	39.4	37.0	34.5	33.5	34.5	0	14.94	0	1	2006	390610042	2101 W. 8th St.	Cincinnati	Hamilton Co	OH	05
147	110	39.2	36.3	35.9	33.6	**35.9**	1	**15.90**	1	1	2007	390610042	2101 W. 8th St.	Cincinnati	Hamilton Co	OH	05
148	91	32.2	27.5	27.5	27.2	27.5	0	14.04	0	1	2008	390610042	2101 W. 8th St.	Cincinnati	Hamilton Co	OH	05
149	118	39.0	35.8	34.9	32.2	34.9	0	14.47	0	1	2006	390610043	3254 E.	Sharonville	Hamilton Co	OH	05

EPA is assessing its data systems, including AirData reports and maps. Data updates are suspended while the assessment is underway. The last update included data through January 10, 2009; see database status for details. For more recent air quality data, visit the AirExplorer and Air Emission Sources sites.

Monitor Values Report - Criteria Air Pollutants

Geographic Area: Kentucky, Ohio
Pollutant: Particles < 10 micrometers diameter
Year: 2006, 2007, 2008

EPA Air Quality Standards:
Particles < 10 micrometers diameter: 150 µg/m3 (24-hour average), 50 µg/m3 (annual mean)

µg/m3 = micrograms per cubic meter

177 Rows
See Disclaimer

	PM10 (µg/m3)																
	24-Hour Values							Annual									
Row #	# Obs	1st Max	2nd Max	3rd Max	4th Max	# Exceed Actual	# Exceed Estimated	Mean	# Exceed	Monitor Number	Year	Site ID	Site Address	City	County	State	EPA Region
SORT																	
1	8	28	24	24	23	0	0.0	18	0	1	2006	210130002	Middlesboro Airport, 34th & Dorchester	Middlesborough (Corporate Name	Bell Co	KY	04
2	59	108	72	68	68	0	0.0	34	0	1	2006	210190002	122 22nd St, Ashland Oil Pad	Ashland	Boyd Co	KY	04
3	57	106	72	72	68	0	0.0	33	0	2	2006	210190002	122 22nd St, Ashland Oil Pad	Ashland	Boyd Co	KY	04
4	58	98	94	92	77	0	0.0	39	0	1	2007	210190002	122 22nd St, Ashland	Ashland	Boyd Co	KY	04

87	47	58	43	43	38	0	0.0	18	0	1	2008	390351002	16900 Holland Rd.	Brook Park	Cuyahoga Co	OH	05
88	61	56	55	54	50	0	0.0	27	0	1	2006	390490024	State Fairgrounds	Columbus	Franklin Co	OH	05
89	59	123	76	72	70	0	0.0	36	0	1	2007	390490024	State Fairgrounds	Columbus	Franklin Co	OH	05
90	51	82	79	61	58	0	0.0	36	0	1	2008	390490024	State Fairgrounds	Columbus	Franklin Co	OH	05
91	363	80	64	60	59	0	0.0	23	0	1	2006	390490034	Korbel Ave.	Columbus	Franklin Co	OH	05
92	161	59	56	56	56	0	0.0	21	0	1	2007	390490034	Korbel Ave.	Columbus	Franklin Co	OH	05
93	58	33	33	30	29	0	0.0	16	0	1	2006	390570005	100 Dayton St.	Yellow Springs	Greene Co	OH	05
94	56	48	38	30	30	0	0.0	18	0	1	2007	390570005	100 Dayton St.	Yellow Springs	Greene Co	OH	05
95	58	32	32	30	29	0	0.0	15	0	1	2008	390570005	100 Dayton St.	Yellow Springs	Greene Co	OH	05
96	60	53	48	46	44	0	0.0	23	0	1	2006	390610014	Seymour & Vine St.	Cincinnati	Hamilton Co	OH	05
97	59	51	49	49	46	0	0.0	26	0	1	2007	390610014	Seymour & Vine St.	Cincinnati	Hamilton Co	OH	05
98	48	48	45	45	42	0	0.0	26	0	1	2008	390610014	Seymour & Vine St.	Cincinnati	Hamilton Co	OH	05
99	59	43	40	38	38	0	0.0	19	0	1	2006	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
100	242	58	56	55	50	0	0.0	22	0	9	2006	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
101	56	46	45	43	42	0	0.0	25	0	1	2007	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
102	49	39	37	35	35	0	0.0	19	0	1	2008	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
103	44	46	42	41	41	0	0.0	25	0	9	2008	390610040	250 Wm. Howard Taft	Cincinnati	Hamilton Co	OH	05
104	58	47	44	42	39	0	0.0	21	0	1	2006	390615001	101 Cooper Ave.	Lockland	Hamilton Co	OH	05
105	52	47	46	45	41	0	0.0	25	0	1	2007	390615001	101 Cooper Ave.	Lockland	Hamilton Co	OH	05
106	50	41	38	35	35	0	0.0	20	0	1	2008	390615001	101 Cooper Ave.	Lockland	Hamilton Co	OH	05

AirData

EPA is assessing its data systems, including AirData reports and maps. Data updates are suspended while the assessment is underway. The last update included data through January 10, 2009; see database status for details. For more recent air quality data, visit the AirExplorer and Air Emission Sources sites.

Monitor Values Report - Criteria Air Pollutants

Geographic Area: Kentucky, Ohio
Pollutant: Sulfur Dioxide
Year: 2006, 2007, 2008

EPA Air Quality Standards:
Sulfur Dioxide: 0.5 ppm (3-hour average), 0.14 ppm (24-hour average), 0.030 ppm (annual mean)

ppm = parts per million

125 Rows
See Disclaimer

	SO2 (ppm)																		
	1-Hour Values			3-Hour Values			24-Hour Values			Annual		Monitor Number							
Row #	# Obs	1st Max	2nd Max	1st Max	2nd Max	# Exceed	1st Max	2nd Max	# Exceed	Mean	# Exceed		Year	Site ID	Site Address	City	County	St
SORT																		
1	8,713	0.132	0.067	0.059	0.047	0	0.018	0.016	0	0.004	0	1	2006	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	K
2	8,684	0.118	0.084	0.078	0.046	0	0.023	0.016	0	0.004	0	1	2007	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	K
3	6,513	0.046	0.045	0.031	0.030	0	0.012	0.011	0	0.003	0	1	2008	210190017	2924 Holt St, Fivco Health Dept	Ashland	Boyd Co	K
4	1,588	0.064	0.061	0.053	0.046	0	0.015	0.014	0	0.005	0	1	2006	210370003	700 Alexandria Pk, Water Plt, Ft	Fort Thomas	Campbell Co	K

															Thomas			
5	4,136	0.129	0.078	0.080	0.056	0	0.020	0.015	0	0.004	0	1	2007	210373002	524a John Hill Road	Highland Heights	Campbell Co	KY
6	6,326	0.076	0.072	0.048	0.046	0	0.017	0.015	0	0.003	0	1	2008	210373002	524a John Hill Road	Highland Heights	Campbell Co	KY
7	8,448	0.081	0.064	0.061	0.042	0	0.014	0.013	0	0.004	0	1	2006	210590005	Wyndall Shpg Ctr Us 60 & Plsnt Valley Rd	Owensboro	Daviess Co	KY
8	8,206	0.088	0.067	0.054	0.048	0	0.016	0.015	0	0.005	0	1	2007	210590005	Wyndall Shpg Ctr Us 60 & Plsnt Valley Rd	Owensboro	Daviess Co	KY
9	5,181	0.107	0.062	0.048	0.044	0	0.013	0.011	0	0.003	0	1	2008	210590005	Wyndall Shpg Ctr Us 60 & Plsnt Valley Rd	Owensboro	Daviess Co	KY
10	7,735	0.055	0.048	0.042	0.031	0	0.013	0.013	0	0.004	0	1	2006	210670012	650 Newtown Pike, Fayette Co Health Dept	Lexington-Fayette (Corporate N	Fayette Co	KY
11	8,685	0.069	0.057	0.044	0.034	0	0.017	0.010	0	0.004	0	1	2007	210670012	650 Newtown Pike, Fayette Co Health Dept	Lexington-Fayette (Corporate N	Fayette Co	KY
12	6,365	0.044	0.041	0.027	0.022	0	0.009	0.008	0	0.003	0	1	2008	210670012	650 Newtown Pike, Fayette Co Health Dept	Lexington-Fayette (Corporate N	Fayette Co	KY
13	8,221	0.050	0.049	0.042	0.033	0	0.017	0.016	0	0.004	0	1	2006	210890007	Scott & Center Streets, Worthington	Worthington	Greenup Co	KY
14	8,625	0.067	0.049	0.042	0.035	0	0.023	0.014	0	0.004	0	1	2007	210890007	Scott & Center Streets, Worthington	Worthington	Greenup Co	KY
15	6,533	0.041	0.035	0.028	0.025	0	0.014	0.012	0	0.003	0	1	2008	210890007	Scott & Center Streets, Worthington	Worthington	Greenup Co	KY
16	8,704	0.107	0.102	0.085	0.081	0	0.028	0.022	0	0.003	0	1	2006	211010014	Baskett Fire Department		Henderson Co	KY
															Baskett Fire		Henderson	

Appendix B

MOBILE 6.2

Input and Output Files

REGIONAL MOBILE6.2
INPUT AND OUTPUT FILES

```
* Mobile6 input file for Kentucky
*
*******************  Header Section  ************************
MOBILE6 INPUT FILE :
POLLUTANTS         : NOx HC
PARTICULATES       :
* PARTICULATES REPORTED IN *.PM FILE


RUN DATA
*******************  Run Section  ***************************

REG DIST           : KYREG.d
FUEL PROGRAM       : 1
OXYGENATED FUELS   : .000 .420 .000 .036 2
STAGE II REFUELING : 93 3 86. 86.

EXPAND BUS EFS     :
REBUILD EFFECTS    : 0.10

*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 57.6 Non-Ramp
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 45.6 Non-Ramp
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 12.9 freeway
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 58.1 Non-Ramp
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 46.3 Non-Ramp
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 12.6 freeway
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 58.1 Non-Ramp
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 46.2 Non-Ramp
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
```

```
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 12.5 freeway
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 18.6 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 18.7 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 18.8 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Brent Spence NOx HC PM2.5  emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
MIN/MAX TEMP       : 62.0 91.3
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 10.
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  End of Run  ***************************
END OF RUN
```

```
***************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                              *
* Input file: K35REGS.INP (file 1, run 1).                                *
***************************************************************************

* Reading Registration Distributions from the following external
* data file: KYREG.D
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M601 Comment:
              User has enabled STAGE II REFUELING.


* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 57.6
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  62.0 (F)
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.225     0.278     0.438     0.317     0.202     0.033     0.080     0.153      2.27     0.283
     Composite NOX :      0.197     0.304     0.480     0.347     0.197     0.033     0.152     0.599      1.48     0.326
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.393     0.152     0.182
     Composite NOX :     0.346     0.958     0.711
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 45.6
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
```

```
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.240     0.291     0.462     0.333     0.225     0.036     0.086     0.171      2.12     0.298
     Composite NOX :      0.191     0.290     0.461     0.332     0.182     0.025     0.112     0.439      1.21     0.300
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.433     0.171     0.204
     Composite NOX :     0.319     0.702     0.521
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
          The user supplied freeway average speed of 12.9
          will be used for all hours of the day. 100% of VMT
          has been assigned to a fixed combination of freeways
          and freeway ramps for all hours of the day and all
           vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
```

ATP Program: No
Reformulated Gas: No

Ether Blend Market Share: 0.000 Alcohol Blend Market Share: 0.420
Ether Blend Oxygen Content: 0.000 Alcohol Blend Oxygen Content: 0.036
Alcohol Blend RVP Waiver: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2805	0.4458	0.1461		0.0354	0.0003	0.0021	0.0849	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.435	0.472	0.722	0.533	0.559	0.070	0.171	0.432	3.34	0.511
Composite NOX :	0.220	0.309	0.495	0.354	0.141	0.030	0.136	0.535	0.94	0.327

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Composite VOC :	0.933	0.432	0.517
Composite NOX :	0.247	0.855	0.634

* #
* Brent Spence NOx HC PM2.5 emissions 2035
* File 1, Run 1, Scenario 4.
* #

M581 Warning:
The user supplied freeway average speed of 58.1
will be used for all hours of the day. 100% of VMT
has been assigned to the freeway roadway type for
all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV

M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12
M111 Warning:
The input dIesel sulfur level of 43.0 ppm exceeds
the 2007 HDD Rule diesel sulfur limit of 15 ppm.

Calendar Year: 2035
Month: July
Altitude: Low
Minimum Temperature: 62.0 (F)
Maximum Temperature: 91.3 (F)
Absolute Humidity: 75. grains/lb
Nominal Fuel RVP: 7.8 psi
Weathered RVP: 8.0 psi
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: No
Evap I/M Program: No
ATP Program: No
Reformulated Gas: No

Ether Blend Market Share: 0.000 Alcohol Blend Market Share: 0.420
Ether Blend Oxygen Content: 0.000 Alcohol Blend Oxygen Content: 0.036
Alcohol Blend RVP Waiver: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2805	0.4458	0.1461		0.0354	0.0003	0.0021	0.0849	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.224	0.278	0.437	0.317	0.201	0.033	0.080	0.152	2.30	0.282
Composite NOX :	0.197	0.304	0.481	0.348	0.198	0.034	0.154	0.609	1.50	0.328

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Composite VOC :	0.392	0.152	0.182
Composite NOX :	0.347	0.974	0.722

* #
* Brent Spence NOx HC PM2.5 emissions 2035
* File 1, Run 1, Scenario 5.
* #

M581 Warning:
The user supplied freeway average speed of 46.3
will be used for all hours of the day. 100% of VMT
has been assigned to the freeway roadway type for
all hours of the day and all vehicle types.

```
* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.239     0.290     0.460     0.332     0.223     0.036     0.086     0.169      2.12     0.297
     Composite NOX :     0.191     0.291     0.462     0.333     0.183     0.025     0.114     0.445      1.22     0.301
  ----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.430     0.169     0.202
     Composite NOX :     0.320     0.712     0.528
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 12.6
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
```

```
                Weathered RVP:   8.0 psi
          Fuel Sulfur Content:   30. ppm

          Exhaust I/M Program:  No
             Evap I/M Program:  No
                  ATP Program:  No
             Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.442     0.479     0.733     0.542     0.569    0.071     0.173     0.438      3.38     0.519
     Composite NOX :     0.223     0.313     0.501     0.359     0.141    0.030     0.137     0.539      0.94     0.331
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :    0.948     0.437     0.524
     Composite NOX :    0.247     0.862     0.640
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 58.1
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                Calendar Year:  2035
                        Month:  July
                     Altitude:  Low
          Minimum Temperature:  62.0 (F)
          Maximum Temperature:  91.3 (F)
            Absolute Humidity:   75. grains/lb
             Nominal Fuel RVP:   7.8 psi
                Weathered RVP:   8.0 psi
          Fuel Sulfur Content:   30. ppm

          Exhaust I/M Program:  No
             Evap I/M Program:  No
                  ATP Program:  No
             Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.224     0.278     0.437     0.317     0.201    0.033     0.080     0.152      2.30     0.282
     Composite NOX :     0.197     0.304     0.481     0.348     0.198    0.034     0.154     0.609      1.50     0.328
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :    0.392     0.152     0.182
     Composite NOX :    0.347     0.974     0.722
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
  M581 Warning:
            The user supplied freeway average speed of 46.2
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
             Minimum Temperature:  62.0 (F)
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.239     0.290     0.460     0.332     0.223     0.036     0.086     0.169      2.12     0.297
     Composite NOX :     0.191     0.291     0.462     0.333     0.182     0.025     0.114     0.444      1.22     0.301
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.430     0.169     0.203
     Composite NOX :     0.320     0.711     0.527
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 12.5
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
```

```
                 Altitude:  Low
      Minimum Temperature:  62.0 (F)
      Maximum Temperature:  91.3 (F)
        Absolute Humidity:   75. grains/lb
         Nominal Fuel RVP:   7.8 psi
            Weathered RVP:   8.0 psi
      Fuel Sulfur Content:   30. ppm

      Exhaust I/M Program:  No
         Evap I/M Program:  No
              ATP Program:  No
         Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.445     0.482     0.737     0.545     0.572     0.071     0.174     0.440      3.39     0.522
     Composite NOX :      0.224     0.314     0.503     0.360     0.141     0.030     0.137     0.541      0.94     0.332
  -----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.953     0.439     0.526
     Composite NOX :     0.247     0.865     0.642
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

            Calendar Year:  2035
                    Month:  July
                 Altitude:  Low
      Minimum Temperature:  62.0 (F)
      Maximum Temperature:  91.3 (F)
        Absolute Humidity:   75. grains/lb
         Nominal Fuel RVP:   7.8 psi
            Weathered RVP:   8.0 psi
      Fuel Sulfur Content:   30. ppm

      Exhaust I/M Program:  No
         Evap I/M Program:  No
              ATP Program:  No
         Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.291     0.332     0.526     0.380     0.313     0.048     0.116     0.261      2.47     0.352
     Composite NOX :      0.199     0.292     0.466     0.335     0.158     0.023     0.105     0.410      1.07     0.300
  -----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.566     0.261     0.312
     Composite NOX :     0.277     0.656     0.486
---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.6
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.351     0.393     0.613     0.447     0.413     0.059     0.145     0.350      2.83     0.422
     Composite NOX :     0.226     0.322     0.511     0.369     0.147     0.026     0.119     0.466      0.97     0.331
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.717     0.349     0.419
     Composite NOX :     0.257     0.745     0.553
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 21.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
```

```
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  62.0 (F)
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.323     0.363     0.573     0.415     0.368     0.055     0.134     0.316      2.68     0.390
     Composite NOX :     0.215     0.309     0.492     0.355     0.150     0.025     0.113     0.442      1.00     0.318
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :    0.651     0.315     0.378
     Composite NOX :    0.264     0.707     0.524
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 13.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  62.0 (F)
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.291     0.332     0.526     0.380     0.313     0.048     0.116     0.261      2.47     0.352
     Composite NOX :     0.199     0.292     0.466     0.335     0.158     0.023     0.105     0.410      1.07     0.300
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
```

```
 Composite Emission Factors (g/mi):
     Composite VOC :     0.566     0.261     0.312
     Composite NOX :     0.277     0.656     0.486
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 14.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.350     0.391     0.611     0.445     0.411     0.059     0.144     0.349      2.82     0.420
     Composite NOX :     0.226     0.321     0.510     0.368     0.147     0.026     0.119     0.465      0.97     0.331
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.715     0.348     0.417
     Composite NOX :     0.258     0.744     0.552
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 15.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 21.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
```

```
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.323     0.363     0.573     0.415     0.368     0.055     0.134     0.316      2.68     0.390
     Composite NOX :     0.215     0.309     0.492     0.355     0.150     0.025     0.113     0.442      1.00     0.318
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :    0.651     0.315     0.378
     Composite NOX :    0.264     0.707     0.524
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 16.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of 27.1
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.291     0.332     0.526     0.380     0.313     0.048     0.116     0.261      2.47     0.352
     Composite NOX :     0.199     0.292     0.466     0.335     0.158     0.023     0.105     0.410      1.07     0.300
  ------------------------------------------------------------------------------------------------------------------------
```

```
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.566     0.261     0.312
     Composite NOX :     0.277     0.656     0.486
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 17.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2805    0.4458    0.1461              0.0354    0.0003    0.0021    0.0849    0.0050    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.348     0.390     0.610     0.444     0.409     0.059     0.144     0.347      2.82     0.419
     Composite NOX :      0.225     0.321     0.509     0.367     0.147     0.026     0.118     0.464      0.97     0.330
  ------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.712     0.347     0.416
     Composite NOX :     0.258     0.742     0.551
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 18.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 21.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV
```

```
* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2805	0.4458	0.1461		0.0354	0.0003	0.0021	0.0849	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.323	0.363	0.573	0.415	0.368	0.055	0.134	0.316	2.68	0.390
Composite NOX :	0.215	0.309	0.492	0.355	0.150	0.025	0.113	0.442	1.00	0.318

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Composite VOC :	0.651	0.315	0.378
Composite NOX :	0.264	0.707	0.524

```
* Mobile6 input file for Kentucky
*
*******************  Header Section  ************************
MOBILE6 INPUT FILE :
POLLUTANTS         : CO
PARTICULATES       :
* PARTICULATES REPORTED IN *.PM FILE


RUN DATA
*******************  Run Section  ***************************

REG DIST           : KYREG.d
FUEL PROGRAM       : 1
OXYGENATED FUELS   : .000 .420 .000 .036 2
STAGE II REFUELING : 93 3 86. 86.

EXPAND BUS EFS     :
REBUILD EFFECTS    : 0.10

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 57.6 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 45.6 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.9 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 58.1 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 46.3 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.6 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 58.1 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 46.2 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
```

```
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.5 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 18.6 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 18.7 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 18.8 37.0
AVERAGE SPEED      : 50.0 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  End of Run  ****************************
END OF RUN
```

```
****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                               *
* Input file: K2035REG.INP (file 1, run 1).                                *
****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2035
                                      Month:  Jan.
               Gasoline Fuel Sulfur Content:   30. ppm
                 Diesel Fuel Sulfur Content:   43. ppm
                       Particle Size Cutoff:  2.50 Microns
                           Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0037    0.0035    0.0035    0.0035    0.0073    ------    ------    ------    0.0142    0.0034
           ECARBON:    ------    ------    ------    ------    ------    0.0065    0.0034    0.0075    ------    0.0006
           OCARBON:    ------    ------    ------    ------    ------    0.0018    0.0049    0.0038    ------    0.0003
               SO4:    0.0002    0.0004    0.0004    0.0004    0.0021    0.0004    0.0008    0.0026    0.0001    0.0006
  Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0094    0.0088    0.0092    0.0140    0.0143    0.0050
             Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
              Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:    0.0112    0.0112    0.0112    0.0112    0.0169    0.0162    0.0165    0.0258    0.0206    0.0127
               SO2:    0.0068    0.0088    0.0115    0.0095    0.0164    0.0084    0.0161    0.0377    0.0033    0.0114
               NH3:    0.1017    0.1017    0.1017    0.1017    0.0451    0.0068    0.0068    0.0270    0.0113    0.0927
 ----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
 ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:    0.0000    ------    ------
             GASPM:    0.0127    ------    ------
           ECARBON:    ------    0.0116    0.0118
           OCARBON:    ------    0.0091    0.0092
               SO4:    0.0021    0.0044    0.0031
  Total Exhaust PM:    0.0148    0.0251    0.0241
             Brake:    0.0053    0.0053    0.0053
              Tire:    0.0030    0.0030    0.0030
          Total PM:    0.0231    0.0335    0.0324
               SO2:    0.0251    0.0623    0.0440
               NH3:    0.0451    0.0270    0.0270
 ----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2035
                                      Month:  Jan.
               Gasoline Fuel Sulfur Content:   30. ppm
                 Diesel Fuel Sulfur Content:   43. ppm
                       Particle Size Cutoff:  2.50 Microns
                           Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0037    0.0035    0.0035    0.0035    0.0073    ------    ------    ------    0.0142    0.0034
           ECARBON:    ------    ------    ------    ------    ------    0.0065    0.0034    0.0075    ------    0.0006
           OCARBON:    ------    ------    ------    ------    ------    0.0018    0.0049    0.0038    ------    0.0003
               SO4:    0.0002    0.0004    0.0004    0.0004    0.0021    0.0004    0.0008    0.0026    0.0001    0.0006
  Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0094    0.0088    0.0092    0.0140    0.0143    0.0050
             Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
              Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:    0.0112    0.0112    0.0112    0.0112    0.0169    0.0162    0.0165    0.0258    0.0206    0.0127
               SO2:    0.0068    0.0088    0.0115    0.0095    0.0164    0.0084    0.0161    0.0377    0.0033    0.0114
               NH3:    0.1017    0.1017    0.1017    0.1017    0.0451    0.0068    0.0068    0.0270    0.0113    0.0927
 ----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
 ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:    0.0000    ------    ------
             GASPM:    0.0127    ------    ------
           ECARBON:    ------    0.0116    0.0118
           OCARBON:    ------    0.0091    0.0092
               SO4:    0.0021    0.0044    0.0031
  Total Exhaust PM:    0.0148    0.0251    0.0241
             Brake:    0.0053    0.0053    0.0053
              Tire:    0.0030    0.0030    0.0030
          Total PM:    0.0231    0.0335    0.0324
               SO2:    0.0251    0.0623    0.0440
               NH3:    0.0451    0.0270    0.0270
 ----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
```

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0113	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 4.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0164	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 5.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						

VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0164	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 6.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0113	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 7.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053

Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0164	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
                 Calendar Year:  2035
                         Month:  Jan.
 Gasoline Fuel Sulfur Content:   30. ppm
   Diesel Fuel Sulfur Content:   43. ppm
         Particle Size Cutoff:  2.50 Microns
             Reformulated Gas:  No
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0164	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
                 Calendar Year:  2035
                         Month:  Jan.
 Gasoline Fuel Sulfur Content:   30. ppm
   Diesel Fuel Sulfur Content:   43. ppm
         Particle Size Cutoff:  2.50 Microns
             Reformulated Gas:  No
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0113	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 10.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0035	0.0034	0.0034	0.0034	0.0076	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0004	0.0005	0.0005	0.0005	0.0017	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0168	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0130	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0017	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0252	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 11.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0080	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0113	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0134	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0013	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0230	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440

NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 12.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 13.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0035	0.0034	0.0034	0.0034	0.0076	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0004	0.0005	0.0005	0.0005	0.0017	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0168	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0130	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0017	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0252	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 14.
* #

Calendar Year: 2035
Month: Jan.

Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0080	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0113	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0134	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0013	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0230	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 15.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 16.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0035	0.0034	0.0034	0.0034	0.0076	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0004	0.0005	0.0005	0.0005	0.0017	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0168	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0130	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0017	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0252	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 17.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0164	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 18.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2803	0.4463	0.1459		0.0353	0.0003	0.0021	0.0848	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0006
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127

SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0113
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0927

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                               *
* Input file: K2035REG10.INP (file 1, run 1).                              *
****************************************************************************

* Reading Registration Distributions from the following external
* data file: KYREG.D
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M601 Comment:
              User has enabled STAGE II REFUELING.


* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 57.6
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.14     13.60     16.84     14.40      7.05     0.470     0.283     0.153     13.05    12.818
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.42     0.232     0.157
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 45.6
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV
```

```
* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.31     12.66     15.67     13.40      5.80     0.450     0.271     0.142      9.91    11.934
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
           VMT Mix:     0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.04      0.215     0.145
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
          The user supplied freeway average speed of 12.9
          will be used for all hours of the day. 100% of VMT
          has been assigned to a fixed combination of freeways
          and freeway ramps for all hours of the day and all
           vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
```

```
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.83     13.11     16.31     13.90     17.03     0.943     0.581     0.432     24.70    12.871
 -------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    32.44      0.654     0.441
-------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
          The user supplied freeway average speed of 58.1
          will be used for all hours of the day. 100% of VMT
          has been assigned to the freeway roadway type for
          all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.17     13.64     16.89     14.44      7.14     0.472     0.285     0.155     13.66    12.858
 -------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.61      0.234     0.158
-------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
          The user supplied freeway average speed of 46.3
          will be used for all hours of the day. 100% of VMT
          has been assigned to the freeway roadway type for
          all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
```

```
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.36     12.72     15.74     13.47      5.82     0.450     0.271     0.142      9.88    11.986
 ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
           VMT Mix:     0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.10      0.215     0.145
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
          The user supplied freeway average speed of 12.6
          will be used for all hours of the day. 100% of VMT
          has been assigned to a fixed combination of freeways
          and freeway ramps for all hours of the day and all
           vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
```

```
                                    Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :     13.92     13.20     16.43     13.99     17.38     0.957     0.590     0.440     25.21    12.964
 ----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :    33.11      0.667     0.450
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 58.1
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :     14.17     13.64     16.89     14.44      7.14     0.472     0.285     0.155     13.66    12.858
 ----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :    13.61      0.234     0.158
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 46.2
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV
```

```
* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.35     12.71     15.73     13.46      5.82     0.450     0.271     0.142      9.88    11.978
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.09      0.215     0.145
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
          The user supplied freeway average speed of 12.5
          will be used for all hours of the day. 100% of VMT
          has been assigned to a fixed combination of freeways
          and freeway ramps for all hours of the day and all
           vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes
```

```
      Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000    (All)
                       ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2803    0.4463    0.1459             0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.95     13.23     16.47    14.02     17.50     0.962     0.593     0.443     25.39    12.997
 ---------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    33.35      0.671     0.453
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000    (All)
                       ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2803    0.4463    0.1459             0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.63     11.87     14.70    12.57      8.08     0.570     0.347     0.213     13.94    11.356
 ---------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.40      0.322     0.217
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.6
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV
```

```
* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.24     12.50     15.53     13.25     12.07     0.742     0.455     0.314     18.38    12.101
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    22.99      0.475     0.321
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of 21.4
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
```

```
             GVWR:              <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.96     12.21     15.15     12.93     10.40     0.672     0.411     0.272     16.57    11.766
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    19.82      0.413     0.279
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 13.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:              <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.63     11.87     14.70     12.57      8.08     0.570     0.347     0.213     13.94    11.356
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.40      0.322     0.217
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 14.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV
```

```
* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.23     12.49     15.52     13.24     12.00     0.740     0.453     0.312     18.30    12.087
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    22.86      0.473     0.319
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 15.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 21.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
```

```
  VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.96     12.21     15.15     12.93     10.40     0.672     0.411     0.272     16.57    11.766
 -------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    19.82      0.413     0.279
-------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 16.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.63     11.87     14.70     12.57      8.08     0.570     0.347     0.213     13.94    11.356
 -------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.40      0.322     0.217
-------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 17.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 50.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
```

```
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  18.8 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.62     13.02     16.11     13.78      5.96     0.449     0.270     0.141      9.71    12.250
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.36      0.214     0.144
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 18.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of 21.4
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
```

```
 Composite Emission Factors (g/mi):
     Composite CO  :     12.96     12.21     15.15     12.93     10.40     0.672     0.411     0.272     16.57    11.766
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    19.82      0.413     0.279
-----------------------------------------------------------------------------------------------------------------------
```

```
* Mobile6 input file for Butler, Clermont, Hamilton and Warren counties,
* low RVP beginning summer 2008
* created 4/9/07 by ajr, includes annual scenario,low RVP,post 2007
*******************  Header Section  ************************
MOBILE6 INPUT FILE :
POLLUTANTS         : CO
PARTICULATES       :
* PARTICULATES REPORTED IN *.PM FILE


RUN DATA
*******************  Run Section  ***************************
VMT BY HOUR        : OHVMT30.Def

VMT BY FACILITY    : OFVMT30.Def
REG DIST           : OHREG_30.D
FUEL PROGRAM       : 1
OXYGENATED FUELS   : .000 .420 .000 .036 2
STAGE II REFUELING : 93 3 86. 86.

EXPAND BUS EFS     :
REBUILD EFFECTS    : 0.10


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 57.6 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 45.6 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.9 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 58.1 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 46.3 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.6 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 58.1 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 46.2 Non-Ramp
```

```
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.5 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 18.6 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 18.7 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 18.8 37.0
AVERAGE SPEED      : 50.0 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
```

******************* End of Run ****************************

END OF RUN

```
****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                               *
* Input file: O35REGS.INP (file 1, run 1).                                 *
****************************************************************************

* Reading Hourly VMT distribution from the following external
* data file: OHVMT30.DEF

* Reading Hourly Roadway VMT distribution from the following external
* data file: OFVMT30.DEF

  Reading User Supplied ROADWAY VMT Factors

* Reading Registration Distributions from the following external
* data file: OHREG_30.D
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M601 Comment:
              User has enabled STAGE II REFUELING.


* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 57.6
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  62.0 (F)
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                  Nominal Fuel RVP:   7.8 psi
                     Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2697	0.4367	0.1632		0.0361	0.0002	0.0024	0.0866	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.266	0.305	0.348	0.317	0.201	0.037	0.077	0.153	2.26	0.294
Composite NOX :	0.240	0.349	0.444	0.375	0.197	0.035	0.153	0.599	1.50	0.357

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0010	0.0019
Composite Emission Factors (g/mi):			
Composite VOC :	0.390	0.152	0.182
Composite NOX :	0.346	0.958	0.711

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 45.6
```

```
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  62.0 (F)
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.284     0.319     0.364     0.331     0.223     0.040     0.083     0.171      2.12     0.309
     Composite NOX :     0.232     0.333     0.425     0.358     0.181     0.026     0.113     0.439      1.22     0.329
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.429     0.171     0.204
     Composite NOX :     0.318     0.702     0.521
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 12.9
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  62.0 (F)
```

```
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.494     0.511     0.579     0.530     0.550     0.077     0.170     0.432      3.33     0.525
     Composite NOX :      0.264     0.354     0.455     0.381     0.141     0.031     0.137     0.535      0.95     0.356
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.919     0.432     0.517
     Composite NOX :     0.247     0.855     0.634
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 58.1
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  62.0 (F)
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.266     0.305     0.347     0.316     0.200     0.037     0.077     0.152      2.29     0.294
     Composite NOX :      0.240     0.350     0.444     0.376     0.198     0.035     0.156     0.609      1.51     0.358
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.389     0.152     0.182
     Composite NOX :     0.347     0.973     0.722
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 46.3
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                     ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000    (All)
                        ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632             0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.283     0.318     0.363    0.330     0.221     0.039     0.083     0.169      2.12     0.308
     Composite NOX :     0.233     0.334     0.426    0.359     0.182     0.026     0.115     0.445      1.23     0.330
  ----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.426     0.169     0.202
     Composite NOX :     0.320     0.712     0.528
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 12.6
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.
```

```
                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.501     0.520     0.588     0.538     0.559     0.078     0.172     0.438      3.37     0.534
     Composite NOX :     0.268     0.358     0.461     0.386     0.140     0.031     0.138     0.539      0.95     0.361
 ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.934     0.437     0.524
     Composite NOX :     0.246     0.862     0.640
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 58.1
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.266     0.305     0.347     0.316     0.200     0.037     0.077     0.152      2.29     0.294
     Composite NOX :     0.240     0.350     0.444     0.376     0.198     0.035     0.156     0.609      1.51     0.358
 ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
```

```
     Composite VOC :     0.389     0.152     0.182
     Composite NOX :     0.347     0.973     0.722
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 46.2
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                     ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.283     0.318     0.363     0.331     0.221     0.039     0.083     0.169      2.12     0.308
     Composite NOX :     0.233     0.334     0.426     0.359     0.182     0.026     0.114     0.444      1.23     0.330
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.427     0.169     0.203
     Composite NOX :     0.320     0.711     0.527
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 12.5
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
```

```
 M 48 Warning:
             there are no sales for vehicle class LDDT12
 M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
               Reformulated Gas:  No

  Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
  Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                         Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      0.504     0.523     0.591     0.541     0.563     0.078     0.173     0.440      3.39     0.537
    Composite NOX :      0.269     0.360     0.463     0.388     0.140     0.032     0.139     0.541      0.95     0.362
 ------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0010    0.0019
-------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :     0.939     0.439     0.526
    Composite NOX :     0.246     0.865     0.642
-------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of 27.1
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
               Reformulated Gas:  No

  Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
  Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                         Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      0.339     0.363     0.415     0.377     0.310     0.053     0.113     0.261      2.46     0.364
    Composite NOX :      0.240     0.335     0.428     0.360     0.158     0.024     0.106     0.410      1.08     0.328
 ------------------------------------------------------------------------------------------------------------------------
```

```
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------     ------   ------
           VMT Mix:    0.0001    0.0010    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.559     0.260     0.312
     Composite NOX :     0.276     0.655     0.486
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.6
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                     ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.406     0.429     0.489     0.446     0.408     0.065     0.143     0.350      2.82     0.436
     Composite NOX :      0.272     0.369     0.472     0.397     0.147     0.027     0.120     0.466      0.98     0.362
  ---------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------     ------   ------
           VMT Mix:    0.0001    0.0010    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.709     0.349     0.419
     Composite NOX :     0.257     0.745     0.553
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 21.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV
```

```
* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.375     0.398     0.454     0.413     0.364    0.060     0.132     0.316      2.68     0.403
     Composite NOX :      0.259     0.355     0.454     0.382     0.150    0.026     0.114     0.442      1.01     0.348
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.644     0.315     0.378
     Composite NOX :     0.263     0.707     0.524
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 13.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of 27.1
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  -----------------------------------------------------------------------------------------------------------------------
```

```
 Composite Emission Factors (g/mi):
     Composite VOC :      0.339     0.363     0.415     0.377     0.310    0.053     0.113     0.261      2.46     0.364
     Composite NOX :      0.240     0.335     0.428     0.360     0.158    0.024     0.106     0.410      1.08     0.328
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------     ------   ------
            VMT Mix:    0.0001    0.0010    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.559     0.260     0.312
     Composite NOX :     0.276     0.655     0.486
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 14.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  62.0 (F)
             Maximum Temperature:  91.3 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   8.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.404     0.428     0.488     0.444     0.406    0.065     0.142     0.349      2.82     0.435
     Composite NOX :      0.271     0.369     0.471     0.396     0.147    0.027     0.120     0.465      0.98     0.362
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------     ------   ------
            VMT Mix:    0.0001    0.0010    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.706     0.348     0.417
     Composite NOX :     0.257     0.744     0.552
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 15.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 21.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV
```

```
* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2697    0.4367    0.1632              0.0361    0.0002    0.0024    0.0866    0.0051    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.375     0.398     0.454     0.413     0.364     0.060     0.132     0.316      2.68     0.403
     Composite NOX :      0.259     0.355     0.454     0.382     0.150     0.026     0.114     0.442      1.01     0.348
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0010    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.644     0.315     0.378
     Composite NOX :     0.263     0.707     0.524
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 16.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of 27.1
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
```

GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2697	0.4367	0.1632		0.0361	0.0002	0.0024	0.0866	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.339	0.363	0.415	0.377	0.310	0.053	0.113	0.261	2.46	0.364
Composite NOX :	0.240	0.335	0.428	0.360	0.158	0.024	0.106	0.410	1.08	0.328

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0010	0.0019
Composite Emission Factors (g/mi):			
Composite VOC :	0.559	0.260	0.312
Composite NOX :	0.276	0.655	0.486

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 17.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  62.0 (F)
              Maximum Temperature:  91.3 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   8.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2697	0.4367	0.1632		0.0361	0.0002	0.0024	0.0866	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.403	0.426	0.486	0.443	0.404	0.065	0.142	0.347	2.81	0.433
Composite NOX :	0.271	0.368	0.470	0.396	0.147	0.027	0.119	0.464	0.98	0.361

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0010	0.0019
Composite Emission Factors (g/mi):			
Composite VOC :	0.703	0.347	0.416
Composite NOX :	0.258	0.742	0.551

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence NOx HC PM2.5  emissions 2035
* File 1, Run 1, Scenario 18.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 21.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
```

```
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  62.0 (F)
            Maximum Temperature:  91.3 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   8.0 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2697	0.4367	0.1632		0.0361	0.0002	0.0024	0.0866	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.375	0.398	0.454	0.413	0.364	0.060	0.132	0.316	2.68	0.403
Composite NOX :	0.259	0.355	0.454	0.382	0.150	0.026	0.114	0.442	1.01	0.348

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0010	0.0019
Composite Emission Factors (g/mi):			
Composite VOC :	0.644	0.315	0.378
Composite NOX :	0.263	0.707	0.524

```
* Mobile6 input file for Butler, Clermont, Hamilton and Warren counties,
* low RVP beginning summer 2008
* created 4/9/07 by ajr, includes annual scenario,low RVP,post 2007
*******************  Header Section  ************************
MOBILE6 INPUT FILE :
POLLUTANTS         : CO
PARTICULATES       :
* PARTICULATES REPORTED IN *.PM FILE


RUN DATA
*******************  Run Section  ***************************
VMT BY HOUR        : OHVMT30.Def

VMT BY FACILITY    : OFVMT30.Def
REG DIST           : OHREG_30.D
FUEL PROGRAM       : 1
OXYGENATED FUELS   : .000 .420 .000 .036 2
STAGE II REFUELING : 93 3 86. 86.

EXPAND BUS EFS     :
REBUILD EFFECTS    : 0.10


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 57.6 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 45.6 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.9 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 58.1 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 46.3 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.6 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 58.1 Non-Ramp
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 46.2 Non-Ramp
```

```
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 12.5 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 18.6 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 18.7 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 27.1 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 18.8 37.0
AVERAGE SPEED      : 50.0 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 21.4 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
```

******************* End of Run ****************************

END OF RUN

```
****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                               *
* Input file: O2035REG.INP (file 1, run 1).                                *
****************************************************************************

* Reading Hourly VMT distribution from the following external
* data file: OHVMT30.DEF

* Reading Hourly Roadway VMT distribution from the following external
* data file: OFVMT30.DEF

  Reading User Supplied ROADWAY VMT Factors

* Reading Registration Distributions from the following external
* data file: OHREG_30.D
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M601 Comment:
              User has enabled STAGE II REFUELING.


* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 57.6
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.72     14.78     15.91     15.09      7.09     0.495     0.266     0.153     13.07    13.649
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.51      0.232     0.157
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 45.6
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
```

```
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                   ATP Program:  No
              Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.75     13.71     14.70     13.98      5.83     0.475     0.254     0.142      9.93    12.656
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.11      0.215     0.145
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 12.9
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
```

```
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000    (All)
                         ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.36     14.20     15.29    14.50     17.14     0.984     0.565     0.432     24.76    13.638
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    32.65      0.654     0.441
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 58.1
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000    (All)
                         ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.76     14.82     15.96    15.13      7.19     0.497     0.268     0.155     13.69    13.693
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.70      0.234     0.158
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 46.3
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.
```

```
* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.81     13.77     14.78     14.05      5.86     0.474     0.254     0.142      9.89    12.715
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.17      0.215     0.145
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
          The user supplied freeway average speed of 12.6
          will be used for all hours of the day. 100% of VMT
          has been assigned to a fixed combination of freeways
          and freeway ramps for all hours of the day and all
           vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm
```

```
             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.46     14.30     15.40     14.60     17.49     0.998     0.574     0.440     25.28    13.742
  -------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :   33.33      0.667     0.450
-------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 58.1
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.76     14.82     15.96     15.13      7.19     0.497     0.268     0.155     13.69    13.693
  -------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :   13.70      0.234     0.158
-------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
           The user supplied freeway average speed of 46.2
           will be used for all hours of the day. 100% of VMT
           has been assigned to the freeway roadway type for
           all hours of the day and all vehicle types.
```

```
* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Composite CO :	14.80	13.76	14.77	14.04	5.86	0.474	0.254	0.142	9.90	12.706

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Composite CO :	11.16	0.215	0.145

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
          The user supplied freeway average speed of 12.5
          will be used for all hours of the day. 100% of VMT
          has been assigned to a fixed combination of freeways
          and freeway ramps for all hours of the day and all
           vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm
```

```
             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000    (All)
                        ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639             0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.50     14.34     15.44    14.64     17.62     1.003     0.577     0.443     25.45    13.778
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    33.56      0.671     0.453
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of 27.1
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000    (All)
                        ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639             0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.96     12.81     13.70    13.05      8.14     0.599     0.330     0.213     13.96    11.992
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.50      0.322     0.217
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of 18.6
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
```

```
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.68     13.53     14.53     13.80     12.15     0.777     0.438     0.314     18.42    12.816
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    23.14      0.475     0.321
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of 21.4
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
```

```
                  ATP Program:  No
             Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.35     13.20     14.14     13.45     10.47     0.704     0.394     0.272     16.60    12.444
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    19.95      0.413     0.278
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 13.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                Calendar Year:  2035
                        Month:  Jan.
                     Altitude:  Low
          Minimum Temperature:  19.0 (F)
          Maximum Temperature:  37.0 (F)
            Absolute Humidity:   75. grains/lb
             Nominal Fuel RVP:   9.0 psi
                Weathered RVP:   9.5 psi
          Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
             Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.96     12.81     13.70     13.05      8.14     0.599     0.330     0.213     13.96    11.992
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.50      0.322     0.217
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 14.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 18.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV
```

```
* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.67     13.52     14.51     13.79     12.08     0.774     0.437     0.312     18.35    12.800
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    23.01      0.473     0.319
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 15.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 21.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

```
   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000    (All)
                         ------   ------    ------   ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639             0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.35     13.20     14.14    13.45     10.47     0.704     0.394     0.272     16.60    12.444
 ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
           VMT Mix:     0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    19.95      0.413     0.278
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 16.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000    (All)
                         ------   ------    ------   ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639             0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.96     12.81     13.70    13.05      8.14     0.599     0.330     0.213     13.96    11.992
 ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
           VMT Mix:     0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.50      0.322     0.217
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 17.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 50.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV
```

```
* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  18.8 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.12     14.11     15.16     14.40      6.00     0.473     0.253     0.141      9.72    13.013
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
           VMT Mix:     0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     11.44     0.214     0.144
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 18.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of 21.4
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
```

Ether Blend Oxygen Content: 0.000   Alcohol Blend Oxygen Content: 0.036
Alcohol Blend RVP Waiver: Yes

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Composite CO :	14.35	13.20	14.14	13.45	10.47	0.704	0.394	0.272	16.60	12.444

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Composite CO :	19.95	0.413	0.278

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                *
* Input file: O2035REG.INP (file 1, run 1).                                 *
*****************************************************************************
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
                Calendar Year:  2035
                        Month:  Jan.
 Gasoline Fuel Sulfur Content:    30. ppm
   Diesel Fuel Sulfur Content:    43. ppm
         Particle Size Cutoff:  2.50 Microns
             Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
                Calendar Year:  2035
                        Month:  Jan.
 Gasoline Fuel Sulfur Content:    30. ppm
   Diesel Fuel Sulfur Content:    43. ppm
         Particle Size Cutoff:  2.50 Microns
             Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 4.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 5.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						

```
  VMT Distribution:   0.2691   0.4384   0.1639            0.0355   0.0002   0.0024   0.0854   0.0049   1.0000
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   0.0000   0.0000   0.0000   0.0000   ------   ------   ------   0.0000   0.0000
             GASPM:   0.0037   0.0035   0.0035   0.0035   0.0073   ------   ------   ------   0.0142   0.0034
           ECARBON:   ------   ------   ------   ------   ------   0.0065   0.0034   0.0075   ------   0.0007
           OCARBON:   ------   ------   ------   ------   ------   0.0018   0.0049   0.0038   ------   0.0003
               SO4:   0.0002   0.0004   0.0004   0.0004   0.0021   0.0004   0.0008   0.0026   0.0001   0.0006
  Total Exhaust PM:   0.0039   0.0039   0.0039   0.0039   0.0094   0.0088   0.0092   0.0140   0.0143   0.0050
             Brake:   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053
              Tire:   0.0020   0.0020   0.0020   0.0020   0.0022   0.0020   0.0020   0.0065   0.0010   0.0024
          Total PM:   0.0112   0.0112   0.0112   0.0112   0.0169   0.0162   0.0165   0.0258   0.0206   0.0127
               SO2:   0.0068   0.0088   0.0115   0.0096   0.0164   0.0084   0.0161   0.0377   0.0033   0.0115
               NH3:   0.1017   0.1017   0.1017   0.1017   0.0451   0.0068   0.0068   0.0270   0.0113   0.0926
-------------------------------------------------------------------------------------------------------------------
         Veh. Type:   GasBUS    URBAN   SCHOOL
                      ------   ------   ------
           VMT Mix:   0.0001   0.0009   0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   ------   ------
             GASPM:   0.0127   ------   ------
           ECARBON:   ------   0.0116   0.0118
           OCARBON:   ------   0.0091   0.0092
               SO4:   0.0021   0.0044   0.0031
  Total Exhaust PM:   0.0148   0.0251   0.0241
             Brake:   0.0053   0.0053   0.0053
              Tire:   0.0030   0.0030   0.0030
          Total PM:   0.0231   0.0335   0.0324
               SO2:   0.0251   0.0623   0.0440
               NH3:   0.0451   0.0270   0.0270
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                           Calendar Year:  2035
                                   Month:  Jan.
              Gasoline Fuel Sulfur Content:   30. ppm
                Diesel Fuel Sulfur Content:   43. ppm
                    Particle Size Cutoff:  2.50 Microns
                        Reformulated Gas:  No

      Vehicle Type:     LDGV   LDGT12   LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC  All Veh
             GVWR:              <6000    >6000    (All)
                      ------   ------   ------   ------   ------   ------   ------   ------   ------   ------
  VMT Distribution:   0.2691   0.4384   0.1639            0.0355   0.0002   0.0024   0.0854   0.0049   1.0000
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   0.0000   0.0000   0.0000   0.0000   ------   ------   ------   0.0000   0.0000
             GASPM:   0.0034   0.0033   0.0033   0.0033   0.0079   ------   ------   ------   0.0142   0.0033
           ECARBON:   ------   ------   ------   ------   ------   0.0065   0.0034   0.0075   ------   0.0007
           OCARBON:   ------   ------   ------   ------   ------   0.0018   0.0049   0.0038   ------   0.0003
               SO4:   0.0005   0.0006   0.0006   0.0006   0.0014   0.0004   0.0008   0.0026   0.0002   0.0008
  Total Exhaust PM:   0.0039   0.0039   0.0039   0.0039   0.0093   0.0088   0.0092   0.0140   0.0144   0.0050
             Brake:   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053
              Tire:   0.0020   0.0020   0.0020   0.0020   0.0022   0.0020   0.0020   0.0065   0.0010   0.0024
          Total PM:   0.0112   0.0112   0.0113   0.0113   0.0168   0.0162   0.0165   0.0258   0.0207   0.0127
               SO2:   0.0067   0.0088   0.0115   0.0095   0.0166   0.0084   0.0161   0.0377   0.0033   0.0114
               NH3:   0.1017   0.1017   0.1017   0.1017   0.0451   0.0068   0.0068   0.0270   0.0113   0.0926
-------------------------------------------------------------------------------------------------------------------
         Veh. Type:   GasBUS    URBAN   SCHOOL
                      ------   ------   ------
           VMT Mix:   0.0001   0.0009   0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   ------   ------
             GASPM:   0.0133   ------   ------
           ECARBON:   ------   0.0116   0.0118
           OCARBON:   ------   0.0091   0.0092
               SO4:   0.0014   0.0044   0.0031
  Total Exhaust PM:   0.0147   0.0251   0.0241
             Brake:   0.0053   0.0053   0.0053
              Tire:   0.0030   0.0030   0.0030
          Total PM:   0.0231   0.0335   0.0324
               SO2:   0.0253   0.0623   0.0440
               NH3:   0.0451   0.0270   0.0270
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                           Calendar Year:  2035
                                   Month:  Jan.
              Gasoline Fuel Sulfur Content:   30. ppm
                Diesel Fuel Sulfur Content:   43. ppm
                    Particle Size Cutoff:  2.50 Microns
                        Reformulated Gas:  No

      Vehicle Type:     LDGV   LDGT12   LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC  All Veh
             GVWR:              <6000    >6000    (All)
                      ------   ------   ------   ------   ------   ------   ------   ------   ------   ------
  VMT Distribution:   0.2691   0.4384   0.1639            0.0355   0.0002   0.0024   0.0854   0.0049   1.0000
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   0.0000   0.0000   0.0000   0.0000   ------   ------   ------   0.0000   0.0000
             GASPM:   0.0037   0.0035   0.0035   0.0035   0.0073   ------   ------   ------   0.0142   0.0034
           ECARBON:   ------   ------   ------   ------   ------   0.0065   0.0034   0.0075   ------   0.0007
           OCARBON:   ------   ------   ------   ------   ------   0.0018   0.0049   0.0038   ------   0.0003
               SO4:   0.0002   0.0004   0.0004   0.0004   0.0021   0.0004   0.0008   0.0026   0.0001   0.0006
  Total Exhaust PM:   0.0039   0.0039   0.0039   0.0039   0.0094   0.0088   0.0092   0.0140   0.0143   0.0050
             Brake:   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053   0.0053
```

Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 8.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 9.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 10.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0035	0.0034	0.0034	0.0034	0.0076	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0004	0.0005	0.0005	0.0005	0.0017	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0168	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0130	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0017	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0252	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 11.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0080	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0113	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0134	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0013	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0230	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440

NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 12.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0112	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 13.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0035	0.0034	0.0034	0.0034	0.0076	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0004	0.0005	0.0005	0.0005	0.0017	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0168	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0130	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0017	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0252	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 14.
* #

Calendar Year: 2035
Month: Jan.

Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0080	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0113	0.0113	0.0113	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0134	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0013	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0230	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 15.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0112	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127
SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 16.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0035	0.0034	0.0034	0.0034	0.0076	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0004	0.0005	0.0005	0.0005	0.0017	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0168	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0130	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0017	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0252	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 17.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0073	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0169	0.0162	0.0165	0.0258	0.0206	0.0127
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0127	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0148	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 18.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0079	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0065	0.0034	0.0075	------	0.0007
OCARBON:	------	------	------	------	------	0.0018	0.0049	0.0038	------	0.0003
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0093	0.0088	0.0092	0.0140	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0112	0.0168	0.0162	0.0165	0.0258	0.0207	0.0127

SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0133	------	------
ECARBON:	------	0.0116	0.0118
OCARBON:	------	0.0091	0.0092
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0147	0.0251	0.0241
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0231	0.0335	0.0324
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                *
* Input file: O35REG10.INP (file 1, run 1).                                 *
*****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                    Calendar Year:  2035
                            Month:  Jan.
        Gasoline Fuel Sulfur Content:   30. ppm
          Diesel Fuel Sulfur Content:   43. ppm
              Particle Size Cutoff: 10.00 Microns
                  Reformulated Gas:  No
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0040	0.0038	0.0038	0.0038	0.0080	------	------	------	0.0205	0.0037
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0371	0.0275
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0140	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                    Calendar Year:  2035
                            Month:  Jan.
        Gasoline Fuel Sulfur Content:   30. ppm
          Diesel Fuel Sulfur Content:   43. ppm
              Particle Size Cutoff: 10.00 Microns
                  Reformulated Gas:  No
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0040	0.0038	0.0038	0.0038	0.0080	------	------	------	0.0205	0.0037
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0371	0.0275
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0140	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
                   Calendar Year:  2035
                           Month:  Jan.
        Gasoline Fuel Sulfur Content:   30. ppm
          Diesel Fuel Sulfur Content:   43. ppm
              Particle Size Cutoff: 10.00 Microns
                  Reformulated Gas:  No

      Vehicle Type:     LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:              <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:   0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
              Lead:   0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:   0.0037    0.0036    0.0036    0.0036    0.0087    ------    ------    ------    0.0205    0.0036
           ECARBON:   ------    ------    ------    ------    ------    0.0071    0.0037    0.0082    ------    0.0007
           OCARBON:   ------    ------    ------    ------    ------    0.0020    0.0053    0.0042    ------    0.0004
               SO4:   0.0005    0.0006    0.0006    0.0006    0.0014    0.0004    0.0008    0.0026    0.0002    0.0008
  Total Exhaust PM:   0.0042    0.0042    0.0042    0.0042    0.0101    0.0096    0.0099    0.0150    0.0207    0.0054
             Brake:   0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125
              Tire:   0.0080    0.0080    0.0080    0.0080    0.0086    0.0080    0.0080    0.0258    0.0040    0.0095
          Total PM:   0.0247    0.0247    0.0247    0.0247    0.0313    0.0301    0.0304    0.0534    0.0372    0.0275
               SO2:   0.0067    0.0088    0.0115    0.0095    0.0166    0.0084    0.0161    0.0377    0.0033    0.0114
               NH3:   0.1017    0.1017    0.1017    0.1017    0.0451    0.0068    0.0068    0.0270    0.0113    0.0926
---------------------------------------------------------------------------------------------------------------------
         Veh. Type:   GasBUS     URBAN    SCHOOL
                      ------    ------    ------
           VMT Mix:   0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
              Lead:   0.0000    ------    ------
             GASPM:   0.0146    ------    ------
           ECARBON:   ------    0.0126    0.0128
           OCARBON:   ------    0.0099    0.0100
               SO4:   0.0014    0.0044    0.0031
  Total Exhaust PM:   0.0160    0.0269    0.0259
             Brake:   0.0125    0.0125    0.0125
              Tire:   0.0120    0.0120    0.0120
          Total PM:   0.0406    0.0515    0.0504
               SO2:   0.0253    0.0623    0.0440
               NH3:   0.0451    0.0270    0.0270
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                   Calendar Year:  2035
                           Month:  Jan.
        Gasoline Fuel Sulfur Content:   30. ppm
          Diesel Fuel Sulfur Content:   43. ppm
              Particle Size Cutoff: 10.00 Microns
                  Reformulated Gas:  No

      Vehicle Type:     LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:              <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:   0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
              Lead:   0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:   0.0040    0.0038    0.0038    0.0038    0.0080    ------    ------    ------    0.0205    0.0037
           ECARBON:   ------    ------    ------    ------    ------    0.0071    0.0037    0.0082    ------    0.0007
           OCARBON:   ------    ------    ------    ------    ------    0.0020    0.0053    0.0042    ------    0.0004
               SO4:   0.0002    0.0004    0.0004    0.0004    0.0021    0.0004    0.0008    0.0026    0.0001    0.0006
  Total Exhaust PM:   0.0042    0.0042    0.0042    0.0042    0.0101    0.0096    0.0099    0.0150    0.0206    0.0054
             Brake:   0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125
              Tire:   0.0080    0.0080    0.0080    0.0080    0.0086    0.0080    0.0080    0.0258    0.0040    0.0095
          Total PM:   0.0247    0.0247    0.0247    0.0247    0.0313    0.0301    0.0304    0.0534    0.0371    0.0275
               SO2:   0.0068    0.0088    0.0115    0.0096    0.0164    0.0084    0.0161    0.0377    0.0033    0.0115
               NH3:   0.1017    0.1017    0.1017    0.1017    0.0451    0.0068    0.0068    0.0270    0.0113    0.0926
---------------------------------------------------------------------------------------------------------------------
         Veh. Type:   GasBUS     URBAN    SCHOOL
                      ------    ------    ------
           VMT Mix:   0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
              Lead:   0.0000    ------    ------
             GASPM:   0.0140    ------    ------
           ECARBON:   ------    0.0126    0.0128
           OCARBON:   ------    0.0099    0.0100
               SO4:   0.0021    0.0044    0.0031
  Total Exhaust PM:   0.0160    0.0269    0.0259
             Brake:   0.0125    0.0125    0.0125
              Tire:   0.0120    0.0120    0.0120
          Total PM:   0.0406    0.0515    0.0504
               SO2:   0.0251    0.0623    0.0440
               NH3:   0.0451    0.0270    0.0270
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                   Calendar Year:  2035
                           Month:  Jan.
        Gasoline Fuel Sulfur Content:   30. ppm
          Diesel Fuel Sulfur Content:   43. ppm
              Particle Size Cutoff: 10.00 Microns
                  Reformulated Gas:  No

      Vehicle Type:     LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:              <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
```

VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0040	0.0038	0.0038	0.0038	0.0080	------	------	------	0.0205	0.0037
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0371	0.0275
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0140	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
                Calendar Year:  2035
                        Month:  Jan.
 Gasoline Fuel Sulfur Content:   30. ppm
   Diesel Fuel Sulfur Content:   43. ppm
         Particle Size Cutoff: 10.00 Microns
             Reformulated Gas:  No
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0036	0.0036	0.0036	0.0087	------	------	------	0.0205	0.0036
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0207	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0372	0.0275
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0146	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
                Calendar Year:  2035
                        Month:  Jan.
 Gasoline Fuel Sulfur Content:   30. ppm
   Diesel Fuel Sulfur Content:   43. ppm
         Particle Size Cutoff: 10.00 Microns
             Reformulated Gas:  No
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0040	0.0038	0.0038	0.0038	0.0080	------	------	------	0.0205	0.0037
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125

Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0371	0.0275
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0140	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 8.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0040	0.0038	0.0038	0.0038	0.0080	------	------	------	0.0205	0.0037
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0004	0.0008	0.0026	0.0001	0.0006
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0371	0.0275
SO2:	0.0068	0.0088	0.0115	0.0096	0.0164	0.0084	0.0161	0.0377	0.0033	0.0115
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0140	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0021	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0251	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 9.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0036	0.0036	0.0036	0.0087	------	------	------	0.0205	0.0036
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0207	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0372	0.0275
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0146	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

---

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 10.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0038	0.0037	0.0037	0.0037	0.0084	------	------	------	0.0205	0.0036
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0004	0.0005	0.0005	0.0005	0.0017	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0372	0.0275
SO2:	0.0068	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0143	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0017	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0252	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

---

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 11.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0036	0.0036	0.0036	0.0087	------	------	------	0.0205	0.0036
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0207	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0372	0.0275
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0147	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0013	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0253	0.0623	0.0440

NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 12.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0036	0.0036	0.0036	0.0086	------	------	------	0.0205	0.0036
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0007
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0372	0.0275
SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0146	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 13.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0038	0.0037	0.0037	0.0037	0.0084	------	------	------	0.0205	0.0036
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0004	0.0005	0.0005	0.0005	0.0017	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0372	0.0275
SO2:	0.0068	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0143	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0017	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0252	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 14.
* #

Calendar Year: 2035
Month: Jan.

Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0036	0.0036	0.0036	0.0087	------	------	------	0.0205	0.0036
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0004	0.0008	0.0026	0.0002	0.0008
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0207	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0372	0.0275
SO2:	0.0067	0.0088	0.0115	0.0095	0.0166	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0147	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0013	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 15.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0036	0.0036	0.0036	0.0086	------	------	------	0.0205	0.0036
ECARBON:	------	------	------	------	------	0.0071	0.0037	0.0082	------	0.0007
OCARBON:	------	------	------	------	------	0.0020	0.0053	0.0042	------	0.0004
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0004	0.0008	0.0026	0.0002	0.0007
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0101	0.0096	0.0099	0.0150	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0086	0.0080	0.0080	0.0258	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0301	0.0304	0.0534	0.0372	0.0275
SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Lead:	0.0000	------	------
GASPM:	0.0146	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

* #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 16.
* #

Calendar Year: 2035
Month: Jan.
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 43. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000

```
 Composite Emission Factors (g/mi):
              Lead:   0.0000   0.0000   0.0000   0.0000   0.0000   ------   ------   ------   0.0000   0.0000
             GASPM:   0.0038   0.0037   0.0037   0.0037   0.0084   ------   ------   ------   0.0205   0.0036
           ECARBON:   ------   ------   ------   ------   ------   0.0071   0.0037   0.0082   ------   0.0007
           OCARBON:   ------   ------   ------   ------   ------   0.0020   0.0053   0.0042   ------   0.0004
               SO4:   0.0004   0.0005   0.0005   0.0005   0.0017   0.0004   0.0008   0.0026   0.0001   0.0007
   Total Exhaust PM:   0.0042   0.0042   0.0042   0.0042   0.0101   0.0096   0.0099   0.0150   0.0206   0.0054
             Brake:   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125
              Tire:   0.0080   0.0080   0.0080   0.0080   0.0086   0.0080   0.0080   0.0258   0.0040   0.0095
          Total PM:   0.0247   0.0247   0.0247   0.0247   0.0313   0.0301   0.0304   0.0534   0.0372   0.0275
               SO2:   0.0068   0.0088   0.0115   0.0095   0.0165   0.0084   0.0161   0.0377   0.0033   0.0114
               NH3:   0.1017   0.1017   0.1017   0.1017   0.0451   0.0068   0.0068   0.0270   0.0113   0.0926
 -----------------------------------------------------------------------------------------------------------------------
         Veh. Type:   GasBUS    URBAN   SCHOOL
                      ------   ------   ------
           VMT Mix:   0.0001   0.0009   0.0019
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   ------   ------
             GASPM:   0.0143   ------   ------
           ECARBON:   ------   0.0126   0.0128
           OCARBON:   ------   0.0099   0.0100
               SO4:   0.0017   0.0044   0.0031
  Total Exhaust PM:   0.0160   0.0269   0.0259
             Brake:   0.0125   0.0125   0.0125
              Tire:   0.0120   0.0120   0.0120
          Total PM:   0.0406   0.0515   0.0504
               SO2:   0.0252   0.0623   0.0440
               NH3:   0.0451   0.0270   0.0270
 -----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 17.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                             Calendar Year:  2035
                                     Month:  Jan.
              Gasoline Fuel Sulfur Content:   30. ppm
                Diesel Fuel Sulfur Content:   43. ppm
                      Particle Size Cutoff: 10.00 Microns
                          Reformulated Gas:  No

      Vehicle Type:     LDGV   LDGT12   LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC  All Veh
              GVWR:             <6000    >6000    (All)
                      ------   ------   ------   ------   ------   ------   ------   ------   ------   ------
  VMT Distribution:   0.2691   0.4384   0.1639            0.0355   0.0002   0.0024   0.0854   0.0049   1.0000
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   0.0000   0.0000   0.0000   0.0000   ------   ------   ------   0.0000   0.0000
             GASPM:   0.0040   0.0038   0.0038   0.0038   0.0080   ------   ------   ------   0.0205   0.0037
           ECARBON:   ------   ------   ------   ------   ------   0.0071   0.0037   0.0082   ------   0.0007
           OCARBON:   ------   ------   ------   ------   ------   0.0020   0.0053   0.0042   ------   0.0004
               SO4:   0.0002   0.0004   0.0004   0.0004   0.0021   0.0004   0.0008   0.0026   0.0001   0.0006
  Total Exhaust PM:   0.0042   0.0042   0.0042   0.0042   0.0101   0.0096   0.0099   0.0150   0.0206   0.0054
             Brake:   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125
              Tire:   0.0080   0.0080   0.0080   0.0080   0.0086   0.0080   0.0080   0.0258   0.0040   0.0095
          Total PM:   0.0247   0.0247   0.0247   0.0247   0.0313   0.0301   0.0304   0.0534   0.0371   0.0275
               SO2:   0.0068   0.0088   0.0115   0.0096   0.0164   0.0084   0.0161   0.0377   0.0033   0.0115
               NH3:   0.1017   0.1017   0.1017   0.1017   0.0451   0.0068   0.0068   0.0270   0.0113   0.0926
 -----------------------------------------------------------------------------------------------------------------------
         Veh. Type:   GasBUS    URBAN   SCHOOL
                      ------   ------   ------
           VMT Mix:   0.0001   0.0009   0.0019
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   ------   ------
             GASPM:   0.0140   ------   ------
           ECARBON:   ------   0.0126   0.0128
           OCARBON:   ------   0.0099   0.0100
               SO4:   0.0021   0.0044   0.0031
  Total Exhaust PM:   0.0160   0.0269   0.0259
             Brake:   0.0125   0.0125   0.0125
              Tire:   0.0120   0.0120   0.0120
          Total PM:   0.0406   0.0515   0.0504
               SO2:   0.0251   0.0623   0.0440
               NH3:   0.0451   0.0270   0.0270
 -----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 18.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                             Calendar Year:  2035
                                     Month:  Jan.
              Gasoline Fuel Sulfur Content:   30. ppm
                Diesel Fuel Sulfur Content:   43. ppm
                      Particle Size Cutoff: 10.00 Microns
                          Reformulated Gas:  No

      Vehicle Type:     LDGV   LDGT12   LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC  All Veh
              GVWR:             <6000    >6000    (All)
                      ------   ------   ------   ------   ------   ------   ------   ------   ------   ------
  VMT Distribution:   0.2691   0.4384   0.1639            0.0355   0.0002   0.0024   0.0854   0.0049   1.0000
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
              Lead:   0.0000   0.0000   0.0000   0.0000   0.0000   ------   ------   ------   0.0000   0.0000
             GASPM:   0.0037   0.0036   0.0036   0.0036   0.0086   ------   ------   ------   0.0205   0.0036
           ECARBON:   ------   ------   ------   ------   ------   0.0071   0.0037   0.0082   ------   0.0007
           OCARBON:   ------   ------   ------   ------   ------   0.0020   0.0053   0.0042   ------   0.0004
               SO4:   0.0005   0.0006   0.0006   0.0006   0.0014   0.0004   0.0008   0.0026   0.0002   0.0007
  Total Exhaust PM:   0.0042   0.0042   0.0042   0.0042   0.0101   0.0096   0.0099   0.0150   0.0206   0.0054
             Brake:   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125   0.0125
              Tire:   0.0080   0.0080   0.0080   0.0080   0.0086   0.0080   0.0080   0.0258   0.0040   0.0095
          Total PM:   0.0247   0.0247   0.0247   0.0247   0.0313   0.0301   0.0304   0.0534   0.0372   0.0275
```

SO2:	0.0067	0.0088	0.0115	0.0095	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0146	------	------
ECARBON:	------	0.0126	0.0128
OCARBON:	------	0.0099	0.0100
SO4:	0.0014	0.0044	0.0031
Total Exhaust PM:	0.0160	0.0269	0.0259
Brake:	0.0125	0.0125	0.0125
Tire:	0.0120	0.0120	0.0120
Total PM:	0.0406	0.0515	0.0504
SO2:	0.0253	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

MICROSCALE MOBILE6.2
INPUT AND OUTPUT FILES

```
* Mobile6 input file for Kentucky
*
*******************  Header Section  ************************
MOBILE6 INPUT FILE :
POLLUTANTS         : CO
PARTICULATES       :
* PARTICULATES REPORTED IN *.PM FILE


RUN DATA
*******************  Run Section  ***************************

REG DIST           : KYREG.d
FUEL PROGRAM       : 1
OXYGENATED FUELS   : .000 .420 .000 .036 2
STAGE II REFUELING : 93 3 86. 86.

EXPAND BUS EFS     :
REBUILD EFFECTS    : 0.10

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 2.5 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 5.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 10.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 15.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 20.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 25.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 30.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 35.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
```

```
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 40.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 45.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 50.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 55.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 60.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 65.0 freeway
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 2.5 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 5.0 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 10.0 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD    : Brent Spence CO emissions 2035
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1
FUEL RVP           : 9.0
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 15.0 arterial
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************
```

```
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 20.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 25.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 30.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 35.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 40.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 45.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 50.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 55.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 60.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43
*******************  Winter CO Scenario Section  ***************
SCENARIO RECORD     : Brent Spence CO emissions 2035
CALENDAR YEAR       : 2035
EVALUATION MONTH    : 1
FUEL RVP            : 9.0
MIN/MAX TEMP        : 19.0 37.0
AVERAGE SPEED       : 65.0 arterial
PARTICLE SIZE       : 2.5
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR       : 43

*******************  End of Run  ****************************
END OF RUN
```

```
***************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                              *
* Input file: KY2035.INP (file 1, run 1).                                 *
***************************************************************************

* Reading Registration Distributions from the following external
* data file: KYREG.D
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M601 Comment:
               User has enabled STAGE II REFUELING.


* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M514 Warning:
             The combined freeway and ramp average speed entered
            cannot be less than  2.7 miles per hour.
            The average speed will be reset to this value.
  M582 Warning:
            The user supplied freeway average speed of  2.7
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     27.89     27.06     34.87     28.98     37.60     1.722     1.071     0.890     92.63    26.845
 ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    71.63      1.348     0.910
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of  5.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
```

```
* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     19.91     19.25     24.46     20.53     30.70     1.469     0.912     0.741     58.32    19.178
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    58.49      1.123     0.758
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
          The user supplied freeway average speed of 10.0
          will be used for all hours of the day. 100% of VMT
          has been assigned to a fixed combination of freeways
          and freeway ramps for all hours of the day and all
           vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm
```

```
             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.87     14.18     17.74     15.06     20.85     1.094     0.676     0.521     30.97    14.020
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    39.72      0.789     0.532
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 15.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.35     12.61     15.65     13.36     14.96     0.860     0.529     0.383     21.70    12.322
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    28.49      0.580     0.392
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 20.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
```

```
* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.03     12.27     15.18     12.99     11.20     0.705     0.432     0.292     17.38    11.850
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    21.35      0.442     0.299
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 25.0
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm
```

```
              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.89     12.13     14.98     12.83      8.81     0.602     0.367     0.231     14.78    11.615
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    16.78      0.351     0.237
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 30.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.79     12.03     14.84     12.72      7.29     0.534     0.324     0.191     12.92    11.460
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.89      0.290     0.196
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 35.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
```

```
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.82     12.08     14.90     12.77      6.38     0.490     0.296     0.166     11.52    11.457
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    12.15      0.251     0.169
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 40.0
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
```

```
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.18     12.48     15.40     13.20      5.93     0.465     0.280     0.150     10.57    11.785
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.30      0.228     0.154
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 45.0
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.54     12.89     15.91     13.63      5.87     0.453     0.273     0.144     10.02    12.138
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.18      0.218     0.147
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 50.0
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
```

```
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.91     13.30     16.43     14.07      6.21     0.456     0.275     0.145      9.85    12.516
  ----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.84      0.220     0.149
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 55.0
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
```

```
               Weathered RVP:   9.5 psi
         Fuel Sulfur Content:   30. ppm

         Exhaust I/M Program:  No
            Evap I/M Program:  No
                 ATP Program:  No
            Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    14.29     13.73     16.96     14.53      7.07     0.473     0.286     0.155     13.38    12.938
 -------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.47     0.235     0.159
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 13.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 60.0
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

               Calendar Year:  2035
                       Month:  Jan.
                    Altitude:  Low
         Minimum Temperature:  19.0 (F)
         Maximum Temperature:  37.0 (F)
           Absolute Humidity:   75. grains/lb
            Nominal Fuel RVP:   9.0 psi
               Weathered RVP:   9.5 psi
         Fuel Sulfur Content:   30. ppm

         Exhaust I/M Program:  No
            Evap I/M Program:  No
                 ATP Program:  No
            Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    14.67     14.17     17.51     14.99      8.68     0.509     0.308     0.177     20.30    13.413
 -------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    16.53     0.268     0.181
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 14.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M515 Warning:
           The combined freeway and ramp average speed entered
           cannot be greater than 60.7 miles per hour.
```

```
           The average speed will be reset to this value.
  M582 Warning:
           The user supplied freeway average speed of 60.7
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV   LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:              <6000     >6000    (All)
                        ------   ------    ------   ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803   0.4463    0.1459             0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.73    14.23     17.58    15.05      8.92     0.515     0.312     0.180     21.22    13.478
 ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS    URBAN    SCHOOL
                        ------   ------    ------
            VMT Mix:    0.0001   0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    17.00     0.273     0.184
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 15.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of  2.5
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
```

```
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     28.96     28.13     36.35     30.16     40.33     1.830     1.139     0.953     99.75    27.976
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    76.83      1.444     0.975
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 16.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of  5.0
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     19.58     18.94     24.12     20.22     32.23     1.532     0.952     0.778     59.39    18.960
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    61.39      1.179     0.796
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 17.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.13     14.48     18.17     15.39     21.44     1.121     0.693     0.537     30.90    14.311
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    40.84      0.813     0.549
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 18.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 15.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
```

```
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.77     13.05     16.27     13.85     15.07     0.867     0.533     0.387     21.67    12.731
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    28.71      0.587     0.396
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 19.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 20.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.08     12.34     15.32     13.07     11.19     0.706     0.432     0.292     17.42    11.917
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    21.32      0.443     0.299
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 20.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 25.0
```

```
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.70     11.94     14.80     12.65      8.78     0.602     0.367     0.231     14.81    11.454
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    16.73      0.350     0.236
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 21.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of 30.0
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
```

```
                 Weathered RVP:   9.5 psi
           Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
              Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.55     11.79     14.58     12.48      7.28     0.534     0.324     0.191     12.93    11.244
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
--------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.87      0.290     0.195
--------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 22.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 35.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                 Calendar Year:  2035
                         Month:  Jan.
                      Altitude:  Low
           Minimum Temperature:  19.0 (F)
           Maximum Temperature:  37.0 (F)
             Absolute Humidity:   75. grains/lb
              Nominal Fuel RVP:   9.0 psi
                 Weathered RVP:   9.5 psi
           Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
              Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.57     11.83     14.63     12.52      6.38     0.490     0.296     0.166     11.53    11.236
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
--------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    12.15      0.251     0.169
--------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 23.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 40.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
```

```
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.91     12.22     15.12     12.94      5.90     0.464     0.280     0.150     10.56    11.555
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.24      0.227     0.153
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 24.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of 45.0
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm
```

```
             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.26     12.61     15.60     13.35      5.77     0.451     0.271     0.142      9.95    11.888
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    10.99      0.215     0.145
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 25.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 50.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.60     13.00     16.09     13.76      5.96     0.449     0.270     0.141      9.70    12.235
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.36      0.214     0.144
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 26.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 55.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
```

```
* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.95     13.39     16.58     14.18      6.51     0.458     0.276     0.147      9.70    12.597
  ----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    12.39      0.222     0.150
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 27.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of 60.0
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
```

```
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.30     13.78     17.06     14.59      7.50     0.479     0.290     0.159     15.88    13.005
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    14.29      0.241     0.163
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 28.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 65.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2803    0.4463    0.1459              0.0353    0.0003    0.0021    0.0848    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.64     14.17     17.55     15.00      9.14     0.517     0.313     0.181     22.07    13.437
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    17.41      0.274     0.185
------------------------------------------------------------------------------------------------------------------------
```

```
* Mobile6 input file for Butler, Clermont, Hamilton and Warren counties,

* low RVP beginning summer 2008

* created 4/9/07 by ajr, includes annual scenario,low RVP,post 2007

*******************  Header Section  ************************

MOBILE6 INPUT FILE :

POLLUTANTS         : CO

PARTICULATES       :

* PARTICULATES REPORTED IN *.PM FILE



RUN DATA

*******************  Run Section  ***************************

VMT BY HOUR        : OHVMT30.Def

VMT BY FACILITY    : OFVMT30.Def

REG DIST           : OHREG_30.D

FUEL PROGRAM       : 1

OXYGENATED FUELS   : .000 .420 .000 .036 2

STAGE II REFUELING : 93 3 86. 86.

EXPAND BUS EFS     :

REBUILD EFFECTS    : 0.10

*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 2.5 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
```

```
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 5.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 10.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 15.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 20.0 freeway

PARTICLE SIZE      : 2.5
```

```
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 25.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 30.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 35.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0
```

```
MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 40.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 45.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 50.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 55.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035
```

```
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 60.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 65.0 freeway

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43


*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 2.5 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 5.0 arterial
```

PARTICLE SIZE   : 2.5

PARTICULATE EF   : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR   : 43

******************* Winter CO Scenario Section ***************

SCENARIO RECORD   : Brent Spence CO emissions 2035

CALENDAR YEAR   : 2035
EVALUATION MONTH   : 1

FUEL RVP   : 9.0

MIN/MAX TEMP   : 19.0 37.0
AVERAGE SPEED   : 10.0 arterial

PARTICLE SIZE   : 2.5

PARTICULATE EF   : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR   : 43

******************* Winter CO Scenario Section ***************

SCENARIO RECORD   : Brent Spence CO emissions 2035

CALENDAR YEAR   : 2035
EVALUATION MONTH   : 1

FUEL RVP   : 9.0

MIN/MAX TEMP   : 19.0 37.0
AVERAGE SPEED   : 15.0 arterial

PARTICLE SIZE   : 2.5

PARTICULATE EF   : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR   : 43

******************* Winter CO Scenario Section ***************

SCENARIO RECORD   : Brent Spence CO emissions 2035

CALENDAR YEAR   : 2035
EVALUATION MONTH   : 1

FUEL RVP   : 9.0

MIN/MAX TEMP   : 19.0 37.0
AVERAGE SPEED   : 20.0 arterial

PARTICLE SIZE   : 2.5

PARTICULATE EF   : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR   : 43
******************* Winter CO Scenario Section ***************

SCENARIO RECORD   : Brent Spence CO emissions 2035

```
CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 25.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 30.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 35.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 40.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
```

```
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 45.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 50.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 55.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
```

```
AVERAGE SPEED      : 60.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Winter CO Scenario Section  ***************

SCENARIO RECORD    : Brent Spence CO emissions 2035

CALENDAR YEAR      : 2035
EVALUATION MONTH   : 1

FUEL RVP           : 9.0

MIN/MAX TEMP       : 19.0 37.0
AVERAGE SPEED      : 65.0 arterial

PARTICLE SIZE      : 2.5

PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
DIESEL SULFUR      : 43

*******************  End of Run  ****************************

END OF RUN
```

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: OHIO2035.INP (file 1, run 1).                             *
*************************************************************************

* Reading Hourly VMT distribution from the following external
* data file: OHVMT30.DEF

* Reading Hourly Roadway VMT distribution from the following external
* data file: OFVMT30.DEF

  Reading User Supplied ROADWAY VMT Factors

* Reading Registration Distributions from the following external
* data file: OHREG_30.D
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M601 Comment:
              User has enabled STAGE II REFUELING.


* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M514 Warning:
             The combined freeway and ramp average speed entered
            cannot be less than  2.7 miles per hour.
            The average speed will be reset to this value.
  M582 Warning:
            The user supplied freeway average speed of  2.7
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     32.13     30.25     33.75     31.20     37.84     1.788     1.056     0.890     92.90    29.323
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    72.09      1.348     0.910
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 2.
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of  5.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     22.62     21.27     23.41     21.85     30.90     1.527     0.896     0.741     58.48    20.700
 ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     58.87     1.123     0.758
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 10.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
```

```
                 Altitude:  Low
      Minimum Temperature:  19.0 (F)
      Maximum Temperature:  37.0 (F)
        Absolute Humidity:   75. grains/lb
         Nominal Fuel RVP:   9.0 psi
            Weathered RVP:   9.5 psi
      Fuel Sulfur Content:   30. ppm

      Exhaust I/M Program:  No
         Evap I/M Program:  No
              ATP Program:  No
        Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT     HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------   ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639             0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     16.60     15.44     16.71     15.78    20.98     1.140     0.660     0.521     31.06    14.920
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    39.97     0.789     0.532
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 15.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
                there are no sales for vehicle class HDGV8b
  M 48 Warning:
                there are no sales for vehicle class LDDT12
  M111 Warning:
                 The input dIesel sulfur level of  43.0 ppm exceeds
                 the 2007 HDD Rule diesel sulfur limit of 15 ppm.

            Calendar Year:  2035
                    Month:  Jan.
                 Altitude:  Low
      Minimum Temperature:  19.0 (F)
      Maximum Temperature:  37.0 (F)
        Absolute Humidity:   75. grains/lb
         Nominal Fuel RVP:   9.0 psi
            Weathered RVP:   9.5 psi
      Fuel Sulfur Content:   30. ppm

      Exhaust I/M Program:  No
         Evap I/M Program:  No
              ATP Program:  No
        Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT     HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------   ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639             0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.79     13.63     14.63     13.90    15.05     0.898     0.513     0.383     21.75    13.027
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    28.68     0.580     0.392
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
```

```
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 20.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2691	0.4384	0.1639		0.0355	0.0002	0.0024	0.0854	0.0049	1.0000
Composite Emission Factors (g/mi):										
Composite CO :	14.39	13.24	14.17	13.49	11.28	0.738	0.415	0.292	17.42	12.513

Veh. Type:	GasBUS	URBAN	SCHOOL
VMT Mix:	0.0001	0.0009	0.0019
Composite Emission Factors (g/mi):			
Composite CO :	21.48	0.442	0.299

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 25.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
```

```
                 Month:  Jan.
              Altitude:  Low
   Minimum Temperature:  19.0 (F)
   Maximum Temperature:  37.0 (F)
     Absolute Humidity:   75. grains/lb
      Nominal Fuel RVP:   9.0 psi
         Weathered RVP:   9.5 psi
   Fuel Sulfur Content:   30. ppm

   Exhaust I/M Program:  No
      Evap I/M Program:  No
           ATP Program:  No
      Reformulated Gas:  No

  Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
  Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                         Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000    (All)
                       ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2691    0.4384    0.1639             0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.23     13.07     13.97     13.32      8.87     0.632     0.350     0.231     14.81    12.258
 ---------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    16.89     0.351     0.237
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
          The user supplied freeway average speed of 30.0
          will be used for all hours of the day. 100% of VMT
          has been assigned to a fixed combination of freeways
          and freeway ramps for all hours of the day and all
           vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

         Calendar Year:  2035
                 Month:  Jan.
              Altitude:  Low
   Minimum Temperature:  19.0 (F)
   Maximum Temperature:  37.0 (F)
     Absolute Humidity:   75. grains/lb
      Nominal Fuel RVP:   9.0 psi
         Weathered RVP:   9.5 psi
   Fuel Sulfur Content:   30. ppm

   Exhaust I/M Program:  No
      Evap I/M Program:  No
           ATP Program:  No
      Reformulated Gas:  No

  Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
  Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                         Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000    (All)
                       ------    ------    ------   ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2691    0.4384    0.1639             0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.11     12.96     13.84     13.20      7.34     0.561     0.307     0.191     12.94    12.091
 ---------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.98     0.290     0.196
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 35.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.15     13.01     13.90     13.26      6.42     0.516     0.279     0.166     11.55    12.092
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     12.23     0.251     0.169
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 40.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.
```

```
                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.57     13.47     14.42     13.73      5.97     0.489     0.263     0.150     10.59    12.466
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     11.37     0.228     0.154
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 45.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.99     13.94     14.94     14.21      5.91     0.478     0.256     0.144     10.03    12.865
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     11.25     0.218     0.147
----------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 50.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.43     14.41     15.48     14.70      6.25     0.480     0.258     0.145      9.86    13.291
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
           VMT Mix:     0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.91      0.220     0.149
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 55.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.
```

```
                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.87     14.90     16.03     15.21      7.11     0.498     0.268     0.155     13.40    13.763
 ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.55      0.235     0.159
-------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 13.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 60.0
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     16.32     15.40     16.58     15.72      8.73     0.536     0.291     0.177     20.35    14.289
 ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    16.64      0.268     0.181
-------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 14.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M515 Warning:
            The combined freeway and ramp average speed entered
            cannot be greater than 60.7 miles per hour.
            The average speed will be reset to this value.
  M582 Warning:
            The user supplied freeway average speed of 60.7
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     16.38     15.47     16.66     15.79      8.98     0.541     0.295     0.180     21.27    14.361
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    17.11      0.273     0.184
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 15.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
```

```
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     33.44     31.51     35.23     32.52     40.59     1.900     1.124     0.953    100.04    30.610
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    77.33      1.444     0.975
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 16.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
          The user supplied arterial average speed of  5.0
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     22.26     20.94     23.06     21.52     32.43     1.592     0.936     0.778     59.56    20.469
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
```

```
 Composite Emission Factors (g/mi):
     Composite CO  :    61.79      1.179     0.796
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 17.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     16.95     15.81     17.15     16.17     21.58     1.168     0.677     0.537     30.98    15.270
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    41.11      0.813     0.549
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 18.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 15.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
```

```
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:   No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.32     14.17     15.26     14.46     15.17     0.905     0.517     0.387     21.72    13.515
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    28.90      0.587     0.396
---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 19.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 20.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  19.0 (F)
             Maximum Temperature:  37.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:   No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.50     13.35     14.32     13.61     11.26     0.739     0.415     0.292     17.46    12.612
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    21.46      0.443     0.299
```

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

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 20.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 25.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                        ------   ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691   0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.04    12.89     13.79     13.13      8.84     0.631     0.350     0.231     14.84    12.099
  -----------------------------------------------------------------------------------------------------------------------
         Veh. Type:     GasBUS    URBAN    SCHOOL
                        ------   ------    ------
           VMT Mix:     0.0001   0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    16.84     0.350     0.236
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 21.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 30.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.
```

```
                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:   No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.85     12.71     13.58     12.95      7.33     0.561     0.307     0.191     12.95    11.869
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    13.96      0.290     0.195
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 22.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 35.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:   No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.88     12.76     13.64     13.00      6.42     0.516     0.279     0.165     11.55    11.863
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    12.23      0.251     0.169
------------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 23.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 40.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.29     13.20     14.14     13.46      5.94     0.489     0.263     0.150     10.58    12.227
  ---------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
           VMT Mix:     0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.32      0.227     0.153
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 24.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 45.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
```

```
                     Month:  Jan.
                  Altitude:  Low
       Minimum Temperature:  19.0 (F)
       Maximum Temperature:  37.0 (F)
         Absolute Humidity:   75. grains/lb
          Nominal Fuel RVP:   9.0 psi
             Weathered RVP:   9.5 psi
       Fuel Sulfur Content:   30. ppm

       Exhaust I/M Program:  No
          Evap I/M Program:  No
               ATP Program:  No
         Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     14.69     13.65     14.64     13.92      5.81     0.475     0.254     0.142      9.96    12.605
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.06      0.215     0.145
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 25.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of 50.0
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12
  M111 Warning:
              The input dIesel sulfur level of  43.0 ppm exceeds
              the 2007 HDD Rule diesel sulfur limit of 15 ppm.

             Calendar Year:  2035
                     Month:  Jan.
                  Altitude:  Low
       Minimum Temperature:  19.0 (F)
       Maximum Temperature:  37.0 (F)
         Absolute Humidity:   75. grains/lb
          Nominal Fuel RVP:   9.0 psi
             Weathered RVP:   9.5 psi
       Fuel Sulfur Content:   30. ppm

       Exhaust I/M Program:  No
          Evap I/M Program:  No
               ATP Program:  No
         Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.10     14.09     15.14     14.38      6.00     0.473     0.253     0.141      9.71    12.996
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    11.43      0.214     0.144
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
```

```
* File 1, Run 1, Scenario 26.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 55.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  19.0 (F)
              Maximum Temperature:  37.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     15.50     14.54     15.64     14.84      6.55     0.483     0.259     0.146      9.71    13.403
 ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0001    0.0009    0.0019
------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    12.47      0.222     0.150
------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 27.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 60.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
```

```
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    15.91     14.98     16.14     15.30      7.55     0.505     0.272     0.159     15.92    13.857
  ------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    14.38     0.241     0.163
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Brent Spence CO emissions 2035
* File 1, Run 1, Scenario 28.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 65.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2035
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  19.0 (F)
            Maximum Temperature:  37.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:               <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.2691    0.4384    0.1639              0.0355    0.0002    0.0024    0.0854    0.0049    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    16.32     15.43     16.64     15.76      9.20     0.543     0.296     0.181     22.13    14.334
  ------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0009    0.0019
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :    17.53     0.274     0.185
----------------------------------------------------------------------------------------------------------------------
```

Appendix C

CAL3QHC

Input and Output Files

```
Brent Spence Bridge NB-AM S1altEam.dat  60.0175.0.0000.000240.30480000    1    1
R1 SB Mid              264384.   276323.        5.
R2 SB 164              264321.   276211.        5.
R3 SB 82               264290.   276136.        5.
R4 SB Corner           264262.   276069.        5.
R5 SB Corner           264230.   275990.        5.
R6 SB 82               264193.   275900.        5.
R7 SB 164              264151.   275798.        5.
R8 SB Mid              264103.   275678.        5.
R9 NB Mid              264155.   275655.        5.
R10 NB 164             264184.   275729.        5.
R11 NB 82              264215.   275805.        5.
R12 NB Corner          264242.   275872.        5.
R13 EB Corner          264272.   275903.        5.
R14 EB 82              264340.   275765.        5.
R15 EB 164             264378.   275678.        5.
R16 EB Mid             264408.   275600.        5.
R17 WB Mid             264455.   275722.        5.
R18 WB 164             264399.   275833.        5.
R19 WB 82              264362.   275906.        5.
R20 WB Corner          264330.   275971.        5.
R21 NB Corner          264319.   276046.        5.
R22 NB 82              264343.   276114.        5.
R23 NB 164             264376.   276189.        5.
R24 NB Mid             264447.   276280.        5.
Kyles Lane & Dixie Hwy                   36  1   1
  1
01 Dixie  NB Appr   AG264099.275553.264162.275726.   1520.11.5  0. 44.   30.
  1
02 Dixie  NB Appr   AG264162.275726.264197.275813.   1520.11.5  0. 44.   30.
  1
03 Dixie  NB Appr   AG264197.275813.264240.275916.   1520.11.5  0. 44.   30.
  2
03 Dixie  NB Queue  AG264228.275888.264205.275831.     0.  24.   2
     90        55        2.0 1520   73.3 1641 1 3
  1
04 Dixie  NB @ KylesAG264240.275916.264280.276013.   1240.11.5  0. 44.   30.
  1
05 Dixie  NB Depart AG264280.276013.264303.276071.   1245.11.5  0. 44.   30.
  1
06 Dixie  NB Depart AG264303.276071.264360.276209.   1955.11.5  0. 44.   30.
  1
07 Dixie  NB Depart AG264360.276209.264406.276278.   1955.11.5  0. 44.   30.
  1
08 Dixie  NB Depart AG264406.276278.264446.276325.   1955.11.5  0. 44.   30.
  1
09 Dixie  NB Depart AG264446.276325.264529.276400.   1955.11.5  0. 44.   30.
  1
10 Dixie  SB Appr   AG264499.276415.264439.276361.   1020.11.5  0. 44.   30.
  1
11 Dixie  SB Appr   AG264439.276361.264381.276288.   1020.11.5  0. 44.   30.
  1
12 Dixie  SB Appr   AG264381.276288.264351.276234.   1020.11.5  0. 44.   30.
  1
13 Dixie  SB Appr   AG264351.276234.264252.275994.   1020.11.5  0. 44.   30.
  2
14 Dixie  SB Queue  AG264276.276054.264321.276161.      0. 24.   2
     90        40        2.0 1020   73.3 1829 1 3
  1
14 Dixie  SB @ KylesAG264252.275994.264236.275956.    505.11.5  0. 40.   30.
  1
15 Dixie  SB Depart AG264236.275956.264179.275824.    665.11.5  0. 44.   30.
  1
16 Dixie  SB Depart AG264179.275824.264143.275732.    665.11.5  0. 44.   30.
  1
17 Dixie  SB Depart AG264143.275732.264083.275564.    665.11.5  0. 44.   30.
  1
18 Dixie  NB Rt.    AG264240.275916.264284.275929.    280.11.5  0. 32.   30.
  1
19 Kyles  EB @ DixieAG264252.275994.264284.275929.    520.11.5  0. 32.   30.
  1
20 Kyles  EB Depart AG264284.275929.264483.275522.    800.11.5  0. 44.   30.
  1
21 Kyles  WB Appr   AG264516.275540.264468.275639.    880.11.5  0. 56.   30.
  1
22 Kyles  WB Appr   AG264468.275639.264359.275852.    880.11.5  0. 56.   30.
  1
23 Kyles  WB  Rt.   AG264359.275852.264347.275900.    710.11.5  0. 32.   30.
  1
24 Kyles  WB Rt.    AG264347.275900.264300.276003.    710.11.5  0. 32.   30.
  2
25 Kyles  WB  Rt. QuAG264313.275975.264339.275917.      0. 12.   1
     90        59        2.0  710   73.3 1599 1 3
  1
25 Kyles  WB Rt. @ DAG264300.276003.264303.276071.    710.11.5  0. 32.   30.
  1
26 Kyles  WB Appr   AG264359.275852.264296.275980.     10.11.5  0. 32.   30.
  2
28        WB Kyles LAG264307.275957.264338.275894.      0. 12.   1
     90        59        2.0   10   73.3 1881 1 3
  1
27 Kyles  WB @ DixieAG264296.275980.264280.276013.      5.11.5  0. 32.   30.
  1
28 Kyles  WB Lt.    AG264296.275980.264252.275994.      5.11.5  0. 32.   30.
  1
29 Kyles  WB Lt.    AG264359.275852.264325.275892.    160.11.5  0. 32.   30.
  1
30 Kyles  WB Lt.    AG264325.275892.264287.275965.    160.11.5  0. 32.   30.
```

```
  2
33 Kyles  WB Lt. QueAG264295.275951.264321.275898.     0. 12.   1
     90        59        2.0  160   73.3 1343 1 3
  1
31 Kyles  WB Lt. @ DAG264287.275965.264236.275956.    140.11.5  0. 32.   30.
1.0   04 1000.   0Y  5  0 72


Brent Spence Bridge S1altEpm.dat        60.0175.0.0000.000240.30480000    1    1
R1 SB Mid              264384.   276323.        5.
R2 SB 164              264321.   276211.        5.
R3 SB 82               264290.   276136.        5.
R4 SB Corner           264262.   276069.        5.
R5 SB Corner           264230.   275990.        5.
R6 SB 82               264193.   275900.        5.
R7 SB 164              264151.   275798.        5.
R8 SB Mid              264103.   275678.        5.
R9 NB Mid              264155.   275655.        5.
R10 NB 164             264184.   275729.        5.
R11 NB 82              264215.   275805.        5.
R12 NB Corner          264242.   275872.        5.
R13 EB Corner          264272.   275903.        5.
R14 EB 82              264340.   275765.        5.
R15 EB 164             264378.   275678.        5.
R16 EB Mid             264408.   275600.        5.
R17 WB Mid             264455.   275722.        5.
R18 WB 164             264399.   275833.        5.
R19 WB 82              264362.   275906.        5.
R20 WB Corner          264330.   275971.        5.
R21 NB Corner          264319.   276046.        5.
R22 NB 82              264343.   276114.        5.
R23 NB 164             264376.   276189.        5.
R24 NB Mid             264447.   276280.        5.
Kyles Lane & Dixie Hwy                 36  1   1
  1
01 Dixie  NB Appr   AG264099.275553.264162.275726.    760.11.5  0. 44.   30.
  1
02 Dixie  NB Appr   AG264162.275726.264197.275813.    760.11.5  0. 44.   30.
  1
03 Dixie  NB Appr   AG264197.275813.264240.275916.    760.11.5  0. 44.   30.
  2
03 Dixie  NB Queue  AG264228.275888.264205.275831.     0.  24.   2
    100        75        2.0  760   73.3 1511 1 3
  1
04 Dixie  NB @ KylesAG264240.275916.264280.276013.    450.11.5  0. 44.   30.
  1
05 Dixie  NB Depart AG264280.276013.264303.276071.    465.11.5  0. 44.   30.
  1
06 Dixie  NB Depart AG264303.276071.264360.276209.   1295.11.5  0. 44.   30.
  1
07 Dixie  NB Depart AG264360.276209.264406.276278.   1295.11.5  0. 44.   30.
  1
08 Dixie  NB Depart AG264406.276278.264446.276325.   1295.11.5  0. 44.   30.
  1
09 Dixie  NB Depart AG264446.276325.264529.276400.   1295.11.5  0. 44.   30.
  1
10 Dixie  SB Appr   AG264499.276415.264439.276361.   1600.11.5  0. 44.   30.
  1
11 Dixie  SB Appr   AG264439.276361.264381.276288.   1600.11.5  0. 44.   30.
  1
12 Dixie  SB Appr   AG264381.276288.264351.276234.   1600.11.5  0. 44.   30.
  1
13 Dixie  SB Appr   AG264351.276234.264252.275994.   1600.11.5  0. 44.   30.
  2
14 Dixie  SB Queue  AG264276.276054.264321.276161.     0. 24.   2
    100        40        2.0 1600   73.3 1831 1 3
  1
14 Dixie  SB @ KylesAG264252.275994.264236.275956.    505.11.5  0. 40.   30.
  1
15 Dixie  SB Depart AG264236.275956.264179.275824.    665.11.5  0. 44.   30.
  1
16 Dixie  SB Depart AG264179.275824.264143.275732.   1340.11.5  0. 44.   30.
  1
17 Dixie  SB Depart AG264143.275732.264083.275564.   1340.11.5  0. 44.   30.
  1
18 Dixie  NB Rt.    AG264240.275916.264284.275929.    310.11.5  0. 32.   30.
  1
19 Kyles  EB @ DixieAG264252.275994.264284.275929.    650.11.5  0. 32.   30.
  1
20 Kyles  EB Depart AG264284.275929.264483.275522.    960.11.5  0. 44.   30.
  1
21 Kyles  WB Appr   AG264516.275540.264468.275639.   1240.11.5  0. 56.   30.
  1
22 Kyles  WB Appr   AG264468.275639.264359.275852.   1240.11.5  0. 56.   30.
  1
23 Kyles  WB  Rt.   AG264359.275852.264347.275900.    830.11.5  0. 32.   30.
  1
24 Kyles  WB Rt.    AG264347.275900.264300.276003.    830.11.5  0. 32.   30.
  2
25 Kyles  WB  Rt. QuAG264313.275975.264339.275917.     0. 12.   1
    100        58        2.0  830   73.3 1599 1 3
  1
25 Kyles  WB Rt. @ DAG264300.276003.264303.276071.    830.11.5  0. 32.   30.
  1
26 Kyles  WB Appr   AG264359.275852.264296.275980.     30.11.5  0. 32.   30.
  2
28        WB Kyles LAG264307.275957.264338.275894.     0. 12.   1
    100        58        2.0   30   73.3 1881 1 3
```

```
  1
27 Kyles  WB @ DixieAG264296.275980.264280.276013.    15.11.5  0. 32.   30.
  1
28 Kyles  WB Lt.    AG264296.275980.264252.275994.    15.11.5  0. 32.   30.
  1
29 Kyles  WB Lt.    AG264359.275852.264325.275892.   380.11.5  0. 32.   30.
  1
30 Kyles  WB Lt.    AG264325.275892.264287.275965.   380.11.5  0. 32.   30.
  2
33 Kyles  WB Lt. QueAG264295.275951.264321.275898.      0. 12.   1
    100       58       2.0  380   73.3 1357 1 3
  1
31 Kyles  WB Lt. @ DAG264287.275965.264236.275956.   140.11.5  0. 32.   30.
1.0   04 1000.   0Y  5  0 72

Brent Spence Bridge S1altIam.dat       60.0175.0.0000.000240.30480000    1    1
R1 SB Mid            264384.   276323.       5.
R2 SB 164            264321.   276211.       5.
R3 SB 82             264290.   276136.       5.
R4 SB Corner         264262.   276069.       5.
R5 SB Corner         264230.   275990.       5.
R6 SB 82             264193.   275900.       5.
R7 SB 164            264151.   275798.       5.
R8 SB Mid            264103.   275678.       5.
R9 NB Mid            264155.   275655.       5.
R10 NB 164           264184.   275729.       5.
R11 NB 82            264215.   275805.       5.
R12 NB Corner        264242.   275872.       5.
R13 EB Corner        264272.   275903.       5.
R14 EB 82            264340.   275765.       5.
R15 EB 164           264378.   275678.       5.
R16 EB Mid           264408.   275600.       5.
R17 WB Mid           264455.   275722.       5.
R18 WB 164           264399.   275833.       5.
R19 WB 82            264362.   275906.       5.
R20 WB Corner        264330.   275971.       5.
R21 NB Corner        264319.   276046.       5.
R22 NB 82            264343.   276114.       5.
R23 NB 164           264376.   276189.       5.
R24 NB Mid           264447.   276280.       5.
Kyles Lane & Dixie Hwy                  36  1   1
  1
01 Dixie  NB Appr   AG264099.275553.264162.275726.  1520.11.5  0. 44.   30.
  1
02 Dixie  NB Appr   AG264162.275726.264197.275813.  1520.11.5  0. 44.   30.
  1
03 Dixie  NB Appr   AG264197.275813.264240.275916.  1520.11.5  0. 44.   30.
  2
03 Dixie  NB Queue  AG264228.275888.264205.275831.     0.  24.   2
     90       55       2.0 1520   73.3 1641 1 3
  1
04 Dixie  NB @ KylesAG264240.275916.264280.276013.  1240.11.5  0. 44.   30.
  1
05 Dixie  NB Depart AG264280.276013.264303.276071.  1245.11.5  0. 44.   30.
  1
06 Dixie  NB Depart AG264303.276071.264360.276209.  1955.11.5  0. 44.   30.
  1
07 Dixie  NB Depart AG264360.276209.264406.276278.  1955.11.5  0. 44.   30.
  1
08 Dixie  NB Depart AG264406.276278.264446.276325.  1955.11.5  0. 44.   30.
  1
09 Dixie  NB Depart AG264446.276325.264529.276400.  1955.11.5  0. 44.   30.
  1
10 Dixie  SB Appr   AG264499.276415.264439.276361.  1020.11.5  0. 44.   30.
  1
11 Dixie  SB Appr   AG264439.276361.264381.276288.  1020.11.5  0. 44.   30.
  1
12 Dixie  SB Appr   AG264381.276288.264351.276234.  1020.11.5  0. 44.   30.
  1
13 Dixie  SB Appr   AG264351.276234.264252.275994.  1020.11.5  0. 44.   30.
  2
14 Dixie  SB Queue  AG264276.276054.264321.276161.     0.  24.   2
     90       40       2.0 1020   73.3 1829 1 3
  1
14 Dixie  SB @ KylesAG264252.275994.264236.275956.   505.11.5  0. 40.   30.
  1
15 Dixie  SB Depart AG264236.275956.264179.275824.   665.11.5  0. 44.   30.
  1
16 Dixie  SB Depart AG264179.275824.264143.275732.   665.11.5  0. 44.   30.
  1
17 Dixie  SB Depart AG264143.275732.264083.275564.   665.11.5  0. 44.   30.
  1
18 Dixie  NB Rt.    AG264240.275916.264284.275929.   280.11.5  0. 32.   30.
  1
19 Kyles  EB @ DixieAG264252.275994.264284.275929.   520.11.5  0. 32.   30.
  1
20 Kyles  EB Depart AG264284.275929.264483.275522.   800.11.5  0. 44.   30.
  1
21 Kyles  WB Appr   AG264516.275540.264468.275639.   880.11.5  0. 56.   30.
  1
22 Kyles  WB Appr   AG264468.275639.264359.275852.   880.11.5  0. 56.   30.
  1
23 Kyles  WB  Rt.   AG264359.275852.264347.275900.   710.11.5  0. 32.   30.
  1
24 Kyles  WB Rt.    AG264347.275900.264300.276003.   710.11.5  0. 32.   30.
  2
25 Kyles  WB  Rt. QuAG264313.275975.264339.275917.      0. 12.   1
     90       59       2.0  710   73.3 1599 1 3
```

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 1
25 Kyles  WB Rt. @ DAG264300.276003.264303.276071.    710.11.5  0. 32.   30.
 1
26 Kyles  WB Appr   AG264359.275852.264296.275980.     10.11.5  0. 32.   30.
 2
28        WB Kyles LAG264307.275957.264338.275894.      0. 12.   1
     90        59        2.0   10   73.3 1881 1 3
 1
27 Kyles  WB @ DixieAG264296.275980.264280.276013.      5.11.5  0. 32.   30.
 1
28 Kyles  WB Lt.    AG264296.275980.264252.275994.      5.11.5  0. 32.   30.
 1
29 Kyles  WB Lt.    AG264359.275852.264325.275892.    160.11.5  0. 32.   30.
 1
30 Kyles  WB Lt.    AG264325.275892.264287.275965.    160.11.5  0. 32.   30.
 2
33 Kyles  WB Lt. QueAG264295.275951.264321.275898.      0. 12.   1
     90        59        2.0  160   73.3 1343 1 3
 1
31 Kyles  WB Lt. @ DAG264287.275965.264236.275956.    160.11.5  0. 32.   30.
1.0   04 1000.   0Y  5  0 72

Brent Spence Bridge S1altIpm.dat        60.0175.0.0000.000240.30480000    1    1
R1 SB Mid              264384.   276323.        5.
R2 SB 164              264321.   276211.        5.
R3 SB 82               264290.   276136.        5.
R4 SB Corner           264262.   276069.        5.
R5 SB Corner           264230.   275990.        5.
R6 SB 82               264193.   275900.        5.
R7 SB 164              264151.   275798.        5.
R8 SB Mid              264103.   275678.        5.
R9 NB Mid              264155.   275655.        5.
R10 NB 164             264184.   275729.        5.
R11 NB 82              264215.   275805.        5.
R12 NB Corner          264242.   275872.        5.
R13 EB Corner          264272.   275903.        5.
R14 EB 82              264340.   275765.        5.
R15 EB 164             264378.   275678.        5.
R16 EB Mid             264408.   275600.        5.
R17 WB Mid             264455.   275722.        5.
R18 WB 164             264399.   275833.        5.
R19 WB 82              264362.   275906.        5.
R20 WB Corner          264330.   275971.        5.
R21 NB Corner          264319.   276046.        5.
R22 NB 82              264343.   276114.        5.
R23 NB 164             264376.   276189.        5.
R24 NB Mid             264447.   276280.        5.
Kyles Lane & Dixie Hwy                   36  1    1
 1
01 Dixie  NB Appr   AG264099.275553.264162.275726.    760.11.5  0. 44.   30.
 1
02 Dixie  NB Appr   AG264162.275726.264197.275813.    760.11.5  0. 44.   30.
 1
03 Dixie  NB Appr   AG264197.275813.264240.275916.    760.11.5  0. 44.   30.
 2
03 Dixie  NB Queue  AG264228.275888.264205.275831.      0.  24.   2
    100        75        2.0  760   73.3 1511 1 3
 1
04 Dixie  NB @ KylesAG264240.275916.264280.276013.    540.11.5  0. 44.   30.
 1
05 Dixie  NB Depart AG264280.276013.264303.276071.    465.11.5  0. 44.   30.
 1
06 Dixie  NB Depart AG264303.276071.264360.276209.   1295.11.5  0. 44.   30.
 1
07 Dixie  NB Depart AG264360.276209.264406.276278.   1295.11.5  0. 44.   30.
 1
08 Dixie  NB Depart AG264406.276278.264446.276325.   1295.11.5  0. 44.   30.
 1
09 Dixie  NB Depart AG264446.276325.264529.276400.   1295.11.5  0. 44.   30.
 1
10 Dixie  SB Appr   AG264499.276415.264439.276361.   1600.11.5  0. 44.   30.
 1
11 Dixie  SB Appr   AG264439.276361.264381.276288.   1600.11.5  0. 44.   30.
 1
12 Dixie  SB Appr   AG264381.276288.264351.276234.   1600.11.5  0. 44.   30.
 1
13 Dixie  SB Appr   AG264351.276234.264252.275994.   1600.11.5  0. 44.   30.
 2
14 Dixie  SB Queue  AG264276.276054.264321.276161.      0. 24.   2
    100        50        2.0 1600   73.3 1831 1 3
 1
14 Dixie  SB @ KylesAG264252.275994.264236.275956.    965.11.5  0. 40.   30.
 1
15 Dixie  SB Depart AG264236.275956.264179.275824.   1345.11.5  0. 44.   30.
 1
16 Dixie  SB Depart AG264179.275824.264143.275732.   1345.11.5  0. 44.   30.
 1
17 Dixie  SB Depart AG264143.275732.264083.275564.   1345.11.5  0. 44.   30.
 1
18 Dixie  NB Rt.    AG264240.275916.264284.275929.    310.11.5  0. 32.   30.
 1
19 Kyles  EB @ DixieAG264252.275994.264284.275929.    650.11.5  0. 32.   30.
 1
20 Kyles  EB Depart AG264284.275929.264483.275522.    960.11.5  0. 44.   30.
 1
21 Kyles  WB Appr   AG264516.275540.264468.275639.   1240.11.5  0. 56.   30.
 1
22 Kyles  WB Appr   AG264468.275639.264359.275852.   1240.11.5  0. 56.   30.
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 1
23 Kyles  WB  Rt.   AG264359.275852.264347.275900.    830.11.5  0. 32.   30.
 1
24 Kyles  WB Rt.    AG264347.275900.264300.276003.    830.11.5  0. 32.   30.
 2
25 Kyles  WB  Rt. QuAG264313.275975.264339.275917.      0. 12.   1
   100       59       2.0  830   73.3 1599 1 3
 1
25 Kyles  WB Rt. @ DAG264300.276003.264303.276071.    830.11.5  0. 32.   30.
 1
26 Kyles  WB Appr   AG264359.275852.264296.275980.     30.11.5  0. 32.   30.
 2
28        WB Kyles LAG264307.275957.264338.275894.      0. 12.   1
   100       59       2.0   30   73.3 1881 1 3
 1
27 Kyles  WB @ DixieAG264296.275980.264280.276013.     15.11.5  0. 32.   30.
 1
28 Kyles  WB Lt.    AG264296.275980.264252.275994.     15.11.5  0. 32.   30.
 1
29 Kyles  WB Lt.    AG264359.275852.264325.275892.    380.11.5  0. 32.   30.
 1
30 Kyles  WB Lt.    AG264325.275892.264287.275965.    380.11.5  0. 32.   30.
 2
33 Kyles  WB Lt. QueAG264295.275951.264321.275898.      0. 12.   1
   100       59       2.0  380   73.3 1357 1 3
 1
31 Kyles  WB Lt. @ DAG264287.275965.264236.275956.    380.11.5  0. 32.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge NB-AM S1nbam.dat    60.0175.0.0000.000240.30480000    1    1
R1 SB Mid              264384.   276323.        5.
R2 SB 164              264321.   276211.        5.
R3 SB 82               264290.   276136.        5.
R4 SB Corner           264262.   276069.        5.
R5 SB Corner           264230.   275990.        5.
R6 SB 82               264193.   275900.        5.
R7 SB 164              264151.   275798.        5.
R8 SB Mid              264103.   275678.        5.
R9 NB Mid              264155.   275655.        5.
R10 NB 164             264184.   275729.        5.
R11 NB 82              264215.   275805.        5.
R12 NB Corner          264242.   275872.        5.
R13 EB Corner          264272.   275903.        5.
R14 EB 82              264340.   275765.        5.
R15 EB 164             264378.   275678.        5.
R16 EB Mid             264408.   275600.        5.
R17 WB Mid             264455.   275722.        5.
R18 WB 164             264399.   275833.        5.
R19 WB 82              264362.   275906.        5.
R20 WB Corner          264330.   275971.        5.
R21 NB Corner          264319.   276046.        5.
R22 NB 82              264343.   276114.        5.
R23 NB 164             264376.   276189.        5.
R24 NB Mid             264447.   276280.        5.
Kyles Lane & Dixie Hwy                  36  1   1
 1
01 Dixie  NB Appr   AG264099.275553.264162.275726.   1460.11.5  0. 44.   30.
 1
02 Dixie  NB Appr   AG264162.275726.264197.275813.   1460.11.5  0. 44.   30.
 1
03 Dixie  NB Appr   AG264197.275813.264240.275916.   1460.11.5  0. 44.   30.
 2
03 Dixie  NB Queue  AG264228.275888.264205.275831.      0.  24.   2
   120       74       2.0 1460   73.3 1642 1 3
 1
04 Dixie  NB @ KylesAG264240.275916.264280.276013.   1210.11.5  0. 44.   30.
 1
05 Dixie  NB Depart AG264280.276013.264303.276071.   1215.11.5  0. 44.   30.
 1
06 Dixie  NB Depart AG264303.276071.264360.276209.   1955.11.5  0. 44.   30.
 1
07 Dixie  NB Depart AG264360.276209.264406.276278.   1955.11.5  0. 44.   30.
 1
08 Dixie  NB Depart AG264406.276278.264446.276325.   1955.11.5  0. 44.   30.
 1
09 Dixie  NB Depart AG264446.276325.264529.276400.   1955.11.5  0. 44.   30.
 1
10 Dixie  SB Appr   AG264499.276415.264439.276361.   1020.11.5  0. 44.   30.
 1
11 Dixie  SB Appr   AG264439.276361.264381.276288.   1020.11.5  0. 44.   30.
 1
12 Dixie  SB Appr   AG264381.276288.264351.276234.   1020.11.5  0. 44.   30.
 1
13 Dixie  SB Appr   AG264351.276234.264252.275994.   1020.11.5  0. 44.   30.
 2
14 Dixie  SB Queue  AG264276.276054.264321.276161.      0. 24.   2
   120       55       2.0 1020   73.3 1829 1 3
 1
14 Dixie  SB @ KylesAG264252.275994.264236.275956.    485.11.5  0. 40.   30.
 1
15 Dixie  SB Depart AG264236.275956.264179.275824.    625.11.5  0. 44.   30.
 1
16 Dixie  SB Depart AG264179.275824.264143.275732.    625.11.5  0. 44.   30.
 1
17 Dixie  SB Depart AG264143.275732.264083.275564.    625.11.5  0. 44.   30.
 1
18 Dixie  NB Rt.    AG264240.275916.264284.275929.    250.11.5  0. 32.   30.
 1
19 Kyles  EB @ DixieAG264252.275994.264284.275929.    540.11.5  0. 32.   30.
```

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  1
20 Kyles  EB Depart AG264284.275929.264483.275522.    790.11.5  0. 44.   30.
  1
21 Kyles  WB Appr   AG264516.275540.264468.275639.    890.11.5  0. 56.   30.
  1
22 Kyles  WB Appr   AG264468.275639.264359.275852.    890.11.5  0. 56.   30.
  1
23 Kyles  WB  Rt.   AG264359.275852.264347.275900.    740.11.5  0. 32.   30.
  1
24 Kyles  WB Rt.    AG264347.275900.264300.276003.    740.11.5  0. 32.   30.
  2
25 Kyles  WB  Rt. QuAG264313.275975.264339.275917.      0. 12.   1
     120       78       2.0  740   73.3 1599 1 3
  1
25 Kyles  WB Rt. @ DAG264300.276003.264303.276071.    740.11.5  0. 32.   30.
  1
26 Kyles  WB Appr   AG264359.275852.264296.275980.     10.11.5  0. 32.   30.
  2
28        WB Kyles LAG264307.275957.264338.275894.      0. 12.   1
     120       78       2.0   10   73.3 1881 1 3
  1
27 Kyles  WB @ DixieAG264296.275980.264280.276013.      5.11.5  0. 32.   30.
  1
28 Kyles  WB Lt.    AG264296.275980.264252.275994.      5.11.5  0. 32.   30.
  1
29 Kyles  WB Lt.    AG264359.275852.264325.275892.    140.11.5  0. 32.   30.
  1
30 Kyles  WB Lt.    AG264325.275892.264287.275965.    140.11.5  0. 32.   30.
  2
33 Kyles  WB Lt. QueAG264295.275951.264321.275898.      0. 12.   1
     120       78       2.0  140   73.3 1350 1 3
  1
31 Kyles  WB Lt. @ DAG264287.275965.264236.275956.    140.11.5  0. 32.   30.
1.0   04 1000.   0Y  5  0 72

Brent Spence Bridge NB-PM S1nbpm.dat    60.0175.0.0000.000240.30480000    1    1
R1 SB Mid              264384.   276323.        5.
R2 SB 164              264321.   276211.        5.
R3 SB 82               264290.   276136.        5.
R4 SB Corner           264262.   276069.        5.
R5 SB Corner           264230.   275990.        5.
R6 SB 82               264193.   275900.        5.
R7 SB 164              264151.   275798.        5.
R8 SB Mid              264103.   275678.        5.
R9 NB Mid              264155.   275655.        5.
R10 NB 164             264184.   275729.        5.
R11 NB 82              264215.   275805.        5.
R12 NB Corner          264242.   275872.        5.
R13 EB Corner          264272.   275903.        5.
R14 EB 82              264340.   275765.        5.
R15 EB 164             264378.   275678.        5.
R16 EB Mid             264408.   275600.        5.
R17 WB Mid             264455.   275722.        5.
R18 WB 164             264399.   275833.        5.
R19 WB 82              264362.   275906.        5.
R20 WB Corner          264330.   275971.        5.
R21 NB Corner          264319.   276046.        5.
R22 NB 82              264343.   276114.        5.
R23 NB 164             264376.   276189.        5.
R24 NB Mid             264447.   276280.        5.
Kyles Lane & Dixie Hwy                    36  1    1
  1
01 Dixie  NB Appr   AG264099.275553.264162.275726.    720.11.5  0. 44.   30.
  1
02 Dixie  NB Appr   AG264162.275726.264197.275813.    720.11.5  0. 44.   30.
  1
03 Dixie  NB Appr   AG264197.275813.264240.275916.    720.11.5  0. 44.   30.
  2
03 Dixie  NB Queue  AG264228.275888.264205.275831.     0.  24.   2
     110       84       2.0  720   73.3 1505 1 3
  1
04 Dixie  NB @ KylesAG264240.275916.264280.276013.    430.11.5  0. 44.   30.
  1
05 Dixie  NB Depart AG264280.276013.264303.276071.    445.11.5  0. 44.   30.
  1
06 Dixie  NB Depart AG264303.276071.264360.276209.   1295.11.5  0. 44.   30.
  1
07 Dixie  NB Depart AG264360.276209.264406.276278.   1295.11.5  0. 44.   30.
  1
08 Dixie  NB Depart AG264406.276278.264446.276325.   1295.11.5  0. 44.   30.
  1
09 Dixie  NB Depart AG264446.276325.264529.276400.   1295.11.5  0. 44.   30.
  1
10 Dixie  SB Appr   AG264499.276415.264439.276361.   1020.11.5  0. 44.   30.
  1
11 Dixie  SB Appr   AG264439.276361.264381.276288.   1570.11.5  0. 44.   30.
  1
12 Dixie  SB Appr   AG264381.276288.264351.276234.   1570.11.5  0. 44.   30.
  1
13 Dixie  SB Appr   AG264351.276234.264252.275994.   1570.11.5  0. 44.   30.
  2
14 Dixie  SB Queue  AG264276.276054.264321.276161.      0.  24.   2
     110       52       2.0 1570   73.3 1831 1 3
  1
14 Dixie  SB @ KylesAG264252.275994.264236.275956.    915.11.5  0. 40.   30.
  1
15 Dixie  SB Depart AG264236.275956.264179.275824.   1265.11.5  0. 44.   30.
  1
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16 Dixie  SB Depart AG264179.275824.264143.275732.   1265.11.5  0. 44.   30.
  1
17 Dixie  SB Depart AG264143.275732.264083.275564.   1265.11.5  0. 44.   30.
  1
18 Dixie  NB Rt.    AG264240.275916.264284.275929.    290.11.5  0. 32.   30.
  1
19 Kyles  EB @ DixieAG264252.275994.264284.275929.    670.11.5  0. 32.   30.
  1
20 Kyles  EB Depart AG264284.275929.264483.275522.    960.11.5  0. 44.   30.
  1
21 Kyles  WB Appr   AG264516.275540.264468.275639.   1230.11.5  0. 56.   30.
  1
22 Kyles  WB Appr   AG264468.275639.264359.275852.   1230.11.5  0. 56.   30.
  1
23 Kyles  WB  Rt.   AG264359.275852.264347.275900.    850.11.5  0. 32.   30.
  1
24 Kyles  WB Rt.    AG264347.275900.264300.276003.    850.11.5  0. 32.   30.
  2
25 Kyles  WB  Rt. QuAG264313.275975.264339.275917.      0. 12.   1
   110       63       2.0  850   73.3 1599 1 3
  1
25 Kyles  WB Rt. @ DAG264300.276003.264303.276071.    850.11.5  0. 32.   30.
  1
26 Kyles  WB Appr   AG264359.275852.264296.275980.     30.11.5  0. 32.   30.
  2
28        WB Kyles LAG264307.275957.264338.275894.      0. 12.   1
   110       63       2.0   30   73.3 1881 1 3
  1
27 Kyles  WB @ DixieAG264296.275980.264280.276013.     15.11.5  0. 32.   30.
  1
28 Kyles  WB Lt.    AG264296.275980.264252.275994.     15.11.5  0. 32.   30.
  1
29 Kyles  WB Lt.    AG264359.275852.264325.275892.    350.11.5  0. 32.   30.
  1
30 Kyles  WB Lt.    AG264325.275892.264287.275965.    350.11.5  0. 32.   30.
  2
33 Kyles  WB Lt. QueAG264295.275951.264321.275898.      0. 12.   1
   110       63       2.0  350   73.3 1370 1 3
  1
31 Kyles  WB Lt. @ DAG264287.275965.264236.275956.    350.11.5  0. 32.   30.
1.0   04 1000.   0Y  5  0 72

Brent Spence Bridge                  60.0175.0.0000.000480.30480000    1   1
R1 EB 82            269739.   284764.        5.
R2 SW Corner          269811.   284765.        5.
R3 SB 82            269812.   284693.        5.
R4 SB 164            269813.   284611.        5.
R5 NB 164            269868.   284612.        5.
R6 NB 82            269867.   284694.        5.
R7 SE Corner          269866.   284766.        5.
R8 EB 82            269938.   284768.        5.
R9 EB 164            270018.   284770.        5.
R10 EB 82            270099.   284760.        5.
R10 SW Corner          270171.   284761.        5.
R12 SE Corner          270217.   284772.        5.
R13 EB 82r            270289.   284773.        5.
R14 EB 164            270368.   284774.        5.
R15 EB 82            270447.   284775.        5.
R16 SW Corner          270519.   284776.        5.
R17 SB 82            270520.   284704.        5.
R18 SB 164            270521.   284622.        5.
R19 NB 164            270583.   284618.        5.
R20 NB 82            270581.   284700.        5.
R21 SE Corner          270580.   284773.        5.
R22 SB 82            270652.   284773.        5.
R23 WB 82            270652.   284829.        5.
R24 NE Corner          270580.   284829.        5.
R25 NB 82            270579.   284901.        5.
R26 NB 164            270577.   284983.        5.
R27 SB 164            270525.   284975.        5.
R28 SB 82            270527.   284893.        5.
R29 NW Corner          270518.   284821.        5.
R30 WB 82            270446.   284821.        5.
R31 WB 164            270368.   284820.        5.
R32 WB 82            270288.   284819.        5.
R33 NE Corner          270216.   284818.        5.
R34 NB 82            270215.   284890.        5.
R35 NB 164            270214.   284972.        5.
R36 SB 164            270168.   284972.        5.
R37 SB 82            270169.   284890.        5.
R38 NW Corner          270170.   284818.        5.
R39 WB 82            270098.   284817.        5.
R40 WB 164            270017.   284815.        5.
R41 WB 82            269937.   284814.        5.
R42 NE Corner          269865.   284813.        5.
R43 NB 82            269864.   284885.        5.
R44 NB 164            269863.   284967.        5.
R45 SB 164            269809.   284966.        5.
R46 SB 82            269810.   284884.        5.
R47 NW Corner          269811.   284812.        5.
R48 WB 82            269738.   284810.        5.
W 5th Street & Bakewell                  26  1   1
  1
1 EB 5th  Phil Appr AG269695.284787.269838.284789.   1280.11.5  0. 44.   30.
  2
2 EB 5th  EB Queue  AG269805.284789.269726.284788.     0.  24.   2
    60       31       2.0 1280    73.3 1758 1 3
  1
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3 EB 5th  Bake Appr AG269838.284789.270093.284793.   1270.11.5  0. 44.   30.
  1
4 EB 5th  Bake LT   AG270093.284793.270194.284795.   1250.11.5  0. 44.   30.
  1
5 EB 5th  EB Rt     AG270093.284776.270189.284778.     20.11.5  0. 44.   30.
  1
6 EB 5th  Main Appr AG270194.284795.270550.284799.   1340.11.5  0. 44.   30.
  2
7 EB 5th  EB Queue  AG270491.284798.270385.284797.     0.  24.   2
      60       28       2.0 1340    73.3 1715 1 3
  1
8 EB 5th  Main Dep  AG270550.284799.270695.284801.   1270.11.5  0. 44.   30.
  1
9 NB Phil 5th Appr  AG269851.284462.269847.284786.    460.11.5  0. 44.   30.
  2
10 NB PhilNB Queue  AG269848.284750.269849.284672.     0.  24.   2
      60       36       2.0  460    73.3 1731 1 3
  1
11 NB Phil5th Dep   AG269847.284786.269841.285143.    670.11.5  0. 44.   30.
  1
12 SB Phil5th Appr  AG269823.285126.269830.284793.    130.11.5  0. 44.   30.
  2
13 SB PhilSB Queue  AG269829.284819.269828.284898.     0.  24.   2
      60       36       2.0  130    73.3 1196 1 3
  1
14 SB PhilPhil Dep  AG269830.284793.269835.284461.    110.11.5  0. 44.   30.
  1
15 NB Park5th Appr  AG270203.284576.270200.284791.     30.11.5  0. 32.   30.
  2
16 NB ParkNB Queue  AG270201.284761.270202.284696.     0.  12.   1
      40       20       2.0   30    73.3  800 1 3
  1
17 NB Bake5th Dep   AG270200.284791.270194.285216.     50.11.5  0. 32.   30.
  1
18 SB Bake5th Appr  AG270180.285216.270189.284778.    100.11.5  0. 32.   30.
  2
19 SB BakeSB Queue  AG270188.284828.270186.284943.     0.  12.   1
      40       20       2.0  100    73.3  800 1 3
  1
20 SB BakeBake Dep  AG270189.284778.270192.284577.     70.11.5  0. 32.   30.
  1
21 NB MainMain Appr AG270564.284513.270559.284795.    160.11.5  0. 32.   30.
  2
22 NB MainNB Queue  AG270560.284768.270561.284691.     0.  12.   1
      60       38       2.0  160    73.3 1834 1 3
  1
23 NB MainMain Dep  AG270559.284795.270556.285029.    330.11.5  0. 32.   30.
  1
24 SB MainMain Appr AG270535.285030.270539.284802.    250.11.5.  0. 44.   30.
  2
25 SB MainSB Queue  AG270538.284828.270537.284906.     0.  24.   2
      60       38       2.0  250    73.3 1477 1 3
  1
26 SB MainMain Dep  AG270539.284802.270543.284513.    150.11.5  0. 44.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                   60.0175.0.0000.000480.30480000    1   1
R1 EB 82              269739.   284764.        5.
R2 SW Corner           269811.   284765.        5.
R3 SB 82              269812.   284693.        5.
R4 SB 164              269813.   284611.        5.
R5 NB 164              269868.   284612.        5.
R6 NB 82              269867.   284694.        5.
R7 SE Corner           269866.   284766.        5.
R8 EB 82              269938.   284768.        5.
R9 EB 164              270018.   284770.        5.
R10 EB 82              270099.   284760.        5.
R10 SW Corner           270171.   284761.        5.
R12 SE Corner           270217.   284772.        5.
R13 EB 82r             270289.   284773.        5.
R14 EB 164              270368.   284774.        5.
R15 EB 82              270447.   284775.        5.
R16 SW Corner           270519.   284776.        5.
R17 SB 82              270520.   284704.        5.
R18 SB 164              270521.   284622.        5.
R19 NB 164              270583.   284618.        5.
R20 NB 82              270581.   284700.        5.
R21 SE Corner           270580.   284773.        5.
R22 SB 82              270652.   284773.        5.
R23 WB 82              270652.   284829.        5.
R24 NE Corner           270580.   284829.        5.
R25 NB 82              270579.   284901.        5.
R26 NB 164              270577.   284983.        5.
R27 SB 164              270525.   284975.        5.
R28 SB 82              270527.   284893.        5.
R29 NW Corner           270518.   284821.        5.
R30 WB 82              270446.   284821.        5.
R31 WB 164              270368.   284820.        5.
R32 WB 82              270288.   284819.        5.
R33 NE Corner           270216.   284818.        5.
R34 NB 82              270215.   284890.        5.
R35 NB 164              270214.   284972.        5.
R36 SB 164              270168.   284972.        5.
R37 SB 82              270169.   284890.        5.
R38 NW Corner           270170.   284818.        5.
R39 WB 82              270098.   284817.        5.
R40 WB 164              270017.   284815.        5.
R41 WB 82              269937.   284814.        5.
R42 NE Corner           269865.   284813.        5.
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R43 NB 82            269864.   284885.        5.
R44 NB 164            269863.   284967.        5.
R45 SB 164            269809.   284966.        5.
R46 SB 82            269810.   284884.        5.
R47 NW Corner          269811.   284812.        5.
R48 WB 82            269738.   284810.        5.
W 5th Street & Bakewell                26  1   1
  1
1 EB 5th  Phil Appr AG269695.284787.269838.284789.   107011.5   0. 44.   30.
  2
2 EB 5th  EB Queue  AG269805.284789.269726.284788.     0.  24.   2
      60        38        2.0 1070    73.3 1738 1 3
  1
3 EB 5th  Bake Appr AG269838.284789.270093.284793.   1060.11.5  0. 44.   30.
  1
4 EB 5th  Bake LT   AG270093.284793.270194.284795.   1050.11.5  0. 44.   30.
  1
5 EB 5th  EB Rt     AG270093.284776.270189.284778.     10.11.5  0. 44.   30.
  1
6 EB 5th  Main Appr AG270194.284795.270550.284799.    990.11.5  0. 44.   30.
  2
7 EB 5th  EB Queue  AG270491.284798.270385.284797.     0.  24.   2
      60        33        2.0  990    73.3 1696 1 3
  1
8 EB 5th  Main Dep  AG270550.284799.270695.284801.    810.11.5  0. 44.   30.
  1
9 NB Phil 5th Appr  AG269851.284462.269847.284786.    250.11.5  0. 44.   30.
  2
10 NB PhilNB Queue  AG269848.284750.269849.284672.     0.  24.   2
      60        47        2.0  250    73.3 1731 1 3
  1
11 NB Phil5th Dep   AG269847.284786.269841.285143.    260.11.5  0. 44.   30.
  1
12 SB Phil5th Appr  AG269823.285126.269830.284793.   1180.11.5  0. 44.   30.
  2
13 SB PhilSB Queue  AG269829.284819.269828.284898.     0.  24.   2
      60        47        2.0 1180    73.3 1799 1 3
  1
14 SB PhilPhil Dep  AG269830.284793.269835.284461.   1010.11.5  0. 44.   30.
  1
15 NB Park5th Appr  AG270203.284576.270200.284791.     70.11.5  0. 32.   30.
  2
16 NB ParkNB Queue  AG270201.284761.270202.284696.     0.  12.   1
      40        20        2.0   70    73.3  800 1 3
  1
17 NB Bake5th Dep   AG270200.284791.270194.285216.    120.11.5  0. 32.   30.
  1
18 SB Bake5th Appr  AG270180.285216.270189.284778.     80.11.5  0. 32.   30.
  2
19 SB BakeSB Queue  AG270188.284828.270186.284943.     0.  12.   1
      40        20        2.0   80    73.3  800 1 3
  1
20 SB BakeBake Dep  AG270189.284778.270192.284577.     40.11.5  0. 32.   30.
  1
21 NB MainMain Appr AG270564.284513.270559.284795.    200.11.5  0. 32.   30.
  2
22 NB MainNB Queue  AG270560.284768.270561.284691.     0.  12.   1
      60        33        2.0  200    73.3 1831 1 3
  1
23 NB MainMain Dep  AG270559.284795.270556.285029.    310.11.5  0. 32.   30.
  1
24 SB MainMain Appr AG270535.285030.270539.284802.    330.11.5  0. 44.   30.
  2
25 SB MainSB Queue  AG270538.284828.270537.284906.     0.  24.   2
      60        33        2.0  330    73.3 1460 1 3
  1
26 SB MainMain Dep  AG270539.284802.270543.284513.    130.11.5.  0. 44.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                60.0175.0.0000.000480.30480000    1   1
R1 EB 82            269739.   284764.        5.
R2 SW Corner          269811.   284765.        5.
R3 SB 82            269812.   284693.        5.
R4 SB 164            269813.   284611.        5.
R5 NB 164            269868.   284612.        5.
R6 NB 82            269867.   284694.        5.
R7 SE Corner          269866.   284766.        5.
R8 EB 82            269938.   284768.        5.
R9 EB 164            270018.   284770.        5.
R10 EB 82            270099.   284760.        5.
R10 SW Corner          270171.   284761.        5.
R12 SE Corner          270217.   284772.        5.
R13 EB 82r            270289.   284773.        5.
R14 EB 164            270368.   284774.        5.
R15 EB 82            270447.   284775.        5.
R16 SW Corner          270519.   284776.        5.
R17 SB 82            270520.   284704.        5.
R18 SB 164            270521.   284622.        5.
R19 NB 164            270583.   284618.        5.
R20 NB 82            270581.   284700.        5.
R21 SE Corner          270580.   284773.        5.
R22 SB 82            270652.   284773.        5.
R23 WB 82            270652.   284829.        5.
R24 NE Corner          270580.   284829.        5.
R25 NB 82            270579.   284901.        5.
R26 NB 164            270577.   284983.        5.
R27 SB 164            270525.   284975.        5.
R28 SB 82            270527.   284893.        5.
R29 NW Corner          270518.   284821.        5.
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R30 WB 82            270446.   284821.        5.
R31 WB 164            270368.   284820.        5.
R32 WB 82            270288.   284819.        5.
R33 NE Corner          270216.   284818.        5.
R34 NB 82            270215.   284890.        5.
R35 NB 164            270214.   284972.        5.
R36 SB 164            270168.   284972.        5.
R37 SB 82            270169.   284890.        5.
R38 NW Corner          270170.   284818.        5.
R39 WB 82            270098.   284817.        5.
R40 WB 164            270017.   284815.        5.
R41 WB 82            269937.   284814.        5.
R42 NE Corner          269865.   284813.        5.
R43 NB 82            269864.   284885.        5.
R44 NB 164            269863.   284967.        5.
R45 SB 164            269809.   284966.        5.
R46 SB 82            269810.   284884.        5.
R47 NW Corner          269811.   284812.        5.
R48 WB 82            269738.   284810.        5.
W 5th Street & Bakewell                 26  1   1
  1
1 EB 5th  Phil Appr AG269695.284787.269838.284789.    98011.5   0. 44.   30.
  2
2 EB 5th  EB Queue  AG269805.284789.269726.284788.     0.  24.   2
      60       35       2.0  980     73.3 1765 1 3
  1
3 EB 5th  Bake Appr AG269838.284789.270093.284793.   1070.11.5  0. 44.   30.
  1
4 EB 5th  Bake LT   AG270093.284793.270194.284795.   1040.11.5  0. 44.   30.
  1
5 EB 5th  EB Rt     AG270093.284776.270189.284778.     30.11.5  0. 44.   30.
  1
6 EB 5th  Main Appr AG270194.284795.270550.284799.   1340.11.5  0. 44.   30.
  2
7 EB 5th  EB Queue  AG270491.284798.270385.284797.     0.  24.   2
      60       39       2.0 1340     73.3 1707 1 3
  1
8 EB 5th  Main Dep  AG270550.284799.270695.284801.   1070.11.5  0. 44.   30.
  1
9 NB Phil 5th Appr  AG269851.284462.269847.284786.    660.11.5  0. 44.   30.
  2
10 NB PhilNB Queue  AG269848.284750.269849.284672.     0.  24.   2
      60       31       2.0  660     73.3 1731 1 3
  1
11 NB Phil5th Dep   AG269847.284786.269841.285143.    180.11.5  0. 44.   30.
  1
12 SB Phil5th Appr  AG269823.285126.269830.284793.    290.11.5  0. 44.   30.
  2
13 SB PhilSB Queue  AG269829.284819.269828.284898.     0.  24.   2
      60       31       2.0  290     73.3 1146 1 3
  1
14 SB PhilPhil Dep  AG269830.284793.269835.284461.    180.11.5  0. 44.   30.
  1
15 NB Park5th Appr  AG270203.284576.270200.284791.     30.11.5  0. 32.   30.
  2
16 NB ParkNB Queue  AG270201.284761.270202.284696.     0.  12.   1
      40       20       2.0   30     73.3  800 1 3
  1
17 NB Bake5th Dep   AG270200.284791.270194.285216.    200.11.5  0. 32.   30.
  1
18 SB Bake5th Appr  AG270180.285216.270189.284778.    150.11.5  0. 32.   30.
  2
19 SB BakeSB Queue  AG270188.284828.270186.284943.     0.  12.   1
      40       20       2.0  150     73.3  800 1 3
  1
20 SB BakeBake Dep  AG270189.284778.270192.284577.     70.11.5  0. 32.   30.
  1
21 NB MainMain Appr AG270564.284513.270559.284795.    140.11.5  0. 32.   30.
  2
22 NB MainNB Queue  AG270560.284768.270561.284691.     0.  12.   1
     60       39       2.0  140     73.3 1863 1 3
  1
23 NB MainMain Dep  AG270559.284795.270556.285029.    430.11.5  0. 32.   30.
  1
24 SB MainMain Appr AG270535.285030.270539.284802.    150.11.5  0. 44.   30.
  2
25 SB MainSB Queue  AG270538.284828.270537.284906.     0.  24.   2
     60       39       2.0  150     73.3 1535 1 3
  1
26 SB MainMain Dep  AG270539.284802.270543.284513.    130.11.5  0. 44.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                60.0175.0.0000.000480.30480000    1   1
R1 EB 82            269739.   284764.        5.
R2 SW Corner          269811.   284765.        5.
R3 SB 82            269812.   284693.        5.
R4 SB 164            269813.   284611.        5.
R5 NB 164            269868.   284612.        5.
R6 NB 82            269867.   284694.        5.
R7 SE Corner          269866.   284766.        5.
R8 EB 82            269938.   284768.        5.
R9 EB 164            270018.   284770.        5.
R10 EB 82            270099.   284760.        5.
R10 SW Corner          270171.   284761.        5.
R12 SE Corner          270217.   284772.        5.
R13 EB 82r            270289.   284773.        5.
R14 EB 164            270368.   284774.        5.
R15 EB 82            270447.   284775.        5.
R16 SW Corner          270519.   284776.        5.
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R17 SB 82           270520.   284704.       5.
R18 SB 164           270521.   284622.       5.
R19 NB 164           270583.   284618.       5.
R20 NB 82           270581.   284700.       5.
R21 SE Corner         270580.   284773.       5.
R22 SB 82           270652.   284773.       5.
R23 WB 82            270652.   284829.       5.
R24 NE Corner         270580.   284829.       5.
R25 NB 82           270579.   284901.       5.
R26 NB 164           270577.   284983.       5.
R27 SB 164           270525.   284975.       5.
R28 SB 82           270527.   284893.       5.
R29 NW Corner         270518.   284821.       5.
R30 WB 82            270446.   284821.       5.
R31 WB 164           270368.   284820.       5.
R32 WB 82            270288.   284819.       5.
R33 NE Corner         270216.   284818.       5.
R34 NB 82           270215.   284890.       5.
R35 NB 164           270214.   284972.       5.
R36 SB 164           270168.   284972.       5.
R37 SB 82           270169.   284890.       5.
R38 NW Corner         270170.   284818.       5.
R39 WB 82            270098.   284817.       5.
R40 WB 164           270017.   284815.       5.
R41 WB 82            269937.   284814.       5.
R42 NE Corner         269865.   284813.       5.
R43 NB 82           269864.   284885.       5.
R44 NB 164           269863.   284967.       5.
R45 SB 164           269809.   284966.       5.
R46 SB 82           269810.   284884.       5.
R47 NW Corner         269811.   284812.       5.
R48 WB 82            269738.   284810.       5.
W 5th Street & Bakewell               26  1   1
  1
1 EB 5th  Phil Appr AG269695.284787.269838.284789.    77011.5  0. 44.   30.
  2
2 EB 5th  EB Queue  AG269805.284789.269726.284788.     0.  24.   2
     60       44       2.0  770    73.3 1743 1 3
  1
3 EB 5th  Bake Appr AG269838.284789.270093.284793.    720.11.5  0. 44.   30.
  1
4 EB 5th  Bake LT   AG270093.284793.270194.284795.    710.11.5  0. 44.   30.
  1
5 EB 5th  EB Rt     AG270093.284776.270189.284778.     10.11.5  0. 44.   30.
  1
6 EB 5th  Main Appr AG270194.284795.270550.284799.    960.11.5  0. 44.   30.
  2
7 EB 5th  EB Queue  AG270491.284798.270385.284797.     0.  24.   2
     60       31       2.0  960    73.3 1743 1 3
  1
8 EB 5th  Main Dep  AG270550.284799.270695.284801.    720.11.5  0. 44.   30.
  1
9 NB Phil 5th Appr  AG269851.284462.269847.284786.    410.11.5  0. 44.   30.
  2
10 NB PhilNB Queue  AG269848.284750.269849.284672.     0.  24.   2
     60       23       2.0  410    73.3 1731 1 3
  1
11 NB Phil5th Dep   AG269847.284786.269841.285143.    320.11.5  0. 44.   30.
  1
12 SB Phil5th Appr  AG269823.285126.269830.284793.   1390.11.5  0. 44.   30.
  2
13 SB PhilSB Queue  AG269829.284819.269828.284898.     0.  24.   2
     60       23       2.0 1390    73.3 1600 1 3
  1
14 SB PhilPhil Dep  AG269830.284793.269835.284461.   1120.11.5  0. 44.   30.
  1
15 NB Park5th Appr  AG270203.284576.270200.284791.     70.11.5  0. 32.   30.
  2
16 NB ParkNB Queue  AG270201.284761.270202.284696.     0.  12.   1
     40       20       2.0   70    73.3  800 1 3
  1
17 NB Bake5th Dep   AG270200.284791.270194.285216.    140.11.5  0. 32.   30.
  1
18 SB Bake5th Appr  AG270180.285216.270189.284778.    140.11.5  0. 32.   30.
  2
19 SB BakeSB Queue  AG270188.284828.270186.284943.     0.  12.   1
     40       20       2.0  140    73.3  800 1 3
  1
20 SB BakeBake Dep  AG270189.284778.270192.284577.     70.11.5  0. 32.   30.
  1
21 NB MainMain Appr AG270564.284513.270559.284795.    170.11.5  0. 32.   30.
  2
22 NB MainNB Queue  AG270560.284768.270561.284691.     0.  12.   1
     60       36       2.0  170    73.3 1866 1 3
  1
23 NB MainMain Dep  AG270559.284795.270556.285029.    470.11.5  0. 44.   30.
  1
24 SB MainMain Appr AG270535.285030.270539.284802.    180.11.5  0. 44.   30.
  2
25 SB MainSB Queue  AG270538.284828.270537.284906.     0.  24.   2
     60       36       2.0  180    73.3 1483 1 3
  1
26 SB MainMain Dep  AG270539.284802.270543.284513.    120.11.5  0. 44.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge              60.0175.0.0000.000480.30480000    1    1
R1 EB 82            269739.   284764.       5.
R2 SW Corner         269811.   284765.       5.
R3 SB 82            269812.   284693.       5.
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R4 SB 164              269813.   284611.        5.
R5 NB 164              269868.   284612.        5.
R6 NB 82               269867.   284694.        5.
R7 SE Corner           269866.   284766.        5.
R8 EB 82               269938.   284768.        5.
R9 EB 164              270018.   284770.        5.
R10 EB 82              270099.   284760.        5.
R10 SW Corner          270171.   284761.        5.
R12 SE Corner          270217.   284772.        5.
R13 EB 82r             270289.   284773.        5.
R14 EB 164             270368.   284774.        5.
R15 EB 82              270447.   284775.        5.
R16 SW Corner          270519.   284776.        5.
R17 SB 82              270520.   284704.        5.
R18 SB 164             270521.   284622.        5.
R19 NB 164             270583.   284618.        5.
R20 NB 82              270581.   284700.        5.
R21 SE Corner          270580.   284773.        5.
R22 SB 82              270652.   284773.        5.
R23 WB 82              270652.   284829.        5.
R24 NE Corner          270580.   284829.        5.
R25 NB 82              270579.   284901.        5.
R26 NB 164             270577.   284983.        5.
R27 SB 164             270525.   284975.        5.
R28 SB 82              270527.   284893.        5.
R29 NW Corner          270518.   284821.        5.
R30 WB 82              270446.   284821.        5.
R31 WB 164             270368.   284820.        5.
R32 WB 82              270288.   284819.        5.
R33 NE Corner          270216.   284818.        5.
R34 NB 82              270215.   284890.        5.
R35 NB 164             270214.   284972.        5.
R36 SB 164             270168.   284972.        5.
R37 SB 82              270169.   284890.        5.
R38 NW Corner          270170.   284818.        5.
R39 WB 82              270098.   284817.        5.
R40 WB 164             270017.   284815.        5.
R41 WB 82              269937.   284814.        5.
R42 NE Corner          269865.   284813.        5.
R43 NB 82              269864.   284885.        5.
R44 NB 164             269863.   284967.        5.
R45 SB 164             269809.   284966.        5.
R46 SB 82              269810.   284884.        5.
R47 NW Corner          269811.   284812.        5.
R48 WB 82              269738.   284810.        5.
W 5th Street & Bakewell                 26  1   1
  1
1 EB 5th  Phil Appr AG269695.284787.269838.284789.   1130.11.5  0. 44.   30.
  2
2 EB 5th  EB Queue  AG269805.284789.269726.284788.     0.  24.   2
     60       32       2.0 1130    73.3 1754 1 3
  1
3 EB 5th  Bake Appr AG269838.284789.270093.284793.   1180.11.5  0. 44.   30.
  1
4 EB 5th  Bake LT   AG270093.284793.270194.284795.   1160.11.5  0. 44.   30.
  1
5 EB 5th  EB Rt     AG270093.284776.270189.284778.     20.11.5  0. 44.   30.
  1
6 EB 5th  Main Appr AG270194.284795.270550.284799.   1430.11.5  0. 44.   30.
  2
7 EB 5th  EB Queue  AG270491.284798.270385.284797.     0.  24.   2
     60       24       2.0 1430    73.3 1706 1 3
  1
8 EB 5th  Main Dep  AG270550.284799.270695.284801.   1180.11.5  0. 44.   30.
  1
9 NB Phil 5th Appr  AG269851.284462.269847.284786.    580.11.5  0. 44.   30.
  2
10 NB PhilNB Queue  AG269848.284750.269849.284672.     0.  24.   2
     60       33       2.0  580    73.3  721 1 3
  1
11 NB Phil5th Dep   AG269847.284786.269841.285143.    850.11.5  0. 44.   30.
  1
12 SB Phil5th Appr  AG269823.285126.269830.284793.    170.11.5  0. 44.   30.
  2
13 SB PhilSB Queue  AG269829.284819.269828.284898.     0.  24.   2
     60       33       2.0  170    73.3 1113 1 3
  1
14 SB PhilPhil Dep  AG269830.284793.269835.284461.     90.11.5  0. 44.   30.
  1
15 NB Park5th Appr  AG270203.284576.270200.284791.     30.11.5  0. 32.   30.
  2
16 NB ParkNB Queue  AG270201.284761.270202.284696.     0.  12.   1
     40       20       2.0   30    73.3  800 1 3
  1
17 NB Bake5th Dep   AG270200.284791.270194.285216.     50.11.5  0. 32.   30.
  1
18 SB Bake5th Appr  AG270180.285216.270189.284778.    100.11.5  0. 32.   30.
  2
19 SB BakeSB Queue  AG270188.284828.270186.284943.     0.  12.   1
     40       20       2.0  100    73.3  800 1 3
  1
20 SB BakeBake Dep  AG270189.284778.270192.284577.     70.11.5  0. 32.   30.
  1
21 NB MainMain Appr AG270564.284513.270559.284795.    210.11.5  0. 32.   30.
  2
22 NB MainNB Queue  AG270560.284768.270561.284691.     0.  12.   1
     60       40       2.0  210    73.3 1845 1 3
  1
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23 NB MainMain Dep  AG270559.284795.270556.285029.    490.11.5  0. 32.   30.
  1
24 SB MainMain Appr AG270535.285030.270539.284802.    180.11.5  0. 44.   30.
  2
25 SB MainSB Queue  AG270538.284828.270537.284906.     0.  24.   2
      60        40        2.0  180    73.3 1373 1 3
  1
26 SB MainMain Dep  AG270539.284802.270543.284513.    150.11.5  0. 44.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                    60.0175.0.0000.000480.30480000    1   1
R1 EB 82              269739.   284764.        5.
R2 SW Corner           269811.   284765.        5.
R3 SB 82              269812.   284693.        5.
R4 SB 164              269813.   284611.        5.
R5 NB 164              269868.   284612.        5.
R6 NB 82              269867.   284694.        5.
R7 SE Corner           269866.   284766.        5.
R8 EB 82              269938.   284768.        5.
R9 EB 164              270018.   284770.        5.
R10 EB 82              270099.   284760.        5.
R10 SW Corner          270171.   284761.        5.
R12 SE Corner          270217.   284772.        5.
R13 EB 82r             270289.   284773.        5.
R14 EB 164             270368.   284774.        5.
R15 EB 82              270447.   284775.        5.
R16 SW Corner          270519.   284776.        5.
R17 SB 82              270520.   284704.        5.
R18 SB 164             270521.   284622.        5.
R19 NB 164             270583.   284618.        5.
R20 NB 82              270581.   284700.        5.
R21 SE Corner          270580.   284773.        5.
R22 SB 82              270652.   284773.        5.
R23 WB 82              270652.   284829.        5.
R24 NE Corner          270580.   284829.        5.
R25 NB 82              270579.   284901.        5.
R26 NB 164             270577.   284983.        5.
R27 SB 164             270525.   284975.        5.
R28 SB 82              270527.   284893.        5.
R29 NW Corner          270518.   284821.        5.
R30 WB 82              270446.   284821.        5.
R31 WB 164             270368.   284820.        5.
R32 WB 82              270288.   284819.        5.
R33 NE Corner          270216.   284818.        5.
R34 NB 82              270215.   284890.        5.
R35 NB 164             270214.   284972.        5.
R36 SB 164             270168.   284972.        5.
R37 SB 82              270169.   284890.        5.
R38 NW Corner          270170.   284818.        5.
R39 WB 82              270098.   284817.        5.
R40 WB 164             270017.   284815.        5.
R41 WB 82              269937.   284814.        5.
R42 NE Corner          269865.   284813.        5.
R43 NB 82              269864.   284885.        5.
R44 NB 164             269863.   284967.        5.
R45 SB 164             269809.   284966.        5.
R46 SB 82              269810.   284884.        5.
R47 NW Corner          269811.   284812.        5.
R48 WB 82              269738.   284810.        5.
W 5th Street & Bakewell                  26  1   1
  1
1 EB 5th  Phil Appr AG269695.284787.269838.284789.    89011.5   0. 44.   30.
  2
2 EB 5th  EB Queue  AG269805.284789.269726.284788.     0.  24.   2
     60        25        2.0  890     73.3 1750 1 3
  1
3 EB 5th  Bake Appr AG269838.284789.270093.284793.    850.11.5  0. 44.   30.
  1
4 EB 5th  Bake Appr AG270093.284793.270194.284795.    840.11.5  0. 44.   30.
  1
5 EB 5th  EB Rt     AG270093.284776.270189.284778.     10.11.5  0. 44.   30.
  1
6 EB 5th  Main Appr AG270194.284795.270550.284799.   1080.11.5  0. 44.   30.
  2
7 EB 5th  EB Queue  AG270491.284798.270385.284797.     0.  24.   2
      60        30        2.0 1080     73.3 1680 1 3
  1
8 EB 5th  Main Dep  AG270550.284799.270695.284801.    850.11.5  0. 44.   30.
  1
9 NB Phil 5th Appr  AG269851.284462.269847.284786.    310.11.5  0. 44.   30.
  2
10 NB PhilNB Queue  AG269848.284750.269849.284672.     0.  24.   2
      60        30        2.0  310     73.3 1731 1 3
  1
11 NB Phil5th Dep   AG269847.284786.269841.285143.    400.11.5  0. 44.   30.
  1
12 SB Phil5th Appr  AG269823.285126.269830.284793.    850.11.5  0. 44.   30.
  2
13 SB PhilSB Queue  AG269829.284819.269828.284898.     0.  24.   2
      60        30        2.0  850     73.3 1441 1 3
  1
14 SB PhilPhil Dep  AG269830.284793.269835.284461.    580.11.5   0. 44.  30.
  1
15 NB Park5th Appr  AG270203.284576.270200.284791.     70.11.5  0. 32.   30.
  2
16 NB ParkNB Queue  AG270201.284761.270202.284696.     0.  12.   1
      40        20        2.0   70     73.3  800 1 3
  1
17 NB Bake5th Dep   AG270200.284791.270194.285216.     70.11.5  0. 32.   30.
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  1
18 SB Bake5th Appr  AG270180.285216.270189.284778.     80.11.5  0. 32.   30.
  2
19 SB BakeSB Queue  AG270188.284828.270186.284943.     0.  12.   1
      40        20        2.0   80    73.3  800 1 3
  1
20 SB BakeBake Dep  AG270189.284778.270192.284577.     40.11.5   0. 32.  30.
  1
21 NB MainMain Appr AG270564.284513.270559.284795.    210.11.5   0. 32.  30.
  2
22 NB MainNB Queue  AG270560.284768.270561.284691.     0.  12.   1
      60        36        2.0  210    73.3 1869 1 3
  1
23 NB MainMain Dep  AG270559.284795.270556.285029.    540.11.5   0. 32.  30.
  1
24 SB MainMain Appr AG270535.285030.270539.284802.    250.11.5   0. 44.  30.
  2
25 SB MainSB Queue  AG270538.284828.270537.284906.     0.  24.   2
     100        36        2.0  250    73.3 1424 1 3
  1
26 SB MainMain Dep  AG270539.284802.270543.284513.    150.11.5   0. 44.  30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                   60.0175.0.0000.000220.30480000    1
R1 SE Mid              270140.   289517.        5.
R2 SE 164              270124.   289585.        5.
R3 SE 82               270105.   289664.        5.
R4 SE Corner           270088.   289735.        5.
R5 SE 82               270158.   289749.        5.
R6 SE 164              270239.   289766.        5.
R7 SE Mid              270274.   289773.        5.
R8 NE Mid              270256.   289830.        5.
R9 NE 164              270223.   289823.        5.
R10 NE 82              270142.   289806.        5.
R11 NE Corner          270072.   289791.        5.
R12 NE 82              270057.   289862.        5.
R13 NE 164             270040.   289942.        5.
R14 NE Mid             270034.   289968.        5.
R15 NW 164             269944.   290010.        5.
R16 NW 82              269961.   289930.        5.
R17 NW Corner          269976.   289859.        5.
R18 SW Corner          270010.   289716.        5.
R19 SW 82              270028.   289646.        5.
R20 SW 164             270046.   289566.        5.
R21 SW Mid             270055.   289525.        5.
R22 Near CD            269775.   289723.        5.
W 4th & Central Alt E AM                 50  1   1
  1
1 NB Cent McF Appr  AG270186.289164.270108.289529.    310.12.6  0. 44.   30.
  1
2 NB Thr  W 4th ApprAG270117.289531.270060.289759.    240.12.6  0. 44.   30.
  2
3 NB Cent NB Queue  AG270067.289730.270089.289644.     0.  24.   2
      60        35        2.0  240    73.3 1522 1 3
  1
4 NB Cen  W 4th DeprAG270060.289759.270043.289808.    500.12.6  0. 44.   30.
  1
5 NB Cen  W 4th DeptAG270043.289808.269933.290337.    500.12.6  0. 44.   30.
  1
6 NB Lt   W 4th ApprAG270099.289527.270042.289755.     70.12.6  0. 44.   30.
  2
7 NB LefttNB Queue  AG270049.289728.270070.289641.     0.  24.   2
      60        55        2.0   70    73.3 1474 1 3
  1
10 SB CentSB Appr   AG269902.290330.270023.289751.    220.12.6  0. 44.   30.
  2
11 SB CentSB Queue  AG270007.289828.269982.289947.     0.  24.   2
      60        40        2.0  220    73.3 1501 1 3
  1
12 SB CentSB Dep    AG270023.289751.270080.289522.    230.12.6  0. 44.   30.
  1
13 SB CentSB Dep    AG270080.289522.270159.289159.    230.12.6  0. 44.   30.
  1
14 WB W 4tTo Plum   AG270636.289880.270490.289851.    560.12.6  0. 44.   30.
  1
15 WB W 4tFr Plum   AG270490.289851.270352.289819.    560.12.6  0. 44.   30.
  1
16 WB W 4tTo Cent   AG270352.289819.270042.289755.    560.12.6  0. 56.   30.
  2
17 WB W 4tWB Queue  AG270089.289764.270191.289786.     0.  36.   3
      60        38        2.0  560    73.3 1504 1 3
  1
16 WB W 4tFrom Cent AG270040.289746.269741.289687.    360.12.6  0. 56.   30.
  1
16 WB W 4tTo CD     AG269740.289694.269544.289656.    250.12.6  0. 44.   30.
  2
18 WB W 4tRt Queue  AG269564.289660.269670.289680.     0.  24.   2
      60        34        2.0  250    73.3 1349 1 3
  1
19 WB W 4tRt to CD  AG269544.289656.269495.289688.    250.12.6  0. 44.   30.
  1
20 WB W 4tLt to CD  AG269743.289676.269548.289635.    110.12.6  0. 32.   30.
  2
21 WB W 4tLt Queue  AG269568.289639.269672.289661.     0.  12.   1
      60        33        2.0  110    73.3 1550 1 3
  1
22 WB W 4tLt to CD  AG269548.289635.269512.289576.    110.12.6  0. 32.   30.
  1
23 NB CD  To W 4th  AG269358.289340.269495.289688.   1070.12.6  0. 44.   30.
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  2
24 NB CD  NB Queue  AG269451.289575.269397.289438.     0.  24.   2
      60        33        2.0 1070   73.3 1707 1 3
  1
25 NB CD  Fr W 4th  AG269495.289688.269471.289839.   1320.12.6  0. 56.   30.
  1
26 NB CD  Fr W 4th  AG269471.289839.269432.290034.   1320.12.6  0. 68.   30.
  1
27 SB CD  To W 4th  AG269353.290020.269416.289697.   1470.12.6  0. 56.   30.
  2
27 SB CD  SB Queue  AG269408.289737.269373.289916.     0.  36.   3
      60        34        2.0 1470   73.3 1628 1 3
  1
28 SB CD  @ W 4th   AG269416.289697.269512.289576.   1470.12.6  0. 56.   30.
  1
29 SB CD  @ W 4th   AG269512.289576.269537.289433.   1580.12.6  0. 56.   30.
  1
30 WB Off 3rd-SB 75 BR270480.289330.270388.289332.    280.12.1  0. 32.   30.
  1
31 WB Off 3rd-SB 75 BR270388.289332.270294.289352.    280.12.1  0. 32.   30.
  1
32 WB Off 3rd-SB 75 BR270294.289352.270197.289396.    280.12.1  0. 32.   30.
  1
33 WB Off 3rd-SB 75 BR270197.289396.270134.289442.    280.12.1  0. 32.   30.
  1
34 WB Off 3rd-SB 75 BR270134.289442.269989.289567.    280.12.1  0. 32.   30.
  1
35 WB Off 3rd-SB 75 BR269989.289567.269874.289640.    280.12.1  0. 32.   30.
  1
36 WB Off 3rd-SB 75 AG269874.289640.269770.289675.    280.12.1  0. 32.   30.
  1
37 WB Off 71-SB 75  BR270428.289285.270297.289305.   2500.12.1  0. 44.   30.
  1
38 WB Off 71-SB 75  BR270297.289305.270202.289342.   2500.12.1  0. 44.   30.
  1
39 WB Off 71-SB 75  BR270202.289342.270133.289389.   2500.12.1  0. 44.   30.
  1
40 WB Off 71-SB 75  BR270133.289389.270002.289505.   2500.12.1  0. 44.   30.
  1
41 WB Off 71-SB 75  BR270002.289505.269880.289607.   2500.12.1  0. 44.   30.
  1
42 WB Off 71-SB 75  BR269880.289607.269770.289675.   2500.12.1  0. 44.   30.
  1
43 WB Off 71-SB 75  BR269770.289675.269688.289703.   2780.12.1  0. 56.   30.
  1
44 WB Off 71-SB 75  BR269688.289703.269608.289715.   2780.12.1  0. 56.   30.
  1
45 WB Off 71-SB 75  BR269608.289715.269523.289714.   2780.12.1  0. 56.   30.
  1
46 WB Off 71-SB 75  BR269523.289714.269442.289700.   2780.12.1  0. 56.   30.
  1
47 WB Off 71-SB 75  BR269442.289700.269379.289680.   2780.12.1  0. 56.   30.
  1
48 WB Off 71-SB 75  BR269379.289680.269317.289651.   2780.12.1  0. 56.   30.
  1
49 WB Off 71-SB 75  BR269317.289651.269246.289603.   2780.12.1  0. 56.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                    60.0175.0.0000.000220.30480000    1
R1 SE Mid              270140.   289517.        5.
R2 SE 164              270124.   289585.        5.
R3 SE 82               270105.   289664.        5.
R4 SE Corner           270088.   289735.        5.
R5 SE 82               270158.   289749.        5.
R6 SE 164              270239.   289766.        5.
R7 SE Mid              270274.   289773.        5.
R8 NE Mid              270256.   289830.        5.
R9 NE 164              270223.   289823.        5.
R10 NE 82              270142.   289806.        5.
R11 NE Corner          270072.   289791.        5.
R12 NE 82              270057.   289862.        5.
R13 NE 164             270040.   289942.        5.
R14 NE Mid             270034.   289968.        5.
R15 NW 164             269944.   290010.        5.
R16 NW 82              269961.   289930.        5.
R17 NW Corner          269976.   289859.        5.
R18 SW Corner          270010.   289716.        5.
R19 SW 82              270028.   289646.        5.
R20 SW 164             270046.   289566.        5.
R21 SW Mid             270055.   289525.        5.
R22 Near CD            269775.   289723.        5.
W 4th & Central Alt E PM                 50  1   1
  1
1 NB Cent McF Appr  AG270186.289164.270108.289529.   1310.12.6  0. 44.   30.
  1
2 NB Thr  W 4th ApprAG270117.289531.270060.289759.    540.12.6  0. 44.   30.
  2
3 NB Cent NB Queue  AG270067.289730.270089.289644.     0.  24.   2
     120        65        2.0  540   73.3 1522 1 3
  1
4 NB Cen  W 4th DeprAG270060.289759.270043.289808.    950.12.6  0. 44.   30.
  1
5 NB Cen  W 4th DeptAG270043.289808.269933.290337.    950.12.6  0. 44.   30.
  1
6 NB Lt   W 4th ApprAG270099.289527.270042.289755.    770.12.6  0. 44.   30.
  2
7 NB LefttNB Queue  AG270049.289728.270070.289641.     0.  24.   2
     120        85        2.0  770   73.3 1474 1 3
  1
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10 SB CentSB Appr   AG269902.290330.270023.289751.    280.12.6  0. 44.   30.
  2
11 SB CentSB Queue  AG270007.289828.269982.289947.     0.  24.   2
     120       103        2.0  280   73.3 1376 1 3
  1
12 SB CentSB Dep    AG270023.289751.270080.289522.    220.12.6  0. 44.   30.
  1
13 SB CentSB Dep    AG270080.289522.270159.289159.    220.12.6  0. 44.   30.
  1
14 WB W 4tTo Plum   AG270636.289880.270490.289851.   1660.12.6  0. 44.   30.
  1
15 WB W 4tFr Plum   AG270490.289851.270352.289819.   1660.12.6  0. 44.   30.
  1
16 WB W 4tTo Cent   AG270352.289819.270042.289755.   1660.12.6  0. 56.   30.
  2
17 WB W 4tWB Queue  AG270089.289764.270191.289786.     0.  36.   3
     120        67        2.0 1660   73.3 1534 1 3
  1
16 WB W 4tFrom Cent AG270040.289746.269741.289687.   2080.12.6  0. 56.   30.
  1
16 WB W 4tTo CD     AG269740.289694.269544.289656.   1790.12.6  0. 44.   30.
  2
18 WB W 4tRt Queue  AG269564.289660.269670.289680.     0.  24.   2
     120        38        2.0 1790   73.3 1349 1 3
  1
19 WB W 4tRt to CD  AG269544.289656.269495.289688.   1790.12.6  0. 44.   30.
  1
20 WB W 4tLt to CD  AG269743.289676.269548.289635.    290.12.6  0. 32.   30.
  2
21 WB W 4tLt Queue  AG269568.289639.269672.289661.     0.  12.   1
     120        89        2.0  290   73.3 1550 1 3
  1
22 WB W 4tLt to CD  AG269548.289635.269512.289576.    290.12.6  0. 32.   30.
  1
23 NB CD  To W 4th  AG269358.289340.269495.289688.    740.12.6  0. 44.   30.
  2
24 NB CD  NB Queue  AG269451.289575.269397.289438.     0.  24.   2
     120        89        2.0  740   73.3 1707 1 3
  1
25 NB CD  Fr W 4th  AG269495.289688.269471.289839.   2540.12.6  0. 56.   30.
  1
26 NB CD  Fr W 4th  AG269471.289839.269432.290034.   2540.12.6  0. 68.   30.
  1
27 SB CD  To W 4th  AG269353.290020.269416.289697.   1720.12.6  0. 56.   30.
  2
27 SB CD  SB Queue  AG269408.289737.269373.289916.     0.  36.   3
     120        38        2.0 1720   73.3 1628 1 3
  1
28 SB CD  @ W 4th   AG269416.289697.269512.289576.   1720.12.6  0. 56.   30.
  1
29 SB CD  @ W 4th   AG269512.289576.269537.289433.   2010.12.6  0. 56.   30.
  1
30 WB Off 3rd-SB 75 BR270480.289330.270388.289332.   1450.12.6  0. 32.   30.
  1
31 WB Off 3rd-SB 75 BR270388.289332.270294.289352.   1450.12.6  0. 32.   30.
  1
32 WB Off 3rd-SB 75 BR270294.289352.270197.289396.   1450.12.6  0. 32.   30.
  1
33 WB Off 3rd-SB 75 BR270197.289396.270134.289442.   1450.12.6  0. 32.   30.
  1
34 WB Off 3rd-SB 75 BR270134.289442.269989.289567.   1450.12.6  0. 32.   30.
  11
35 WB Off 3rd-SB 75 BR269989.289567.269874.289640.   1450.12.6  0. 32.   30.
  1
36 WB Off 3rd-SB 75 AG269874.289640.269770.289675.   1450.12.6  0. 32.   30.
  1
37 WB Off 71-SB 75  BR270428.289285.270297.289305.   3490.12.6  0. 44.   30.
  1
38 WB Off 71-SB 75  BR270297.289305.270202.289342.   3490.12.6  0. 44.   30.
  1
39 WB Off 71-SB 75  BR270202.289342.270133.289389.   3490.12.6  0. 44.   30.
  1
40 WB Off 71-SB 75  BR270133.289389.270002.289505.   3490.12.6  0. 44.   30.
  1
41 WB Off 71-SB 75  BR270002.289505.269880.289607.   3490.12.6  0. 44.   30.
  1
42 WB Off 71-SB 75  BR269880.289607.269770.289675.   3490.12.6  0. 44.   30.
  1
43 WB Off 71-SB 75  BR269770.289675.269688.289703.   4940.12.6  0. 56.   30.
  1
44 WB Off 71-SB 75  BR269688.289703.269608.289715.   4940.12.6  0. 56.   30.
  1
45 WB Off 71-SB 75  BR269608.289715.269523.289714.   4940.12.6  0. 56.   30.
  1
46 WB Off 71-SB 75  BR269523.289714.269442.289700.   4940.12.6  0. 56.   30.
  1
47 WB Off 71-SB 75  BR269442.289700.269379.289680.   4910.12.6  0. 56.   30.
  1
48 WB Off 71-SB 75  BR269379.289680.269317.289651.   4940.12.6  0. 56.   30.
  1
49 WB Off 71-SB 75  BR269317.289651.269246.289603.   4940.12.6  0. 56.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                  60.0175.0.0000.000210.30480000    1   1
R1 SE Mid              270140.   289517.        5.
R2 SE 164              270124.   289585.        5.
R3 SE 82              270105.   289664.        5.
R4 SE Corner           270088.   289735.        5.
R5 SE 82              270158.   289749.        5.
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R6 SE 164            270239.   289766.        5.
R7 SE Mid            270274.   289773.        5.
R8 NE Mid            270256.   289830.        5.
R9 NE 164            270223.   289823.        5.
R10 NE 82            270142.   289806.        5.
R11 NE Corner          270072.   289791.        5.
R12 NE 82            270057.   289862.        5.
R13 NE 164            270040.   289942.        5.
R14 NE Mid            270034.   289968.        5.
R15 NW 164            269944.   290010.        5.
R16 NW 82            269961.   289930.        5.
R17 NW Corner          269976.   289859.        5.
R18 SW Corner          270010.   289716.        5.
R19 SW 82            270028.   289646.        5.
R20 SW 164            270046.   289566.        5.
R21 SW Mid            270055.   289525.        5.
W 4th & Central Alt I AM                 29  1   1
 1
1 NB Cent McF Appr  AG270186.289164.270108.289529.    190.12.6  0. 44.   30.
 1
2 NB Thr  W 4th ApprAG270117.289531.270060.289759.    150.12.6  0. 44.   30.
 2
3 NB Cent NB Queue  AG270067.289730.270089.289644.     0.  24.   2
    60        35        2.0  150   73.3 1522 1 3
 1
4 NB Cen  W 4th DeprAG270060.289759.270043.289808.    330.12.6  0. 44.   30.
 1
5 NB Cen  W 4th DeptAG270043.289808.269933.290337.    330.12.6  0. 44.   30.
 1
6 NB Lt   W 4th ApprAG270099.289527.270042.289755.     40.12.6  0. 44.   30.
 2
7 NB LefttNB Queue  AG270049.289728.270070.289641.     0.  24.   2
    60        54        2.0   40   73.3 1474 1 3
 1
8 NB Ramp From W 4thAG270042.289755.269974.289811.    270.12.6  0. 44.   30.
 1
9 NB Ramp From W 4thAG269974.289811.269755.290270.    270.12.6  0. 44.   30.
 1
10 SB CentSB Appr   AG269902.290330.270023.289751.    130.12.6  0. 44.   30.
 2
11 SB CentSB Queue  AG270007.289828.269982.289947.     0.  24.   2
    60        39        2.0  130   73.3 1504 1 3
 1
12 SB CentSB Dep    AG270023.289751.270080.289522.    150.12.6  0. 44.   30.
 1
13 SB CentSB Dep    AG270080.289522.270159.289159.    150.12.6  0. 44.   30.
 1
14 WB W 4tTo Plum   AG270636.289880.270490.289851.    430.12.6  0. 44.   30.
 1
15 WB W 4tFr Plum   AG270490.289851.270352.289819.    430.12.6  0. 44.   30.
 1
16 WB W 4tTo Cent   AG270352.289819.270042.289755.    430.12.6  0. 56.   30.
 2
17 WB W 4tWB Queue  AG270089.289764.270191.289786.     0.  36.   3
    60        37        2.0  430   73.3 1503 1 3
 1
18 WB Off 3rd-SB 75 BR270473.289330.270387.289337.    280.12.1  0. 32.   30.
 1
19 WB Off 3rd-SB 75 BR270387.289337.270291.289353.    280.12.1  0. 32.   30.
 1
20 WB Off 3rd-SB 75 BR270291.289353.270209.289396.    280.12.1  0. 32.   30.
 1
21 WB Off 3rd-SB 75 BR270209.289396.269996.289555.    280.12.1  0. 28.   30.
 1
22 WB Off 3rd-SB 75 BR269996.289555.269861.289614.    280.12.1  0. 32.   30.
 1
23 WB Off 71- SB 75 BR270427.289288.270271.289320.    190.12.1  0. 44.   30.
 1
24 WB Off 71- SB 75 BR270271.289320.270153.289385.    190.12.1  0. 44.   30.
 1
25 WB Off 71- SB 75 BR270153.289385.269986.289528.    190.12.1  0. 44.   30.
 1
26 WB Off 71- SB 75 BR269986.289528.269861.289614.    190.12.1  0. 44.   30.
 1
27 WB Off 71- SB 75 BR269861.289614.269702.289652.    470.12.1  0. 44.   30.
 1
28 WB Off 71- SB 75 BR269702.289652.269576.289645.    470.12.1  0. 44.   30.
 1
29 WB Off 71- SB 75 BR269576.289645.269470.289614.    470.12.1  0. 44.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                  60.0175.0.0000.000210.30480000    1   1
R1 SE Mid            270140.   289517.        5.
R2 SE 164            270124.   289585.        5.
R3 SE 82            270105.   289664.        5.
R4 SE Corner          270088.   289735.        5.
R5 SE 82            270158.   289749.        5.
R6 SE 164            270239.   289766.        5.
R7 SE Mid            270274.   289773.        5.
R8 NE Mid            270256.   289830.        5.
R9 NE 164            270223.   289823.        5.
R10 NE 82            270142.   289806.        5.
R11 NE Corner          270072.   289791.        5.
R12 NE 82            270057.   289862.        5.
R13 NE 164            270040.   289942.        5.
R14 NE Mid            270034.   289968.        5.
R15 NW 164            269944.   290010.        5.
R16 NW 82            269961.   289930.        5.
R17 NW Corner          269976.   289859.        5.
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R18 SW Corner          270010.   289716.        5.
R19 SW 82              270028.   289646.        5.
R20 SW 164             270046.   289566.        5.
R21 SW Mid             270055.   289525.        5.
W 4th & Central Alt I PM                 29  1   1
  1
1 NB Cent McF Appr  AG270186.289164.270108.289529.    810.12.6  0. 44.   30.
  1
2 NB Thr  W 4th ApprAG270117.289531.270060.289759.    480.12.6  0. 44.   30.
  2
3 NB Cent NB Queue  AG270067.289730.270089.289644.     0.  24.   2
      70        45        2.0  480   73.3 1522 1 3
  1
4 NB Cen  W 4th DeprAG270060.289759.270043.289808.    620.12.6  0. 44.   30.
  1
5 NB Cen  W 4th DeptAG270043.289808.269933.290337.    620.12.6  0. 44.   30.
  1
6 NB Lt   W 4th ApprAG270099.289527.270042.289755.    330.12.6  0. 44.   30.
  2
7 NB LefttNB Queue  AG270049.289728.270070.289641.     0.  24.   2
      70        58        2.0  330   73.3 1474 1 3
  1
8 NB Ramp From W 4thAG270042.289755.269974.289811.   1430.12.6  0. 44.   30.
  1
9 NB Ramp From W 4thAG269974.289811.269755.290270.   1430.12.6  0. 44.   30.
  1
10 SB CentSB Appr   AG269902.290330.270023.289751.    180.12.6  0. 44.   30.
  2
11 SB CentSB Queue  AG270007.289828.269982.289947.     0.  24.   2
      70        56        2.0  180   73.3 1420 1 3
  1
12 SB CentSB Dep    AG270023.289751.270080.289522.    180.12.6  0. 44.   30.
  1
13 SB CentSB Dep    AG270080.289522.270159.289159.    180.12.6  0. 44.   30.
  1
14 WB W 4tTo Plum   AG270636.289880.270490.289851.   1320.12.6  0. 44.   30.
  1
15 WB W 4tFr Plum   AG270490.289851.270352.289819.   1320.12.6  0. 44.   30.
  1
16 WB W 4tTo Cent   AG270352.289819.270042.289755.   1320.12.6  0. 56.   30.
  2
17 WB W 4tWB Queue  AG270089.289764.270191.289786.     0.  36.   3
      70        37        2.0 1320   73.3 1535 1 3
  1
18 WB Off 3rd-SB 75 BR270473.289330.270387.289337.   1450.12.1  0. 32.   30.
  1
19 WB Off 3rd-SB 75 BR270387.289337.270291.289353.   1450.12.1  0. 32.   30.
  1
20 WB Off 3rd-SB 75 BR270291.289353.270209.289396.   1450.12.1  0. 32.   30.
  1
21 WB Off 3rd-SB 75 BR270209.289396.269996.289555.   1450.12.1  0. 28.   30.
  1
22 WB Off 3rd-SB 75 BR269996.289555.269861.289614.   1450.12.1  0. 32.   30.
  1
23 WB Off 71- SB 75 BR270427.289288.270271.289320.    320.12.1  0. 44.   30.
  1
24 WB Off 71- SB 75 BR270271.289320.270153.289385.    320.12.1  0. 44.   30.
  1
25 WB Off 71- SB 75 BR270153.289385.269986.289528.    320.12.1  0. 44.   30.
  1
26 WB Off 71- SB 75 BR269986.289528.269861.289614.    320.12.1  0. 44.   30.
  1
27 WB Off 71- SB 75 BR269861.289614.269702.289652.   1770.12.1  0. 44.   30.
  1
28 WB Off 71- SB 75 BR269702.289652.269576.289645.   1770.12.1  0. 44.   30.
  1
29 WB Off 71- SB 75 BR269576.289645.269470.289614.   1770.12.1  0. 44.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                  60.0175.0.0000.000220.30480000    1   1
R1 SE Mid              270140.   289517.        5.
R2 SE 164              270124.   289585.        5.
R3 SE 82               270105.   289664.        5.
R4 SE Corner           270088.   289735.        5.
R5 SE 82               270158.   289749.        5.
R6 SE 164              270239.   289766.        5.
R7 SE Mid              270274.   289773.        5.
R8 NE Mid              270256.   289830.        5.
R9 NE 164              270223.   289823.        5.
R10 NE 82              270142.   289806.        5.
R11 NE Corner          270072.   289791.        5.
R12 NE 82              270057.   289862.        5.
R13 NE 164             270040.   289942.        5.
R14 NE Mid             270034.   289968.        5.
R15 NW 164             269944.   290010.        5.
R16 NW 82              269961.   289930.        5.
R17 NW Corner          269976.   289859.        5.
R18 SW Corner          270010.   289716.        5.
R19 SW 82              270028.   289646.        5.
R20 SW 164             270046.   289566.        5.
R21 SW Mid             270055.   289525.        5.
R22 Near CD            269775.   289723.        5.
W 4th & Central No Bld AM                43  1   1
  1
1 NB Cent McF Appr  AG270186.289164.270108.289529.    370.12.6  0. 44.   30.
  1
2 NB Thr  W 4th ApprAG270117.289531.270060.289759.    270.12.6  0. 44.   30.
  2
3 NB Cent NB Queue  AG270067.289730.270089.289644.     0.  24.   2
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      60        33        2.0  270    73.3 1522 1 3
  1
4 NB Cen  W 4th DeprAG270060.289759.270043.289808.    340.12.6  0. 44.   30.
  1
5 NB Cen  W 4th DeptAG270043.289808.269933.290337.    340.12.6  0. 44.   30.
  1
6 NB Lt   W 4th ApprAG270099.289527.270042.289755.    100.12.6  0. 44.   30.
  2
7 NB LefttNB Queue  AG270049.289728.270070.289641.     0.  24.   2
      60        54        2.0  100    73.3 1474 1 3
  1
8 NB Ramp From W 4thAG270042.289755.269974.289811.    290.12.6  0. 44.   30.
  1
9 NB Ramp From W 4thAG269974.289811.269755.290270.    290.12.6  0. 44.   30.
  1
10 SB CentSB Appr   AG269902.290330.270023.289751.    130.12.6  0. 44.   30.
  2
11 SB CentSB Queue  AG27007.289828.269982.289947.      0.  24.   2
      60        40        2.0  130    73.3 1522 1 3
  1
12 SB CentSB Dep    AG270023.289751.270080.289522.    280.12.6  0. 44.   30.
  1
13 SB CentSB Dep    AG270080.289522.270159.289159.    280.12.6  0. 44.   30.
  1
14 WB W 4tTo Plum   AG270636.289880.270490.289851.    410.12.6  0. 44.   30.
  1
15 WB W 4tFr Plum   AG270490.289851.270352.289819.    410.12.6  0. 44.   30.
  1
16 WB W 4tTo Cent   AG270352.289819.270042.289755.    410.12.6  0. 56.   30.
  2
17 WB W 4tWB Queue  AG270089.289764.270191.289786.     0.  36.   3
      60        39        2.0  410    73.3 1487 1 3
  1
18 WB Off 3rd-SB 75 BR270473.289330.270387.289337.    260.12.1  0. 32.   30.
  1
19 WB Off 3rd-SB 75 BR270387.289337.270291.289353.    260.12.1  0. 32.   30.
  1
20 WB Off 3rd-SB 75 BR270291.289353.270209.289396.    260.12.1  0. 32.   30.
  1
21 WB Off 3rd-SB 75 BR270209.289396.269996.289555.    260.12.1  0. 28.   30.
  1
22 WB Off 3rd-SB 75 BR269996.289555.269861.289614.    260.12.1  0. 32.   30.
  1
23 WB Off 71- SB 75 BR270427.289288.270271.289320.   2420.12.1  0. 44.   30.
  1
24 WB Off 71- SB 75 BR270271.289320.270153.289385.   2420.12.1  0. 44.   30.
  1
25 WB Off 71- SB 75 BR270153.289385.269986.289528.   2420.12.1  0. 44.   30.
  1
26 WB Off 71- SB 75 BR269986.289528.269861.289614.   2420.12.1  0. 44.   30.
  1
27 WB Off 71- SB 75 BR269861.289614.269702.289652.   2680.12.1  0. 44.   30.
  1
28 WB Off 71- SB 75 BR269702.289652.269576.289645.   2680.12.1  0. 44.   30.
  1
29 WB Off 71- SB 75 BR269576.289645.269470.289614.   2680.12.1  0. 44.   30.
  1
30 WB Off WB 71- 6thBR270360.289236.270239.289258.   2850.12.1  0. 44.   30.
  1
31 WB Off WB 71- 6thBR270239.289258.270109.289317.   2850.12.1  0. 44.   30.
  1
32 WB Off WB 71- 6thBR270109.289317.270024.289390.   2850.12.1  0. 44.   30.
  1
33 WB Off WB 71- 6thBR270024.289390.269967.289470.   2850.12.1  0. 44.   30.
  1
34 WB Off WB 71- 6thBR269967.289470.269923.289566.   2850.12.1  0. 44.   30.
  1
35 WB Off WB 71- 6thBR269923.289566.269895.289698.   2850.12.1  0. 44.   30.
  1
36 WB Off WB 71- 75 AG269895.289698.269888.289755.   1910.12.1  0. 32.   30.
  1
37 WB Off WB 71- 75 AG269888.289755.269844.289970.   1910.12.1  0. 32.   30.
  1
38 WB Off WB 71- 75 AG269844.289970.269818.290061.   1910.12.1  0. 32.   30.
  1
39 WB Off WB 71- 75 AG269818.290061.269729.290257.   1910.12.1  0. 32.   30.
  1
40 WB Off WB 71-6th AG269895.289698.269874.289754.    940.12.1  0. 32.   30.
  1
41 WB Off WB 71-6th AG269874.289754.269831.289896.    940.12.1  0. 32.   30.
  1
42 WB Off WB 71-6th AG269831.289896.269791.289993.    940.12.1  0. 32.   30.
  1
43 WB Off WB 71-6th AG269791.289993.269680.290221.    940.12.1  0. 32.   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge                  60.0175.0.0000.000220.30480000    1   1
R1 SE Mid              270140.   289517.        5.
R2 SE 164              270124.   289585.        5.
R3 SE 82               270105.   289664.        5.
R4 SE Corner           270088.   289735.        5.
R5 SE 82               270158.   289749.        5.
R6 SE 164              270239.   289766.        5.
R7 SE Mid              270274.   289773.        5.
R8 NE Mid              270256.   289830.        5.
R9 NE 164              270223.   289823.        5.
R10 NE 82              270142.   289806.        5.
R11 NE Corner          270072.   289791.        5.
R12 NE 82              270057.   289862.        5.
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R13 NE 164          270040.   289942.       5.
R14 NE Mid          270034.   289968.       5.
R15 NW 164           269944.   290010.       5.
R16 NW 82           269961.   289930.       5.
R17 NW Corner         269976.   289859.       5.
R18 SW Corner         270010.   289716.       5.
R19 SW 82           270028.   289646.       5.
R20 SW 164           270046.   289566.       5.
R21 SW Mid           270055.   289525.       5.
R22 Near CD          269775.   289723.       5.
W 4th & Central No Bld PM              43  1   1
  1
1 NB Cent McF Appr  AG270186.289164.270108.289529.   1350.12.6  0. 44.   30.
  1
2 NB Thr  W 4th ApprAG270117.289531.270060.289759.    500.12.6  0. 44.   30.
  2
3 NB Cent NB Queue  AG270067.289730.270089.289644.     0.  24.   2
     105        51        2.0  500    73.3 1522 1 3
  1
4 NB Cen  W 4th DeprAG270060.289759.270043.289808.    650.12.6  0. 44.   30.
  1
5 NB Cen  W 4th DeptAG270043.289808.269933.290337.    650.12.6  0. 44.   30.
  1
6 NB Lt   W 4th ApprAG270099.289527.270042.289755.    850.12.6  0. 44.   30.
  2
7 NB LefttNB Queue  AG270049.289728.270070.289641.     0.  24.   2
     105        67        2.0  850    73.3 1474 1 3
  1
8 NB Ramp From W 4thAG270042.289755.269974.289811.   1600.12.6  0. 44.   30.
  1
9 NB Ramp From W 4thAG269974.289811.269755.290270.   1600.12.6  0. 44.   30.
  1
10 SB CentSB Appr   AG269902.290330.270023.289751.    160.12.6  0. 44.   30.
  2
11 SB CentSB Queue  AG27007.289828.269982.289947.      0.  24.   2
     105        89       2.0  160    73.3 1522 1 3
  1
12 SB CentSB Dep    AG270023.289751.270080.289522.    350.12.6  0. 44.   30.
  1
13 SB CentSB Dep    AG270080.289522.270159.289159.    350.12.6  0. 44.   30.
  1
14 WB W 4tTo Plum   AG270636.289880.270490.289851.   1040.12.6  0. 44.   30.
  1
15 WB W 4tFr Plum   AG270490.289851.270352.289819.   1040.12.6  0. 44.   30.
  1
16 WB W 4tTo Cent   AG270352.289819.270042.289755.   1040.12.6  0. 56.   30.
  2
17 WB W 4tWB Queue  AG270089.289764.270191.289786.     0.  36.   3
     105        66        2.0 1040    73.3 1528 1 3
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18 WB Off 3rd-SB 75 BR270473.289330.270387.289337.   1200.12.1  0. 32.   30.
  1
19 WB Off 3rd-SB 75 BR270387.289337.270291.289353.   1200.12.1  0. 32.   30.
  1
20 WB Off 3rd-SB 75 BR270291.289353.270209.289396.   1200.12.1  0. 32.   30.
  1
21 WB Off 3rd-SB 75 BR270209.289396.269996.289555.   1200.12.1  0. 28.   30.
  1
22 WB Off 3rd-SB 75 BR269996.289555.269861.289614.   1200.12.1  0. 32.   30.
  1
23 WB Off 71- SB 75 BR270427.289288.270271.289320.   3140.12.1  0. 44.   30.
  1
24 WB Off 71- SB 75 BR270271.289320.270153.289385.   3140.12.1  0. 44.   30.
  1
25 WB Off 71- SB 75 BR270153.289385.269986.289528.   3140.12.1  0. 44.   30.
  1
26 WB Off 71- SB 75 BR269986.289528.269861.289614.   3140.12.1  0. 44.   30.
  1
27 WB Off 71- SB 75 BR269861.289614.269702.289652.   4340.12.1  0. 44.   30.
  1
28 WB Off 71- SB 75 BR269702.289652.269576.289645.   4340.12.1  0. 44.   30.
  1
29 WB Off 71- SB 75 BR269576.289645.269470.289614.   4340.12.1  0. 44.   30.
  1
30 WB Off WB 71- 6thBR270360.289236.270239.289258.   3050.12.1  0. 44.   30.
  1
31 WB Off WB 71- 6thBR270239.289258.270109.289317.   3050.12.1  0. 44.   30.
  1
32 WB Off WB 71- 6thBR270109.289317.270024.289390.   3050.12.1  0. 44.   30.
  1
33 WB Off WB 71- 6thBR270024.289390.269967.289470.   3050.12.1  0. 44.   30.
  1
34 WB Off WB 71- 6thBR269967.289470.269923.289566.   3050.12.1  0. 44.   30.
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35 WB Off WB 71- 6thBR269923.289566.269895.289698.   3050.12.1  0. 44.   30.
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36 WB Off WB 71- 75 AG269895.289698.269888.289755.   1600.12.1  0. 32.   30.
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37 WB Off WB 71- 75 AG269888.289755.269844.289970.   1600.12.1  0. 32.   30.
  1
38 WB Off WB 71- 75 AG269844.289970.269818.290061.   1600.12.1  0. 32.   30.
  1
39 WB Off WB 71- 75 AG269818.290061.269729.290257.   1600.12.1  0. 32.   30.
  1
40 WB Off WB 71-6th AG269895.289698.269874.289754.   1450.12.1  0. 32.   30.
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41 WB Off WB 71-6th AG269874.289754.269831.289896.   1450.12.1  0. 32.   30.
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42 WB Off WB 71-6th AG269831.289896.269791.289993.   1450.12.1  0. 32.   30.
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43 WB Off WB 71-6th AG269791.289993.269680.290221.   1450.12.1  0. 32.   30.
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SE 164 S              266017.   298537.       5.0
SE 82 S               265980.   298608.       5.0
SE CNR                265952.   298689.       5.0
SE 82 E               266009.   298754.       5.0
SE 164 E              266067.   298814.       5.0
SE MID E              266130.   298970.       5.0
SE 164 S              266081.   299220.       5.0
SE 82 S               266044.   299294.       5.0
SE CNR                266014.   299370.       5.0
SE 82 E               266072.   299443.       5.0
SE 164 E              266129.   299503.       5.0
SE MID E              266236.   299603.       5.0
NE MID E              266197.   299656.       5.0
NE 164 E              266064.   299530.       5.0
NE 82 E               266006.   299471.       5.0
NE CNR                265950.   299412.       5.0
NE CNR                265869.   299339.       5.0
NE 82 N               265872.   299412.       5.0
NE 164 N              265876.   299494.       5.0
NE MID N              265881.   299614.       5.0
Central & McMillan Alt E AM            66  1   0
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EB        McM       BR265320.298926.265465.298936.    239012.1  15  56   30.
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EB        McM       BR265632.298995.265738.299076.    239012.1  15  56   30.
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EB        McM TH    BR265738.299076.265818.299184.     93012.1  15  44   30.
  1
EB        McM TH    BR265818.299184.265950.299333.     93012.1  15  44   30.
  2
EB        McM TH    BR265928.299309.265822.299188.     15   24   2
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EB        McM RT    BR265738.299076.265889.299231.    146012.1  15  44   30.
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EB        McM dep   AG265950.299333.266013.299414.    108012.1   0  44   30.
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  1
EB        McM dep   AG266265.299652.266419.299706.    108012.1   0  44   30.
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WB        McM aprch AG266393.299727.266254.299670.     30012.1   0  44   30.
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WB        McM departBR265793.299222.265665.299086.     50012.1  15  56   30.
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WB        McM departBR265665.299086.265558.299020.     50012.1  15  56   30.
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WB        McM departBR265558.299020.265431.298984.     50012.1  15  56   30.
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WB        McM departBR265431.298984.265282.298980.     50012.1  15  56   30.
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WB        McM departBR265282.298980.264828.299042.     50012.1  15  56   30.
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WB        Conn ap   AG266061.299150.266083.299066.    146012.1   0  56   30.
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WB        Conn ap   AG266083.299066.266082.298968.    146012.1   0  56   30.
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WB        Conn ap   AG266082.298968.266046.298872.    146012.1   0  56   30.
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WB        Conn ap   AG266046.298872.265993.298803.    146012.1   0  56   30.
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WB        Conn ap   AG265993.298803.265875.298712.    146012.1   0  56   30.
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NB        Cen ap    AG265990.298522.265910.298684.     53012.1   0  68   30.
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SB       Cen ap    AG265832.299574.265822.299461.    64012.1   0  44   30.
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SB       Cen ap    AG265822.299461.265786.299087.    64012.1   0  44   30.
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SB       Cen ap    AG265786.299087.265808.298897.    64012.1   0  44   30.
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SB       Cen ap    AG265808.298897.265855.298729.    64012.1   0  56   30.
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Central & McMillan Alt E PM            60.0321.0.0000.000210.30480000    1    1
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SE 164 E              266067.   298814.       5.0
SE MID E              266130.   298970.       5.0
SE 164 S              266081.   299220.       5.0
SE 82 S               266044.   299294.       5.0
SE CNR                266014.   299370.       5.0
SE 82 E               266072.   299443.       5.0
SE 164 E              266129.   299503.       5.0
SE MID E              266236.   299603.       5.0
NE MID E              266197.   299656.       5.0
NE 164 E              266064.   299530.       5.0
NE 82 E               266006.   299471.       5.0
NE CNR                265950.   299412.       5.0
NE CNR                265869.   299339.       5.0
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Central & McMillan Alt E PM             66  1   0
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Central & McMillan Alt I  AM          60.0321.0.0000.000140.30480000    1    1
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SE 82 E               265934.   298958.       5.0
SE 164 E              265949.   299039.       5.0
SE MID E              265999.   299214.       5.0
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NE 164 E              265908.   299163.       5.0
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WB        north loopAG265590.298989.265525.298971.     29312.1   0  32   30.
  1
WB        north loopAG265525.298971.265373.298968.     29312.1   0  32   30.
  1
NB        I-75      AG265311.298053.265356.298545.    489212.9   0  68   30.
  1
NB        I-75      AG265356.298545.265415.298994.    489212.9   0  68   30.
  1
NB        I-75      AG265415.298994.265521.299559.    489212.9   0  68   30.
  1
NB        I-75      AG265521.299559.265592.299877.    489212.9   0  68   30.
  1
SB        I-75      AG265415.299817.265341.299495.    767412.9   0  68   30.
  1
SB        I-75      AG265341.299495.265297.299275.    767412.9   0  68   30.
  1
SB        I-75      AG265297.299275.265264.299008.    767412.9   0  68   30.
  1
SB        I-75      AG265264.299008.265250.298765.    767412.9   0  68   30.
  1
SB        I-75      AG265250.298765.265228.298107.    767412.9   0  68   30.
1.0   04 1000.   0Y  5  0 72
Central & McMillan No Bld PM           60.0321.0.0000.000140.30480000    1    1
SE MID S              265957.   298638.       5.0
SE 164 S              265938.   298713.       5.0
SE 82 S               265912.   298793.       5.0
SE CNR                265918.   298875.       5.0
SE 82 E               265934.   298958.       5.0
SE 164 E              265949.   299039.       5.0
SE MID E              265999.   299214.       5.0
NE MID E              265976.   299319.       5.0
NE 164 E              265908.   299163.       5.0
NE 82 E               265886.   299084.       5.0
NE CNR                265865.   298999.       5.0
NE 82 N               265859.   299083.       5.0
NE 164 N              265860.   299164.       5.0
NE MID N              265871.   299350.       5.0
Central & McMillan No Bld PM            89  1   0
  1
NB        Cen aprch AG266300.298030.265981.298520.    160012.1   0  56   30.
  1
NB        Cen aprch AG265981.298520.265930.298621.    160012.1   0  56   30.
  1
NB        Cen th+rt AG265930.298621.265887.298770.     99012.1   0  44   30.
  1
NB        Cen thru  AG265887.298770.265848.298926.     97012.1   0  44   30.
  2
NB        Cen thru  AG265860.298880.265887.298772.     0.   24   2
    120        56        2.0  970   73.3 1691 1 3
  1
NB        Cen right AG265896.298777.265889.298867.      2012.1   0  32   30.
  2
NB        Cen right AG265890.298859.265896.298777.     0.   12   1
    120        56        2.0   20   73.3 1509 1 3
  1
NB        Cen right AG265889.298867.265913.298986.      2012.1   0  32   30.
  1
NB        Cen left  AG265930.298621.265871.298749.     61012.1   0  44   30.
  1
NB        Cen left  AG265871.298749.265834.298915.     61012.1   0  44   30.
  2
NB        Cen left  AG265843.298876.265868.298761.     0.   24   2
    120        90        2.0  610   73.3 1638 1 3
  1
NB        Cen departAG265848.298926.265835.299123.    115012.1   0  56   30.
  1
NB        Cen departAG265835.299123.265854.299553.    115012.1   0  56   30.
  1
NB        Cen departAG265854.299553.265853.299734.    115012.1   0  56   30.
  1
NB        Cen departAG265853.299734.265840.299908.    115012.1   0  56   30.
  1
SB        Cen aprch AG265814.299905.265829.299697.     82012.1   0  44   30.
  1
SB        Cen aprch AG265829.299697.265831.299539.     82012.1   0  44   30.
  1
SB        Cen aprch AG265831.299539.265800.299112.     82012.1   0  44   30.
  1
SB        Cen aprch AG265800.299112.265807.298918.     82012.1   0  56   30.
  2
SB        Cen aprch AG265805.298976.265800.299111.     0.   36   3
    120        87        2.0  820   73.3 1630 1 3
  1
SB        Cen departAG265807.298918.265870.298694.     91012.1   0  44   30.
  1
SB        Cen departAG265870.298694.265929.298554.     91012.1   0  44   30.
  1
SB        Cen departAG265929.298554.266278.298019.     91012.1   0  44   30.
  1
EB        McM aprch BR264648.299034.265403.298932.     66012.1  15  44   30.
  1
EB        McM thru+lBR265403.298932.265612.298913.     43012.1  15  44   30.
  1
EB        McM thru+lAG265612.298913.265821.298881.     43012.1   0  44   30.
```

```
 2
EB       McM thr+ltAG265773.298888.265617.298912.     0.   24   2
     120        76        2.0  430    73.3 1732 1 3
 1
EB       McM right AG265403.298932.265757.298877.     23012.1   0  32    30.
 2
EB       McM right AG265751.298878.265603.298901.     0.   12   1
     120        76        2.0  230    73.3 1687 1 3
 1
EB       McM right AG265757.298877.265798.298862.     23012.1   0  32    30.
 1
EB       McM right AG265798.298862.265827.298834.     23012.1   0  32    30.
 1
EB       McM departAG265821.298884.265876.298929.     27012.1   0  44    30.
 1
EB       McM departAG265876.298929.265913.298986.     27012.1   0  44    30.
 1
EB       McM departAG265912.298988.265938.299116.     29012.1   0  44    30.
 1
EB       McM departAG265938.299116.265975.299226.     29012.1   0  44    30.
 1
EB       McM departAG265975.299226.266163.299539.     29012.1   0  44    30.
 1
EB       McM departAG266163.299539.266220.299610.     29012.1   0  44    30.
 1
EB       McM departAG266220.299610.266293.299664.     29012.1   0  44    30.
 1
EB       McM departAG266293.299664.266414.299711.     29012.1   0  44    30.
 1
WB        McM aprch AG266380.299736.266244.299666.     61012.1   0  44    30.
 1
WB        McM aprch AG266244.299666.266173.299596.     61012.1   0  44    30.
 1
WB        McM aprch AG266173.299596.265969.299259.     61012.1   0  44    30.
 1
WB        McM aprch AG265969.299259.265933.299173.     61012.1   0  44    30.
 1
WB        McM aprch AG265933.299173.265909.299091.     61012.1   0  44    30.
 1
WB        McM aprch AG265909.299091.265892.299010.     61012.1   0  44    30.
 1
WB        McM aprch AG265892.299010.265856.298942.     61012.1   0  44    30.
 2
WB        McM aprch AG265892.299011.265868.298965.     0.   24   2
     120        87        2.0  610    73.3 1682 1 3
 1
WB        McM departAG265856.298942.265752.298914.    134012.1   0  44    30.
 1
WB        McM departBR265752.298914.264661.299060.    134012.1  15  44    30.
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EB       south loopAG265447.298923.265645.298862.     37012.1   0  32    30.
 1
EB       south loopAG265645.298862.265771.298755.     37012.1   0  32    30.
 1
EB       south loopAG265771.298755.265821.298673.     37012.1   0  32    30.
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EB       south loopAG265821.298673.265843.298597.     37012.1   0  32    30.
 1
EB       south loopAG265843.298597.265839.298518.     37012.1   0  32    30.
 1
EB       south loopAG265839.298518.265812.298456.     37012.1   0  32    30.
 1
EB       south loopAG265812.298456.265766.298407.     37012.1   0  32    30.
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EB       south loopAG265766.298407.265713.298377.     37012.1   0  32    30.
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EB       south loopAG265713.298377.265652.298363.     37012.1   0  32    30.
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EB       south loopAG265652.298363.265590.298367.     37012.1   0  32    30.
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EB       south loopAG265590.298367.265531.298389.     37012.1   0  32    30.
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EB       south loopAG265531.298389.265477.298437.     37012.1   0  32    30.
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EB       south loopAG265477.298437.265443.298496.     37012.1   0  32    30.
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EB       south loopAG265443.298496.265425.298562.     37012.1   0  32    30.
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EB       south loopAG265425.298562.265430.298755.     37012.1   0  32    30.
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WB        north loopAG265332.298608.265338.299177.     49312.1   0  32    30.
 1
WB        north loopAG265338.299177.265353.299266.     49312.1   0  32    30.
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WB        north loopAG265353.299266.265381.299332.     49312.1   0  32    30.
 1
WB        north loopAG265381.299332.265459.299404.     49312.1   0  32    30.
 1
WB        north loopAG265459.299404.265525.299426.     49312.1   0  32    30.
 1
WB        north loopAG265525.299426.265605.299422.     49312.1   0  32    30.
 1
WB        north loopAG265605.299422.265670.299394.     49312.1   0  32    30.
 1
WB        north loopAG265670.299394.265724.299345.     49312.1   0  32    30.
 1
WB        north loopAG265724.299345.265757.299282.     49312.1   0  32    30.
 1
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WB       north loopAG265757.299282.265766.299216.     49312.1   0  32   30.
 1
WB       north loopAG265766.299216.265750.299137.     49312.1   0  32   30.
 1
WB       north loopAG265750.299137.265713.299078.     49312.1   0  32   30.
 1
WB       north loopAG265713.299078.265656.299025.     49312.1   0  32   30.
 1
WB       north loopAG265656.299025.265590.298989.     49312.1   0  32   30.
 1
WB       north loopAG265590.298989.265525.298971.     49312.1   0  32   30.
 1
WB       north loopAG265525.298971.265373.298968.     49312.1   0  32   30.
 1
NB       I-75      AG265311.298053.265356.298545.    789312.9   0  68   30.
 1
NB       I-75      AG265356.298545.265415.298994.    789312.9   0  68   30.
 1
NB       I-75      AG265415.298994.265521.299559.    789312.9   0  68   30.
 1
NB       I-75      AG265521.299559.265592.299877.    789312.9   0  68   30.
 1
SB       I-75      AG265415.299817.265341.299495.    603012.9   0  68   30.
 1
SB       I-75      AG265341.299495.265297.299275.    603012.9   0  68   30.
 1
SB       I-75      AG265297.299275.265264.299008.    603012.9   0  68   30.
 1
SB       I-75      AG265264.299008.265250.298765.    603012.9   0  68   30.
 1
SB       I-75      AG265250.298765.265228.298107.    603012.9   0  68   30.
1.0   04 1000.   0Y  5  0 72
Brent Spence Bridge T1altIpm.dat        60.0175.0.0000.000240.30480000    1    1
R1 SB Mid              264384.   276323.        5.
R2 SB 164              264321.   276211.        5.
R3 SB 82               264290.   276136.        5.
R4 SB Corner           264262.   276069.        5.
R5 SB Corner           264230.   275990.        5.
R6 SB 82               264193.   275900.        5.
R7 SB 164              264151.   275798.        5.
R8 SB Mid              264103.   275678.        5.
R9 NB Mid              264155.   275655.        5.
R10 NB 164             264184.   275729.        5.
R11 NB 82              264215.   275805.        5.
R12 NB Corner          264242.   275872.        5.
R13 EB Corner          264272.   275903.        5.
R14 EB 82              264340.   275765.        5.
R15 EB 164             264378.   275678.        5.
R16 EB Mid             264408.   275600.        5.
R17 WB Mid             264455.   275722.        5.
R18 WB 164             264399.   275833.        5.
R19 WB 82              264362.   275906.        5.
R20 WB Corner          264330.   275971.        5.
R21 NB Corner          264319.   276046.        5.
R22 NB 82              264343.   276114.        5.
R23 NB 164             264376.   276189.        5.
R24 NB Mid             264447.   276280.        5.
Kyles Lane & Dixie Hwy-Trunc            37  1   1
 1
01 Dixie  NB Appr   AG264099.275553.264162.275726.    760.11.5  0. 44.   30.
 1
02 Dixie  NB Appr   AG264162.275726.264197.275813.    760.11.5  0. 44.   30.
 1
03 Dixie  NB Appr   AG264197.275813.264240.275916.    760.11.5  0. 44.   30.
 2
04 Dixie  NB Queue  AG264228.275888.264205.275831.     0.  24.   2
     100        75        2.0  760   73.3 1511 1 3
 1
05 Dixie  NB @ KylesAG264240.275916.264280.276013.    540.11.5  0. 44.   30.
 1
06 Dixie  NB Depart AG264280.276013.264303.276071.    465.11.5  0. 44.   30.
 1
07 Dixie  NB Depart AG264303.276071.264360.276209.   1295.11.5  0. 44.   30.
 1
08 Dixie  NB Depart AG264360.276209.264406.276278.   1295.11.5  0. 44.   30.
 1
09 Dixie  NB Depart AG264406.276278.264446.276325.   1295.11.5  0. 44.   30.
 1
10 Dixie  NB Depart AG264446.276325.264529.276400.   1295.11.5  0. 44.   30.
 1
11 Dixie  SB Appr   AG264499.276415.264439.276361.   1600.11.5  0. 44.   30.
 1
12 Dixie  SB Appr   AG264439.276361.264381.276288.   1600.11.5  0. 44.   30.
 1
13 Dixie  SB Appr   AG264381.276288.264351.276234.   1600.11.5  0. 44.   30.
 1
14 Dixie  SB Appr   AG264351.276234.264252.275994.   1600.11.5  0. 44.   30.
 1
15 Dixie  SB QTRUNC AG264276.276054.264351.276234.    197.100.  0. 24.   30.
 1
16 Dixie  SB QTRUNC AG264351.276234.264365.276261.    197.100.  0. 24.   30.
 1
17 Dixie  SB @ KylesAG264252.275994.264236.275956.    965.11.5  0. 40.   30.
 1
18 Dixie  SB Depart AG264236.275956.264179.275824.   1345.11.5  0. 44.   30.
 1
19 Dixie  SB Depart AG264179.275824.264143.275732.   1345.11.5  0. 44.   30.
 1
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20 Dixie  SB Depart AG264143.275732.264083.275564.   1345.11.5  0. 44.   30.
  1
21 Dixie  NB Rt.    AG264240.275916.264284.275929.    310.11.5  0. 32.   30.
  1
22 Kyles  EB @ DixieAG264252.275994.264284.275929.    650.11.5  0. 32.   30.
  1
23 Kyles  EB Depart AG264284.275929.264483.275522.    960.11.5  0. 44.   30.
  1
24 Kyles  WB Appr   AG264516.275540.264468.275639.   1240.11.5  0. 56.   30.
  1
25 Kyles  WB Appr   AG264468.275639.264359.275852.   1240.11.5  0. 56.   30.
  1
26 Kyles  WB  Rt.   AG264359.275852.264347.275900.    830.11.5  0. 32.   30.
  1
27 Kyles  WB Rt.    AG264347.275900.264300.276003.    830.11.5  0. 32.   30.
  2
28 Kyles  WB  Rt. QuAG264313.275975.264339.275917.      0. 12.   1
     100        59        2.0  830   73.3 1599 1 3
  1
29 Kyles  WB Rt. @ DAG264300.276003.264303.276071.    830.11.5  0. 32.   30.
  1
30 Kyles  WB Appr   AG264359.275852.264296.275980.     30.11.5  0. 32.   30.
  2
31        WB Kyles LAG264307.275957.264338.275894.      0. 12.   1
     100        59        2.0   30   73.3 1881 1 3
  1
32 Kyles  WB @ DixieAG264296.275980.264280.276013.     15.11.5  0. 32.   30.
  1
33 Kyles  WB Lt.    AG264296.275980.264252.275994.     15.11.5  0. 32.   30.
  1
34 Kyles  WB Lt.    AG264359.275852.264325.275892.    380.11.5  0. 32.   30.
  1
35 Kyles  WB Lt.    AG264325.275892.264287.275965.    380.11.5  0. 32.   30.
  2
36 Kyles  WB Lt. QueAG264295.275951.264321.275898.      0. 12.   1
     100        59        2.0  380   73.3 1357 1 3
  1
37 Kyles  WB Lt. @ DAG264287.275965.264236.275956.    380.11.5  0. 32.   30.
1.0   04 1000.   0Y  5  0 72
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1                 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000            PAGE  1

     JOB: Brent Spence Bridge NB-AM S1altEam.dat            RUN: Kyles Lane & Dixie Hwy
     DATE: 08/30/2010   TIME: 11:48:09.42


      SITE & METEOROLOGICAL VARIABLES
      -------------------------------
      VS =    .0 CM/S      VD =    .0 CM/S      Z0 = 175. CM
       U =  1.0 M/S        CLAS =   4  (D)    ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

      LINK VARIABLES
      --------------
        LINK DESCRIPTION    *        LINK COORDINATES (FT)         *   LENGTH  BRG TYPE  VPH    EF      H   W    V/C QUEUE
                          *   X1       Y1       X2       Y2    *    (FT)  (DEG)            (G/MI)  (FT) (FT)          (VEH)
     ------------------------*----------------------------------------*--------------------------------------------------------
      1. 01 Dixie  NB Appr   * 264099.0  275553.0  264162.0  275726.0 *     184.    20. AG   1520.  11.5     .0 44.0
      2. 02 Dixie  NB Appr   * 264162.0  275726.0  264197.0  275813.0 *      94.    22. AG   1520.  11.5    .0 44.0
      3. 03 Dixie  NB Appr   * 264197.0  275813.0  264240.0  275916.0 *     112.    23. AG   1520.  11.5    .0 44.0
      4. 03 Dixie  NB Queue  * 264228.0  275888.0  263366.3  273751.5 *    2304.   202. AG    240. 100.0     .0 24.0 1.35 117.0
      5. 04 Dixie  NB @ Kyles* 264240.0  275916.0  264280.0  276013.0 *     105.    22. AG   1240.  11.5    .0 44.0
      6. 05 Dixie  NB Depart * 264280.0  276013.0  264303.0  276071.0 *      62.    22. AG   1245.  11.5    .0 44.0
      7. 06 Dixie  NB Depart * 264303.0  276071.0  264360.0  276209.0 *     149.    22. AG   1955.  11.5    .0 44.0
      8. 07 Dixie  NB Depart * 264360.0  276209.0  264406.0  276278.0 *      83.    34. AG   1955.  11.5    .0 44.0
      9. 08 Dixie  NB Depart * 264406.0  276278.0  264446.0  276325.0 *      62.    40. AG   1955.  11.5    .0 44.0
     10. 09 Dixie  NB Depart * 264446.0  276325.0  264529.0  276400.0 *     112.    48. AG   1955.  11.5    .0 44.0
     11. 10 Dixie  SB Appr   * 264499.0  276415.0  264439.0  276361.0 *      81.   228. AG   1020.  11.5    .0 44.0
     12. 11 Dixie  SB Appr   * 264439.0  276361.0  264381.0  276288.0 *      93.   218. AG   1020.  11.5    .0 44.0
     13. 12 Dixie  SB Appr   * 264381.0  276288.0  264351.0  276234.0 *      62.   209. AG   1020.  11.5    .0 44.0
     14. 13 Dixie  SB Appr   * 264351.0  276234.0  264252.0  275994.0 *     260.   202. AG   1020.  11.5    .0 44.0
     15. 14 Dixie  SB Queue  * 264276.0  276054.0  264319.2  276156.8 *     112.    23. AG    175. 100.0     .0 24.0  .55   5.7
     16. 14 Dixie  SB @ Kyles* 264252.0  275994.0  264236.0  275956.0 *      41.   203. AG    505.  11.5    .0 40.0
     17. 15 Dixie  SB Depart * 264236.0  275956.0  264179.0  275824.0 *     144.   203. AG    665.  11.5    .0 44.0
     18. 16 Dixie  SB Depart * 264179.0  275824.0  264143.0  275732.0 *      99.   201. AG    665.  11.5    .0 44.0
     19. 17 Dixie  SB Depart * 264143.0  275732.0  264083.0  275564.0 *     178.   200. AG    665.  11.5    .0 44.0
     20. 18 Dixie  NB Rt.    * 264240.0  275916.0  264284.0  275929.0 *      46.    74. AG    280.  11.5    .0 32.0
     21. 19 Kyles  EB @ Dixie* 264252.0  275994.0  264284.0  275929.0 *      72.   154. AG    520.  11.5    .0 32.0
     22. 20 Kyles  EB Depart * 264284.0  275929.0  264483.0  275522.0 *     453.   154. AG    800.  11.5    .0 44.0
     23. 21 Kyles  WB Appr   * 264516.0  275540.0  264468.0  275639.0 *     110.   334. AG    880.  11.5    .0 56.0
     24. 22 Kyles  WB Appr   * 264468.0  275639.0  264359.0  275852.0 *     239.   333. AG    880.  11.5    .0 56.0
     25. 23 Kyles  WB  Rt.   * 264359.0  275852.0  264347.0  275900.0 *      49.   346. AG    710.  11.5    .0 32.0
     26. 24 Kyles  WB Rt.    * 264347.0  275900.0  264300.0  276003.0 *     113.   335. AG    710.  11.5    .0 32.0
     27. 25 Kyles  WB  Rt. Qu* 264313.0  275975.0  265401.9  273547.2 *    2661.   156. AG    129. 100.0     .0 12.0 1.48 135.2
     28. 25 Kyles  WB Rt. @ D* 264300.0  276003.0  264303.0  276071.0 *      68.     3. AG    710.  11.5    .0 32.0
     29. 26 Kyles  WB Appr   * 264359.0  275852.0  264296.0  275980.0 *     143.   334. AG     10.  11.5    .0 32.0
     30. 28        WB Kyles L* 264307.0  275957.0  264308.4  275954.1 *       3.   154. AG    129. 100.0    .0 12.0  .02    .2
     31. 27 Kyles  WB @ Dixie* 264296.0  275980.0  264280.0  276013.0 *      37.   334. AG      5.  11.5    .0 32.0
     32. 28 Kyles  WB Lt.    * 264296.0  275980.0  264252.0  275994.0 *      46.   288. AG      5.  11.5    .0 32.0
     33. 29 Kyles  WB Lt.    * 264359.0  275852.0  264325.0  275892.0 *      53.   320. AG    160.  11.5    .0 32.0
     34. 30 Kyles  WB Lt.    * 264325.0  275892.0  264287.0  275965.0 *      82.   333. AG    160.  11.5    .0 32.0
     35. 33 Kyles  WB Lt. Que* 264295.0  275951.0  264317.7  275904.7 *      52.   154. AG    129. 100.0     .0 12.0  .40   2.6
     36. 31 Kyles  WB Lt. @ D* 264287.0  275965.0  264236.0  275956.0 *      52.   260. AG    140.  11.5    .0 32.0
1
                                                                      PAGE  2
     JOB: Brent Spence Bridge NB-AM S1altEam.dat            RUN: Kyles Lane & Dixie Hwy
     DATE: 08/30/2010   TIME: 11:48:09.42

      ADDITIONAL QUEUE LINK PARAMETERS
      --------------------------------
        LINK DESCRIPTION    *   CYCLE    RED    CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                          *   LENGTH   TIME    LOST TIME    VOL      FLOW RATE   EM FAC   TYPE     RATE
                          *   (SEC)   (SEC)    (SEC)      (VPH)      (VPH)    (gm/hr)
     ------------------------*--------------------------------------------------------------------------
      4. 03 Dixie  NB Queue  *     90      55       2.0      1520       1641      73.30      1        3
     15. 14 Dixie  SB Queue  *     90      40       2.0      1020       1829      73.30      1        3
     27. 25 Kyles  WB  Rt. Qu*     90      59       2.0       710       1599      73.30      1        3
     30. 28        WB Kyles L*     90      59       2.0        10       1881      73.30      1        3
     35. 33 Kyles  WB Lt. Que*     90      59       2.0       160       1343      73.30      1        3

      RECEPTOR LOCATIONS
      ------------------
                          *         COORDINATES (FT)         *
        RECEPTOR          *      X          Y          Z     *
     ------------------------*-----------------------------------*
      1. R1 SB Mid           *   264384.0   276323.0       5.0   *
      2. R2 SB 164           *   264321.0   276211.0       5.0   *
      3. R3 SB 82            *   264290.0   276136.0       5.0   *
      4. R4 SB Corner        *   264262.0   276069.0       5.0   *
      5. R5 SB Corner        *   264230.0   275990.0       5.0   *
      6. R6 SB 82            *   264193.0   275900.0       5.0   *
      7. R7 SB 164           *   264151.0   275798.0       5.0   *
      8. R8 SB Mid           *   264103.0   275678.0       5.0   *
      9. R9 NB Mid           *   264155.0   275655.0       5.0   *
     10. R10 NB 164          *   264184.0   275729.0       5.0   *
     11. R11 NB 82           *   264215.0   275805.0       5.0   *
     12. R12 NB Corner       *   264242.0   275872.0       5.0   *
     13. R13 EB Corner       *   264272.0   275903.0       5.0   *
     14. R14 EB 82           *   264340.0   275765.0       5.0   *
     15. R15 EB 164          *   264378.0   275678.0       5.0   *
     16. R16 EB Mid          *   264408.0   275600.0       5.0   *
     17. R17 WB Mid          *   264455.0   275722.0       5.0   *
     18. R18 WB 164          *   264399.0   275833.0       5.0   *
     19. R19 WB 82           *   264362.0   275906.0       5.0   *
     20. R20 WB Corner       *   264330.0   275971.0       5.0   *
     21. R21 NB Corner       *   264319.0   276046.0       5.0   *
     22. R22 NB 82           *   264343.0   276114.0       5.0   *
     23. R23 NB 164          *   264376.0   276189.0       5.0   *
     24. R24 NB Mid          *   264447.0   276280.0       5.0   *
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.1	.1	.1	.1	.1	.1	.1	.1	2.3	2.2	2.1	1.4	1.3	1.1	.9	.8	.1	.1	.5	1.0
5. *	.1	.1	.2	.3	.3	.2	.2	.1	2.5	2.3	2.1	1.5	1.4	1.1	.8	.7	.1	.0	.3	.7
10. *	.1	.3	.2	.5	.5	.3	.2	.3	2.5	2.3	2.0	1.6	1.5	.9	.8	.7	.0	.0	.2	.6
15. *	.1	.3	.5	.7	.6	.6	.6	.6	2.3	2.1	1.7	1.5	1.6	.9	.8	.7	.0	.0	.0	.5
20. *	.1	.4	.7	1.1	1.0	.7	.9	1.0	2.1	1.8	1.6	1.4	1.4	.8	.7	.7	.0	.0	.0	.3
25. *	.2	.8	1.2	1.4	1.2	.9	1.1	1.3	1.4	1.6	1.2	1.4	1.1	.7	.7	.7	.0	.0	.0	.2
30. *	.3	.9	1.4	1.8	1.3	1.2	1.3	1.6	1.0	1.2	1.2	1.1	1.0	.7	.7	.7	.0	.0	.0	.0
35. *	.4	1.1	1.6	2.0	1.8	1.1	1.3	1.5	.9	.8	.8	.9	.7	.7	.7	.7	.0	.0	.0	.0
40. *	.5	1.2	1.9	2.2	1.6	1.3	1.6	1.6	.6	.6	.6	.7	.6	.7	.7	.7	.0	.0	.0	.0
45. *	.7	1.5	1.9	2.1	1.4	1.1	1.4	1.7	.5	.5	.5	.7	.7	.7	.7	.7	.0	.0	.0	.0
50. *	.8	1.4	1.9	2.0	1.4	1.1	1.7	1.8	.3	.3	.3	.5	.7	.7	.7	.6	.0	.0	.0	.0
55. *	.9	1.5	1.8	1.9	1.2	1.0	1.7	1.7	.4	.3	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
60. *	1.2	1.4	1.7	1.9	1.1	1.1	1.6	1.6	.4	.4	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
65. *	1.1	1.3	1.8	1.8	.9	1.1	1.7	1.7	.4	.4	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
70. *	1.1	1.2	1.7	1.7	1.0	1.2	1.8	1.8	.4	.4	.4	.6	.7	.7	.7	.6	.0	.0	.0	.0
75. *	1.2	1.1	1.5	1.5	1.1	1.2	1.4	1.6	.4	.4	.4	.4	.7	.7	.7	.6	.0	.0	.0	.0
80. *	1.2	1.2	1.5	1.6	1.0	1.1	1.6	1.6	.4	.4	.4	.5	.6	.7	.7	.6	.0	.0	.0	.0
85. *	1.0	1.0	1.5	1.6	.9	1.2	1.6	1.5	.4	.4	.3	.5	.7	.7	.7	.7	.0	.0	.0	.0
90. *	1.0	1.1	1.5	1.6	.7	1.1	1.6	1.5	.2	.3	.3	.4	.8	.7	.7	.7	.0	.0	.0	.0
95. *	1.0	1.0	1.5	1.5	1.0	1.0	1.6	1.4	.2	.3	.3	.5	.8	.7	.7	.7	.0	.0	.0	.0
100. *	.9	1.0	1.5	1.4	1.1	1.1	1.5	1.4	.2	.3	.3	.4	.6	.7	.7	.7	.0	.0	.0	.0
105. *	1.0	1.1	1.5	1.5	1.0	1.3	1.6	1.5	.2	.3	.3	.4	.7	.8	.8	.7	.0	.0	.0	.0
110. *	1.0	1.0	1.6	1.6	1.0	1.4	1.6	1.4	.1	.2	.3	.4	.8	.8	.8	.7	.0	.0	.0	.0
115. *	.9	1.0	1.6	1.5	1.1	1.5	1.6	1.4	.1	.2	.3	.4	.8	.8	.8	.6	.0	.0	.0	.0
120. *	.9	1.0	1.6	1.5	1.3	1.6	1.5	1.3	.1	.2	.3	.4	.8	.8	.8	.6	.0	.1	.0	.1
125. *	.9	1.0	1.5	1.4	1.3	1.6	1.5	1.3	.1	.2	.3	.4	.8	.8	.8	.6	.1	.1	.0	.1
130. *	.9	1.0	1.5	1.4	1.4	1.7	1.5	1.3	.1	.1	.2	.5	.9	1.0	.8	.6	.1	.1	.0	.1
135. *	1.0	1.0	1.6	1.5	1.5	1.6	1.4	1.4	.2	.1	.2	.5	.9	1.0	.7	.4	.1	.1	.2	.2
140. *	.9	1.0	1.6	1.6	1.4	1.6	1.4	1.4	.2	.1	.3	.6	.9	.9	.7	.4	.2	.3	.2	.4
145. *	1.0	1.0	1.7	1.6	1.3	1.5	1.4	1.4	.2	.1	.2	.5	.8	.9	.7	.4	.4	.4	.4	.6
150. *	.9	1.2	1.8	1.7	1.3	1.5	1.5	1.3	.2	.1	.2	.3	.8	.7	.5	.3	.5	.6	.7	.8
155. *	1.2	1.3	2.3	1.8	1.4	1.5	1.6	1.4	.1	.1	.2	.3	.7	.6	.4	.3	.7	1.0	.8	1.1
160. *	1.1	1.4	2.3	2.0	1.3	1.6	1.4	1.4	.1	.0	.1	.2	.4	.4	.3	.1	.9	1.1	1.1	1.3
165. *	1.2	1.6	2.4	1.9	1.1	1.5	1.5	1.4	.1	.0	.1	.1	.3	.3	.2	.1	.9	1.2	1.3	1.5
170. *	1.2	1.7	2.6	1.4	1.2	1.6	1.6	1.5	.2	.1	.1	.1	.2	.1	.1	.0	.9	1.2	1.2	1.4
175. *	1.3	1.7	2.5	1.6	1.1	1.8	1.7	1.5	.2	.2	.2	.2	.1	.1	.0	.0	1.0	1.2	1.1	1.4
180. *	1.5	1.9	2.3	1.4	1.2	1.7	1.7	1.5	.4	.3	.3	.3	.1	.1	.0	.0	1.1	1.0	1.2	1.4
185. *	1.5	2.1	2.2	1.5	1.5	1.8	1.9	1.5	.6	.5	.5	.6	.2	.1	.0	.0	1.0	1.0	1.2	1.2
190. *	1.7	2.0	2.1	1.6	1.5	1.9	1.7	1.3	.9	.9	.8	.9	.2	.0	.0	.0	1.0	1.0	1.0	1.3
195. *	1.6	1.9	1.9	1.4	1.4	1.7	1.6	1.2	1.3	1.4	1.3	1.4	.7	.1	.0	.0	.9	1.1	1.1	1.4
200. *	1.6	1.7	1.7	1.3	1.3	1.4	1.4	1.0	1.7	1.7	1.8	1.9	.9	.1	.1	.0	.9	1.1	1.2	1.5
205. *	1.4	1.3	1.2	1.1	1.1	1.2	1.0	.8	2.0	2.1	2.1	2.3	1.1	.2	.1	.1	.9	1.1	1.3	1.8

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	1.2	.9	.8	.9	.7	.8	.7	.5	2.1	2.5	2.4	2.6	1.6	.3	.2	.1	.9	1.0	1.3	1.9
215. *	.9	.5	.5	.3	.4	.5	.6	.3	2.1	2.5	2.5	2.7	1.7	.3	.2	.2	1.0	1.0	1.3	1.8
220. *	.5	.3	.3	.2	.2	.2	.2	.2	2.3	2.5	2.3	2.5	1.7	.4	.2	.2	1.0	1.2	1.3	1.9
225. *	.4	.2	.1	.1	.0	.1	.1	.1	2.1	2.3	2.3	2.3	1.6	.4	.2	.2	1.0	1.1	1.2	1.8
230. *	.2	.1	.1	.1	.0	.1	.1	.1	2.0	2.2	2.2	2.2	1.4	.4	.2	.2	1.0	1.1	1.4	1.8
235. *	.1	.1	.1	.1	.0	.1	.1	.0	2.0	2.0	2.2	2.2	1.2	.4	.2	.2	1.0	1.1	1.4	1.6
240. *	.1	.1	.1	.1	.0	.1	.1	.0	1.9	2.0	2.0	2.1	1.1	.4	.3	.2	1.0	1.2	1.3	1.5
245. *	.1	.1	.1	.1	.0	.0	.0	.0	1.8	1.9	1.8	1.8	1.1	.4	.3	.2	1.1	1.2	1.4	1.4
250. *	.1	.1	.1	.1	.0	.0	.0	.0	1.8	1.8	1.8	1.8	1.0	.5	.3	.2	1.1	1.2	1.4	1.3
255. *	.0	.1	.1	.0	.0	.0	.0	.0	1.7	1.7	1.7	1.7	.9	.4	.3	.2	1.1	1.1	1.3	1.2
260. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.9	.4	.3	.2	1.0	1.2	1.3	1.1
265. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.7	1.6	1.6	.7	.4	.4	.2	1.0	1.2	1.3	1.0
270. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.6	1.6	.8	.4	.3	.2	1.1	1.2	1.2	1.1
275. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.7	1.6	1.6	.8	.4	.3	.2	1.0	1.1	1.4	1.1
280. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.5	1.5	.7	.5	.4	.2	1.1	1.1	1.2	1.1
285. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.5	1.5	.7	.4	.4	.2	1.1	1.2	1.3	1.0
290. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.7	1.5	.8	.4	.3	.2	1.2	1.2	1.3	.9
295. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.6	1.5	.7	.4	.3	.2	1.1	1.3	1.3	.7
300. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.6	1.4	.8	.4	.3	.3	1.1	1.1	1.3	.9
305. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.5	1.4	.6	.6	.4	.2	1.1	.9	1.3	1.0
310. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.3	1.3	.6	.6	.3	.2	1.1	1.1	1.2	.9
315. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.6	1.2	.6	.4	.3	.3	1.0	1.1	1.1	1.0
320. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.2	.6	.4	.3	.3	.9	1.2	1.0	1.0
325. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.1	.7	.6	.4	.3	.8	.9	1.1	1.0
330. *	.0	.0	.1	.1	.0	.0	.0	.0	1.7	1.7	1.7	1.2	.9	.5	.4	.4	.9	1.1	1.2	1.0
335. *	.0	.0	.1	.1	.0	.0	.0	.0	1.8	1.8	1.8	1.1	1.0	.6	.5	.4	.7	.8	1.0	1.1
340. *	.0	.0	.1	.1	.0	.0	.0	.0	2.0	1.8	1.8	1.1	.9	.6	.7	.5	.5	.6	.8	1.2
345. *	.0	.1	.1	.1	.0	.1	.1	.0	2.1	2.1	1.9	1.1	.9	.9	.8	.5	.5	.6	.8	1.1

350. *	.1	.1	.1	.1	.0	.1	.1	.1	2.2	2.2	1.9	1.2	1.3	1.1	.8	.7	.2	.3	.5	1.0
355. *	.1	.1	.1	.1	.1	.1	.1	.1	2.1	2.2	2.0	1.2	1.3	1.0	1.0	.9	.1	.2	.5	1.0
360. *	.1	.1	.1	.1	.1	.1	.1	.1	2.3	2.2	2.1	1.4	1.3	1.1	.9	.8	.1	.1	.5	1.0
MAX *	1.7	2.1	2.6	2.2	1.8	1.9	1.9	1.8	2.5	2.5	2.5	2.7	1.7	1.1	1.0	.9	1.2	1.3	1.4	1.9
DEGR. *	190	185	170	40	35	190	185	50	5	210	215	215	215	0	355	355	290	295	230	210

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
0. *	1.7	1.5	1.3	.9
5. *	1.6	1.5	1.3	1.0
10. *	1.4	1.6	1.3	.9
15. *	1.3	1.5	1.4	.9
20. *	1.1	1.5	1.4	.9
25. *	1.0	1.2	1.3	.8
30. *	.6	.9	1.2	.8
35. *	.4	.7	.9	.7
40. *	.1	.6	.6	.5
45. *	.1	.3	.4	.3
50. *	.0	.2	.3	.2
55. *	.0	.1	.1	.1
60. *	.0	.1	.0	.1
65. *	.0	.1	.0	.0
70. *	.0	.1	.0	.0
75. *	.0	.1	.0	.0
80. *	.0	.1	.0	.0
85. *	.0	.1	.0	.0
90. *	.0	.0	.0	.0
95. *	.0	.0	.0	.0
100. *	.0	.0	.0	.0
105. *	.0	.0	.0	.0
110. *	.0	.0	.0	.0
115. *	.0	.0	.0	.0
120. *	.0	.0	.0	.0
125. *	.0	.0	.0	.0
130. *	.0	.0	.0	.0
135. *	.0	.0	.0	.0
140. *	.1	.1	.0	.0
145. *	.1	.1	.1	.0
150. *	.3	.2	.1	.0
155. *	.6	.2	.2	.0
160. *	.6	.4	.2	.1
165. *	.7	.5	.2	.1
170. *	.9	.5	.3	.1
175. *	1.0	.6	.4	.1
180. *	.8	.6	.5	.1
185. *	1.1	.6	.5	.2
190. *	1.2	1.1	.6	.3
195. *	1.3	1.4	1.2	.4
200. *	1.7	1.6	1.4	.3
205. *	1.7	1.7	1.7	.6

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WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
210. *	1.9	1.8	1.8	.7
215. *	1.9	1.8	1.9	1.0
220. *	1.5	1.8	1.9	1.0
225. *	1.6	1.8	1.7	1.1
230. *	1.3	1.8	1.7	1.1
235. *	1.1	1.6	1.6	1.3
240. *	1.1	1.7	1.5	1.0
245. *	1.1	1.6	1.4	1.0
250. *	1.2	1.5	1.3	1.1
255. *	1.2	1.5	1.2	1.1
260. *	1.1	1.5	1.2	1.1
265. *	1.2	1.4	1.1	1.1
270. *	1.1	1.4	1.0	1.0
275. *	1.2	1.4	1.0	.9
280. *	1.3	1.4	1.0	.9
285. *	1.3	1.5	1.0	1.0
290. *	1.3	1.5	1.1	.9
295. *	1.4	1.5	1.1	.8
300. *	1.5	1.5	1.1	.9
305. *	1.4	1.4	1.0	.9
310. *	1.5	1.3	1.1	.9

315.	1.5	1.3	1.1	.9
320.	1.4	1.4	1.0	.9
325.	1.6	1.4	1.1	.9
330.	1.6	1.3	1.2	.8
335.	1.6	1.4	1.2	.9
340.	1.7	1.3	1.2	.9
345.	1.6	1.4	1.2	1.1
350.	1.6	1.5	1.4	1.0
355.	1.6	1.5	1.3	1.0
360.	1.7	1.5	1.3	.9
MAX	1.9	1.8	1.9	1.3
DEGR.	210	210	215	235

THE HIGHEST CONCENTRATION IS 2.70 PPM AT 215 DEGREES FROM REC12.
THE 2ND HIGHEST CONCENTRATION IS 2.60 PPM AT 170 DEGREES FROM REC3 .
THE 3RD HIGHEST CONCENTRATION IS 2.50 PPM AT 210 DEGREES FROM REC10.

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	190	185	170	40	35	190	185	50	5	210	215	215	215	0	355	355	290	295	230	210
1	.0	.0	.0	.0	.0	.2	.4	.3	.7	.8	.3	.1	.1	.0	.0	.0	.0	.0	.1	.1
2	.0	.0	.0	.0	.0	.2	.2	.2	.3	.2	.7	.3	.2	.0	.0	.0	.1	.0	.1	.1
3	.0	.0	.0	.0	.0	.2	.0	.1	.1	.0	.0	.7	.4	.0	.0	.0	.1	.1	.1	.1
4	.1	.1	.0	.0	.0	.8	.8	.6	1.1	1.3	1.3	1.3	.8	.0	.0	.0	.1	.1	.3	.5
5	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
6	.0	.1	.2	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.3	.6	.4	.6	.3	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0
8	.4	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.2	.7	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
15	.1	.3	.7	.7	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	.0	.0	.0	.0	.0	.3	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0
18	.0	.0	.0	.0	.0	.1	.3	.1	.1	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.1	.2	.3	.1	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	.0	.1	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.4	.4	.4	.2	.2	.2	.2
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.4	.2	.0	.0
25	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.2	.0
26	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.3
27	.1	.1	.2	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.2	.2	.2	.3	.4	.3	.4
28	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
35	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
36	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC21	REC22	REC23	REC24
LINK #	210	210	215	235
1	.1	.0	.0	.0
2	.1	.0	.0	.0
3	.1	.1	.0	.0
4	.4	.3	.2	.0
5	.3	.1	.1	.0
6	.3	.2	.1	.0
7	.0	.6	1.0	.2
8	.0	.0	.0	.5
9	.0	.0	.0	.2
10	.0	.0	.0	.0
11	.0	.0	.0	.0
12	.0	.0	.0	.0
13	.0	.0	.0	.1
14	.0	.2	.3	.2
15	.0	.1	.2	.1
16	.0	.0	.0	.0

17 *	.1	.1	.0	.0
18 *	.0	.0	.0	.0
19 *	.0	.0	.0	.0
20 *	.0	.0	.0	.0
21 *	.1	.0	.0	.0
22 *	.0	.0	.0	.0
23 *	.0	.0	.0	.0
24 *	.0	.0	.0	.0
25 *	.0	.0	.0	.0
26 *	.1	.0	.0	.0
27 *	.0	.0	.0	.0
28 *	.3	.1	.0	.0
29 *	.0	.0	.0	.0
30 *	.0	.0	.0	.0
31 *	.0	.0	.0	.0
32 *	.0	.0	.0	.0
33 *	.0	.0	.0	.0
34 *	.0	.0	.0	.0
35 *	.0	.0	.0	.0
36 *	.0	.0	.0	.0

JOB: Brent Spence Bridge S1altEpm.dat RUN: Kyles Lane & Dixie Hwy
DATE: 08/30/2010 TIME: 11:49:05.39

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION *	X1	Y1	X2	Y2 *	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 01 Dixie NB Appr *	264099.0	275553.0	264162.0	275726.0 *	184.	20.	AG	760.	11.5	.0	44.0		
2. 02 Dixie NB Appr *	264162.0	275726.0	264197.0	275813.0 *	94.	22.	AG	760.	11.5	.0	44.0		
3. 03 Dixie NB Appr *	264197.0	275813.0	264240.0	275916.0 *	112.	23.	AG	760.	11.5	.0	44.0		
4. 03 Dixie NB Queue *	264228.0	275888.0	263898.8	275071.9 *	880.	202.	AG	295.	100.0	.0	24.0	1.20	44.7
5. 04 Dixie NB @ Kyles*	264240.0	275916.0	264280.0	276013.0 *	105.	22.	AG	450.	11.5	.0	44.0		
6. 05 Dixie NB Depart *	264280.0	276013.0	264303.0	276071.0 *	62.	22.	AG	465.	11.5	.0	44.0		
7. 06 Dixie NB Depart *	264303.0	276071.0	264360.0	276209.0 *	149.	22.	AG	1295.	11.5	.0	44.0		
8. 07 Dixie NB Depart *	264360.0	276209.0	264406.0	276278.0 *	83.	34.	AG	1295.	11.5	.0	44.0		
9. 08 Dixie NB Depart *	264406.0	276278.0	264446.0	276325.0 *	62.	40.	AG	1295.	11.5	.0	44.0		
10. 09 Dixie NB Depart *	264446.0	276325.0	264529.0	276400.0 *	112.	48.	AG	1295.	11.5	.0	44.0		
11. 10 Dixie SB Appr *	264499.0	276415.0	264439.0	276361.0 *	81.	228.	AG	1600.	11.5	.0	44.0		
12. 11 Dixie SB Appr *	264439.0	276361.0	264381.0	276288.0 *	93.	218.	AG	1600.	11.5	.0	44.0		
13. 12 Dixie SB Appr *	264381.0	276288.0	264351.0	276234.0 *	62.	209.	AG	1600.	11.5	.0	44.0		
14. 13 Dixie SB Appr *	264351.0	276234.0	264252.0	275994.0 *	260.	202.	AG	1600.	11.5	.0	44.0		
15. 14 Dixie SB Queue *	264276.0	276054.0	264343.8	276215.3 *	175.	23.	AG	157.	100.0	.0	24.0	.78	8.9
16. 14 Dixie SB @ Kyles*	264252.0	275994.0	264236.0	275956.0 *	41.	203.	AG	505.	11.5	.0	40.0		
17. 15 Dixie SB Depart *	264236.0	275956.0	264179.0	275824.0 *	144.	203.	AG	665.	11.5	.0	44.0		
18. 16 Dixie SB Depart *	264179.0	275824.0	264143.0	275732.0 *	99.	201.	AG	1340.	11.5	.0	44.0		
19. 17 Dixie SB Depart *	264143.0	275732.0	264083.0	275564.0 *	178.	200.	AG	1340.	11.5	.0	44.0		
20. 18 Dixie NB Rt. *	264240.0	275916.0	264284.0	275929.0 *	46.	74.	AG	310.	11.5	.0	32.0		
21. 19 Kyles EB @ Dixie*	264252.0	275994.0	264284.0	275929.0 *	72.	154.	AG	650.	11.5	.0	32.0		
22. 20 Kyles EB Depart *	264284.0	275929.0	264483.0	275522.0 *	453.	154.	AG	960.	11.5	.0	44.0		
23. 21 Kyles WB Appr *	264516.0	275540.0	264468.0	275639.0 *	110.	334.	AG	1240.	11.5	.0	56.0		
24. 22 Kyles WB Appr *	264468.0	275639.0	264359.0	275852.0 *	239.	333.	AG	1240.	11.5	.0	56.0		
25. 23 Kyles WB Rt. *	264359.0	275852.0	264347.0	275900.0 *	49.	346.	AG	830.	11.5	.0	32.0		
26. 24 Kyles WB Rt. *	264347.0	275900.0	264300.0	276003.0 *	113.	335.	AG	830.	11.5	.0	32.0		
27. 25 Kyles WB Rt. Qu*	264313.0	275975.0	265386.1	273582.4 *	2622.	156.	AG	114.	100.0	.0	12.0	1.37	133.2
28. 25 Kyles WB Rt. @ D*	264300.0	276003.0	264303.0	276071.0 *	68.	3.	AG	830.	11.5	.0	32.0		
29. 26 Kyles WB Appr *	264359.0	275852.0	264296.0	275980.0 *	143.	334.	AG	30.	11.5	.0	32.0		
30. 28 WB Kyles L*	264307.0	275957.0	264311.2	275948.5 *	10.	154.	AG	114.	100.0	.0	12.0	.04	.5
31. 27 Kyles WB @ Dixie*	264296.0	275980.0	264280.0	276013.0 *	37.	334.	AG	15.	11.5	.0	32.0		
32. 28 Kyles WB Lt. *	264296.0	275980.0	264252.0	275994.0 *	46.	288.	AG	15.	11.5	.0	32.0		
33. 29 Kyles WB Lt. *	264359.0	275852.0	264325.0	275892.0 *	53.	320.	AG	380.	11.5	.0	32.0		
34. 30 Kyles WB Lt. *	264325.0	275892.0	264287.0	275965.0 *	82.	333.	AG	380.	11.5	.0	32.0		
35. 33 Kyles WB Lt. Que*	264295.0	275951.0	264348.1	275842.7 *	121.	154.	AG	114.	100.0	.0	12.0	.74	6.1
36. 31 Kyles WB Lt. @ D*	264287.0	275965.0	264236.0	275956.0 *	52.	260.	AG	140.	11.5	.0	32.0		

JOB: Brent Spence Bridge S1altEpm.dat RUN: Kyles Lane & Dixie Hwy
DATE: 08/30/2010 TIME: 11:49:05.39

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
4. 03 Dixie NB Queue *	100	75	2.0	760	1511	73.30	1	3
15. 14 Dixie SB Queue *	100	40	2.0	1600	1831	73.30	1	3
27. 25 Kyles WB Rt. Qu*	100	58	2.0	830	1599	73.30	1	3
30. 28 WB Kyles L*	100	58	2.0	30	1881	73.30	1	3
35. 33 Kyles WB Lt. Que*	100	58	2.0	380	1357	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR *	X (FT)	Y (FT)	Z (FT) *
1. R1 SB Mid *	264384.0	276323.0	5.0 *
2. R2 SB 164 *	264321.0	276211.0	5.0 *
3. R3 SB 82 *	264290.0	276136.0	5.0 *
4. R4 SB Corner *	264262.0	276069.0	5.0 *

5.	R5 SB Corner	* 264230.0	275990.0	5.0	*
6.	R6 SB 82	* 264193.0	275900.0	5.0	*
7.	R7 SB 164	* 264151.0	275798.0	5.0	*
8.	R8 SB Mid	* 264103.0	275678.0	5.0	*
9.	R9 NB Mid	* 264155.0	275655.0	5.0	*
10.	R10 NB 164	* 264184.0	275729.0	5.0	*
11.	R11 NB 82	* 264215.0	275805.0	5.0	*
12.	R12 NB Corner	* 264242.0	275872.0	5.0	*
13.	R13 EB Corner	* 264272.0	275903.0	5.0	*
14.	R14 EB 82	* 264340.0	275765.0	5.0	*
15.	R15 EB 164	* 264378.0	275678.0	5.0	*
16.	R16 EB Mid	* 264408.0	275600.0	5.0	*
17.	R17 WB Mid	* 264455.0	275722.0	5.0	*
18.	R18 WB 164	* 264399.0	275833.0	5.0	*
19.	R19 WB 82	* 264362.0	275906.0	5.0	*
20.	R20 WB Corner	* 264330.0	275971.0	5.0	*
21.	R21 NB Corner	* 264319.0	276046.0	5.0	*
22.	R22 NB 82	* 264343.0	276114.0	5.0	*
23.	R23 NB 164	* 264376.0	276189.0	5.0	*
24.	R24 NB Mid	* 264447.0	276280.0	5.0	*

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.1	.1	.2	.2	.2	.1	.2	.2	2.2	2.3	1.8	1.0	1.2	1.3	1.1	.9	.1	.1	.4	.9
5. *	.1	.3	.3	.4	.4	.2	.3	.3	2.3	2.2	1.8	1.1	1.3	1.3	1.0	.9	.1	.0	.3	.6
10. *	.1	.3	.6	.5	.5	.4	.5	.5	2.2	2.0	1.8	1.1	1.4	1.3	1.0	.9	.1	.0	.1	.7
15. *	.2	.6	.7	.9	.9	.6	.5	.9	2.1	1.8	1.7	1.1	1.5	1.1	.9	.9	.1	.0	.0	.5
20. *	.2	.7	1.2	1.3	1.0	.7	1.0	1.2	1.7	1.6	1.4	1.1	1.3	1.0	.9	.9	.1	.0	.0	.3
25. *	.4	.9	1.4	1.8	1.3	.9	1.3	1.5	1.3	1.3	1.1	1.1	1.2	.9	.9	.7	.1	.0	.0	.0
30. *	.5	1.2	1.8	2.0	1.5	1.0	1.3	1.8	1.0	.9	.7	1.0	1.1	.8	.8	.7	.0	.0	.0	.0
35. *	.7	1.4	2.1	2.2	1.7	1.1	1.4	1.9	.7	.7	.8	.8	.9	.8	.8	.7	.0	.0	.0	.0
40. *	.8	1.6	2.4	2.4	1.5	1.1	1.3	1.9	.4	.5	.6	.6	.9	.8	.7	.6	.0	.0	.0	.0
45. *	.9	1.7	2.3	2.1	1.5	.8	1.6	1.9	.5	.4	.5	.7	.9	.8	.7	.7	.0	.0	.0	.0
50. *	1.0	1.7	2.2	2.0	1.3	.8	1.7	1.9	.4	.3	.5	.7	.9	.8	.7	.7	.0	.0	.0	.0
55. *	1.2	1.6	1.9	2.0	1.2	.8	1.8	1.9	.4	.4	.4	.7	1.0	.8	.8	.6	.0	.0	.0	.0
60. *	1.2	1.6	1.9	1.8	1.1	.7	1.9	1.9	.4	.3	.3	.6	1.0	.8	.8	.7	.0	.0	.0	.0
65. *	1.3	1.6	1.8	1.8	1.0	1.0	1.9	1.9	.4	.3	.4	.5	1.0	.8	.8	.7	.0	.0	.0	.0
70. *	1.4	1.4	1.7	1.6	1.0	1.0	1.7	1.8	.3	.3	.4	.5	.9	.8	.8	.7	.0	.0	.0	.0
75. *	1.3	1.3	1.6	1.6	.9	1.0	1.8	1.8	.3	.3	.3	.6	.9	.8	.7	.6	.0	.0	.0	.0
80. *	1.2	1.4	1.6	1.7	.8	.9	1.7	1.7	.3	.3	.3	.5	.9	.8	.7	.7	.0	.0	.0	.0
85. *	1.1	1.4	1.5	1.5	.8	1.0	1.7	1.6	.3	.3	.3	.5	.9	.8	.7	.7	.0	.0	.0	.0
90. *	1.1	1.4	1.5	1.5	.7	.9	1.6	1.6	.3	.3	.3	.6	1.0	.8	.7	.7	.0	.0	.0	.0
95. *	1.1	1.4	1.5	1.4	.9	1.0	1.6	1.6	.3	.3	.4	.6	1.0	.8	.8	.7	.0	.0	.0	.0
100. *	1.0	1.5	1.5	1.5	.8	1.2	1.6	1.5	.2	.3	.4	.6	1.0	.8	.9	.7	.1	.0	.0	.0
105. *	1.0	1.5	1.5	1.5	.8	1.3	1.6	1.5	.2	.3	.5	.5	1.1	.9	.8	.7	.1	.1	.0	.0
110. *	.9	1.5	1.5	1.4	.8	1.3	1.6	1.5	.2	.4	.5	.5	1.0	.9	.9	.7	.1	.1	.0	.1
115. *	.9	1.5	1.5	1.3	.9	1.3	1.6	1.4	.1	.3	.4	.5	1.2	1.0	.9	.8	.1	.1	.0	.1
120. *	.9	1.5	1.5	1.3	1.0	1.4	1.6	1.4	.1	.2	.4	.5	1.3	1.0	1.0	.7	.1	.1	.0	.1
125. *	.9	1.5	1.5	1.3	1.2	1.5	1.5	1.4	.1	.2	.3	.6	1.1	1.1	1.0	.6	.1	.1	.0	.1
130. *	.9	1.5	1.5	1.3	1.3	1.5	1.5	1.4	.1	.1	.3	.6	1.1	1.2	1.0	.6	.1	.1	.0	.1
135. *	.9	1.5	1.5	1.4	1.3	1.5	1.4	1.4	.1	.1	.2	.5	1.2	1.1	.9	.6	.1	.2	.2	.2
140. *	1.0	1.5	1.5	1.4	1.3	1.4	1.4	1.4	.1	.1	.2	.4	1.1	1.1	.8	.4	.4	.3	.2	.4
145. *	.9	1.6	1.7	1.7	1.2	1.4	1.6	1.6	.1	.1	.2	.4	1.0	1.0	.7	.4	.4	.5	.5	.5
150. *	1.0	1.7	1.9	1.7	1.2	1.4	1.6	1.5	.0	.1	.1	.2	1.0	.9	.7	.3	.6	.9	.8	1.0
155. *	1.1	1.8	2.2	1.8	1.0	1.3	1.5	1.5	.1	.0	.1	.2	.8	.8	.5	.2	.9	1.0	1.0	1.2
160. *	1.1	2.1	2.3	1.9	1.1	1.2	1.7	1.7	.1	.0	.0	.2	.6	.5	.3	.2	1.0	1.2	1.4	1.5
165. *	1.3	2.2	2.4	2.0	.8	1.4	1.9	1.7	.1	.0	.0	.1	.4	.4	.2	.1	1.1	1.3	1.3	1.5
170. *	1.3	2.3	2.6	1.9	.9	1.5	1.9	1.7	.1	.0	.1	.1	.2	.2	.1	.0	1.2	1.4	1.4	1.6
175. *	1.7	2.3	2.5	1.6	.9	1.5	2.0	1.7	.2	.2	.2	.2	.1	.1	.1	.0	1.2	1.2	1.4	1.6
180. *	1.6	2.4	2.3	1.4	.9	1.8	2.1	1.7	.2	.2	.2	.2	.1	.1	.0	.0	1.1	1.2	1.4	1.8
185. *	1.9	2.5	2.1	1.5	1.1	1.8	2.1	1.8	.4	.4	.4	.4	.2	.1	.0	.0	1.1	1.3	1.4	1.7
190. *	2.0	2.3	2.0	1.5	1.2	1.8	2.0	1.6	.6	.8	.9	.8	.2	.1	.0	.0	1.1	1.1	1.4	1.5
195. *	2.0	2.0	1.9	1.6	1.2	1.7	1.8	1.4	1.1	1.2	1.1	1.3	.4	.0	.0	.0	1.0	1.0	1.4	1.5
200. *	2.0	1.8	1.5	1.5	1.2	1.5	1.5	1.3	1.4	1.6	1.5	1.7	.9	.1	.0	.0	1.0	1.0	1.4	1.6
205. *	1.8	1.4	1.2	1.1	1.1	1.3	1.4	.9	1.8	2.0	2.0	2.0	1.2	.1	.0	.0	1.0	1.1	1.4	1.8

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	1.5	1.1	.9	.7	.7	.7	1.0	.6	2.0	2.2	2.1	2.2	1.4	.2	.1	.0	.9	1.1	1.4	2.2
215. *	1.3	.7	.6	.4	.4	.6	.6	.4	2.1	2.4	2.4	2.4	1.5	.2	.1	.1	.9	1.2	1.5	2.1
220. *	.8	.4	.4	.3	.2	.3	.4	.3	2.3	2.4	2.5	2.4	1.5	.3	.2	.1	.9	1.1	1.6	2.0
225. *	.6	.2	.2	.2	.0	.1	.2	.1	2.2	2.3	2.4	2.3	1.4	.4	.2	.1	1.0	1.3	1.8	1.9
230. *	.4	.2	.2	.1	.0	.1	.2	.1	2.1	2.1	2.3	2.2	1.2	.5	.2	.2	1.0	1.3	1.8	1.7
235. *	.3	.1	.1	.1	.0	.1	.1	.1	2.0	2.0	2.1	2.1	1.2	.5	.2	.2	1.1	1.4	1.7	1.6
240. *	.1	.1	.1	.1	.0	.1	.1	.1	2.1	2.0	2.0	1.9	1.1	.5	.2	.2	1.1	1.4	1.6	1.5
245. *	.1	.1	.1	.1	.0	.0	.1	.1	1.9	1.8	1.8	1.8	1.0	.5	.3	.2	1.1	1.5	1.7	1.5

250. *	.1	.1	.1	.1	.0	.0	.1	.1	1.8	1.9	1.8	1.7	.9	.5	.3	.2	1.2	1.5	1.9	1.3
255. *	.1	.1	.1	.1	.0	.0	.1	.1	1.7	1.8	1.7	1.5	.8	.6	.4	.2	1.1	1.3	1.5	1.0
260. *	.1	.1	.1	.1	.0	.0	.1	.1	1.7	1.8	1.7	1.5	.6	.6	.4	.2	1.1	1.3	1.5	1.0
265. *	.1	.1	.1	.1	.0	.0	.1	.0	1.6	1.7	1.7	1.5	.5	.6	.4	.3	1.1	1.2	1.5	.8
270. *	.1	.0	.0	.0	.0	.0	.1	.0	1.6	1.6	1.5	1.4	.5	.5	.4	.3	1.2	1.3	1.4	.8
275. *	.1	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.4	.6	.5	.3	.4	1.2	1.3	1.4	.9
280. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.4	.5	.5	.3	.4	1.2	1.4	1.2	1.0
285. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.4	.6	.5	.4	.3	1.3	1.4	1.3	.9
290. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.4	.5	.5	.3	.3	1.2	1.5	1.3	.9
295. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.4	.5	.4	.3	.3	1.2	1.5	1.3	.8
300. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.3	.5	.5	.3	.3	1.2	1.2	1.4	.8
305. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.4	1.2	.4	.5	.3	.3	1.2	1.2	1.3	1.0
310. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.4	1.1	.3	.5	.3	.3	1.2	1.2	1.3	1.1
315. *	.0	.0	.0	.0	.0	.0	.1	.0	1.6	1.6	1.5	1.0	.3	.5	.3	.2	1.2	1.2	1.2	.9
320. *	.0	.1	.1	.1	.0	.0	.1	.1	1.6	1.7	1.5	1.0	.3	.5	.2	.2	1.2	1.1	1.0	.9
325. *	.0	.1	.1	.1	.0	.0	.1	.1	1.7	1.7	1.5	.9	.6	.6	.3	.2	1.2	1.0	1.0	1.0
330. *	.0	.1	.1	.1	.0	.0	.1	.1	1.7	1.7	1.5	.8	.7	.4	.4	.3	1.0	.9	1.0	1.1
335. *	.1	.1	.1	.1	.0	.0	.1	.1	1.9	1.8	1.6	.8	.8	.6	.6	.5	.8	.9	1.0	1.2
340. *	.1	.1	.1	.1	.0	.0	.1	.1	2.0	1.9	1.6	.7	.7	.7	.9	.6	.5	.8	.9	1.1
345. *	.1	.1	.1	.1	.0	.1	.1	.1	2.1	2.0	1.6	.9	.9	1.0	.9	.8	.4	.6	.8	1.1
350. *	.1	.1	.1	.1	.1	.1	.1	.1	2.2	2.1	1.7	.8	1.0	1.1	1.0	.8	.3	.4	.6	.9
355. *	.1	.1	.2	.2	.1	.1	.2	.1	2.3	2.2	1.8	.8	1.1	1.3	.9	1.0	.1	.4	.5	.9
360. *	.1	.1	.2	.2	.2	.1	.2	.2	2.2	2.3	1.8	1.0	1.2	1.3	1.1	.9	.1	.1	.4	.9
MAX *	2.0	2.5	2.6	2.4	1.7	1.8	2.1	1.9	2.3	2.4	2.5	2.4	1.5	1.3	1.1	1.0	1.3	1.5	1.9	2.2
DEGR. *	190	185	170	40	35	180	180	35	5	215	220	215	15	0	0	355	285	295	250	210

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JOB: Brent Spence Bridge S1altEpm.dat RUN: Kyles Lane & Dixie Hwy

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
0. *	1.5	1.5	1.2	.9
5. *	1.6	1.5	1.2	.9
10. *	1.5	1.3	1.2	.8
15. *	1.4	1.4	1.3	.8
20. *	1.0	1.4	1.1	.7
25. *	.7	1.1	1.1	.7
30. *	.4	.8	.7	.5
35. *	.2	.4	.7	.5
40. *	.1	.4	.5	.4
45. *	.0	.1	.3	.2
50. *	.0	.1	.2	.1
55. *	.0	.1	.1	.1
60. *	.0	.1	.0	.0
65. *	.0	.1	.0	.0
70. *	.0	.1	.0	.0
75. *	.0	.1	.0	.0
80. *	.0	.0	.0	.0
85. *	.0	.0	.0	.0
90. *	.0	.0	.0	.0
95. *	.0	.0	.0	.0
100. *	.0	.0	.0	.0
105. *	.0	.0	.0	.0
110. *	.0	.0	.0	.0
115. *	.0	.0	.0	.0
120. *	.0	.0	.0	.0
125. *	.0	.0	.0	.0
130. *	.0	.0	.0	.0
135. *	.0	.0	.0	.0
140. *	.0	.0	.0	.0
145. *	.2	.0	.0	.0
150. *	.3	.2	.0	.0
155. *	.5	.3	.2	.0
160. *	.6	.4	.2	.1
165. *	.9	.5	.3	.1
170. *	1.0	.5	.4	.1
175. *	.9	.6	.4	.1
180. *	1.0	.6	.4	.3
185. *	.9	.8	.6	.3
190. *	.9	.9	.6	.4
195. *	1.3	1.0	.8	.3
200. *	1.4	1.1	1.0	.5
205. *	1.6	1.2	1.3	.6

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JOB: Brent Spence Bridge S1altEpm.dat RUN: Kyles Lane & Dixie Hwy

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
210. *	1.6	1.5	1.5	.7

215.	*	1.5	1.4	1.5	.8
220.	*	1.3	1.5	1.6	1.0
225.	*	1.1	1.5	1.7	1.2
230.	*	1.2	1.4	1.7	1.2
235.	*	1.1	1.6	1.6	1.0
240.	*	1.0	1.5	1.6	1.0
245.	*	.9	1.4	1.5	1.1
250.	*	1.0	1.3	1.5	.9
255.	*	1.0	1.3	1.3	1.0
260.	*	1.0	1.3	1.3	1.0
265.	*	1.1	1.3	1.3	.8
270.	*	1.1	1.3	1.3	.9
275.	*	1.1	1.3	1.3	.9
280.	*	1.1	1.3	1.3	.9
285.	*	1.2	1.3	1.3	.9
290.	*	1.2	1.3	1.3	.8
295.	*	1.3	1.3	1.3	.7
300.	*	1.3	1.3	1.3	.8
305.	*	1.4	1.3	1.1	.8
310.	*	1.3	1.3	1.1	.9
315.	*	1.3	1.3	1.1	.9
320.	*	1.4	1.3	1.1	.8
325.	*	1.4	1.3	1.2	.8
330.	*	1.4	1.4	1.0	.8
335.	*	1.4	1.5	1.0	.8
340.	*	1.5	1.4	1.1	.9
345.	*	1.6	1.4	1.1	.9
350.	*	1.6	1.6	1.1	.8
355.	*	1.6	1.7	1.2	.9
360.	*	1.5	1.5	1.2	.9
MAX	*	1.6	1.7	1.7	1.2
DEGR.	*	205	355	225	225

THE HIGHEST CONCENTRATION IS 2.60 PPM AT 170 DEGREES FROM REC3 .
THE 2ND HIGHEST CONCENTRATION IS 2.50 PPM AT 220 DEGREES FROM REC11.
THE 3RD HIGHEST CONCENTRATION IS 2.50 PPM AT 185 DEGREES FROM REC2 .

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	*	190	185	170	40	35	180	180	35	5	215	220	215	15	0	0	355	285	295	250	210
1	*	.0	.0	.0	.0	.0	.0	.2	.1	.3	.4	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
2	*	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0
3	*	.0	.0	.0	.0	.0	.2	.0	.1	.0	.0	.0	.3	.0	.0	.0	.0	.0	.0	.1	.1
4	*	.1	.1	.0	.0	.0	.9	.9	.6	1.3	1.5	1.5	1.5	.0	.0	.0	.0	.2	.1	.3	.5
5	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
6	*	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	*	.2	.4	.3	.4	.2	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0
8	*	.3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	*	.5	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	*	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	*	.3	1.0	.9	1.0	.9	.0	.0	.1	.1	.0	.0	.0	.3	.1	.1	.1	.0	.0	.0	.0
15	*	.1	.7	.6	.7	.3	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0
16	*	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	*	.0	.0	.0	.0	.0	.3	.0	.1	.1	.0	.0	.1	.0	.0	.0	.0	.0	.1	.1	.0
18	*	.0	.0	.0	.0	.0	.2	.6	.2	.2	.0	.3	.2	.0	.0	.0	.0	.1	.0	.1	.1
19	*	.0	.0	.0	.0	.0	.1	.3	.6	.2	.4	.2	.1	.0	.0	.0	.0	.0	.0	.0	.1
20	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
21	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
22	*	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.5	.5	.4	.2	.2	.2	.2
23	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3	.3	.5	.4	.0	.0
25	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.2	.0
26	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.2	.4
27	*	.0	.1	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.3	.3	.3	.4
28	*	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
29	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
31	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
34	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	.1
35	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.2	.2	.2
36	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)

LINK #	ANGLE (DEGREES) REC21 205	REC22 355	REC23 225	REC24 225
1	.0	.0	.0	.0
2	.0	.0	.0	.0
3	.1	.0	.0	.0
4	.4	.0	.1	.1
5	.1	.0	.0	.0
6	.1	.0	.0	.0
7	.0	.7	.7	.2
8	.0	.1	.0	.3
9	.0	.0	.0	.0
10	.0	.0	.0	.0
11	.0	.0	.0	.0
12	.0	.0	.0	.0
13	.0	.1	.0	.1
14	.0	.5	.6	.3
15	.0	.3	.3	.2
16	.0	.0	.0	.0
17	.1	.0	.0	.0
18	.1	.0	.0	.0
19	.1	.0	.0	.0
20	.0	.0	.0	.0
21	.1	.0	.0	.0
22	.1	.0	.0	.0
23	.0	.0	.0	.0
24	.0	.0	.0	.0
25	.0	.0	.0	.0
26	.1	.0	.0	.0
27	.0	.0	.0	.0
28	.3	.0	.0	.0
29	.0	.0	.0	.0
30	.0	.0	.0	.0
31	.0	.0	.0	.0
32	.0	.0	.0	.0
33	.0	.0	.0	.0
34	.0	.0	.0	.0
35	.0	.0	.0	.0
36	.0	.0	.0	.0

1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000 PAGE 1

JOB: Brent Spence Bridge S1altIam.dat RUN: Kyles Lane & Dixie Hwy
DATE: 08/30/2010 TIME: 11:45:54.86

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 01 Dixie NB Appr	264099.0	275553.0	264162.0	275726.0	184.	20.	AG	1520.	11.5	.0	44.0		
2. 02 Dixie NB Appr	264162.0	275726.0	264197.0	275813.0	94.	22.	AG	1520.	11.5	.0	44.0		
3. 03 Dixie NB Appr	264197.0	275813.0	264240.0	275916.0	112.	23.	AG	1520.	11.5	.0	44.0		
4. 03 Dixie NB Queue	264228.0	275888.0	263366.3	273751.5	2304.	202.	AG	240.	100.0	.0	24.0	1.35	117.0
5. 04 Dixie NB @ Kyles	264240.0	275916.0	264280.0	276013.0	105.	22.	AG	1240.	11.5	.0	44.0		
6. 05 Dixie NB Depart	264280.0	276013.0	264303.0	276071.0	62.	22.	AG	1245.	11.5	.0	44.0		
7. 06 Dixie NB Depart	264303.0	276071.0	264360.0	276209.0	149.	22.	AG	1955.	11.5	.0	44.0		
8. 07 Dixie NB Depart	264360.0	276209.0	264406.0	276278.0	83.	34.	AG	1955.	11.5	.0	44.0		
9. 08 Dixie NB Depart	264406.0	276278.0	264446.0	276325.0	62.	40.	AG	1955.	11.5	.0	44.0		
10. 09 Dixie NB Depart	264446.0	276325.0	264529.0	276400.0	112.	48.	AG	1955.	11.5	.0	44.0		
11. 10 Dixie SB Appr	264499.0	276415.0	264439.0	276361.0	81.	228.	AG	1020.	11.5	.0	44.0		
12. 11 Dixie SB Appr	264439.0	276361.0	264381.0	276288.0	93.	218.	AG	1020.	11.5	.0	44.0		
13. 12 Dixie SB Appr	264381.0	276288.0	264351.0	276234.0	62.	209.	AG	1020.	11.5	.0	44.0		
14. 13 Dixie SB Appr	264351.0	276234.0	264252.0	275994.0	260.	202.	AG	1020.	11.5	.0	44.0		
15. 14 Dixie SB Queue	264276.0	276054.0	264319.2	276156.8	112.	23.	AG	175.	100.0	.0	24.0	.55	5.7
16. 14 Dixie SB @ Kyles	264252.0	275994.0	264236.0	275956.0	41.	203.	AG	505.	11.5	.0	40.0		
17. 15 Dixie SB Depart	264236.0	275956.0	264179.0	275824.0	144.	203.	AG	665.	11.5	.0	44.0		
18. 16 Dixie SB Depart	264179.0	275824.0	264143.0	275732.0	99.	201.	AG	665.	11.5	.0	44.0		
19. 17 Dixie SB Depart	264143.0	275732.0	264083.0	275564.0	178.	200.	AG	665.	11.5	.0	44.0		
20. 18 Dixie NB Rt.	264240.0	275916.0	264284.0	275929.0	46.	74.	AG	280.	11.5	.0	32.0		
21. 19 Kyles EB @ Dixie	264252.0	275994.0	264284.0	275929.0	72.	154.	AG	520.	11.5	.0	32.0		
22. 20 Kyles EB Depart	264284.0	275929.0	264483.0	275522.0	453.	154.	AG	800.	11.5	.0	44.0		
23. 21 Kyles WB Appr	264516.0	275540.0	264468.0	275639.0	110.	334.	AG	880.	11.5	.0	56.0		
24. 22 Kyles WB Appr	264468.0	275639.0	264359.0	275852.0	239.	333.	AG	880.	11.5	.0	56.0		
25. 23 Kyles WB Rt.	264359.0	275852.0	264347.0	275900.0	49.	346.	AG	710.	11.5	.0	32.0		
26. 24 Kyles WB Rt.	264347.0	275900.0	264300.0	276003.0	113.	335.	AG	710.	11.5	.0	32.0		
27. 25 Kyles WB Rt. Qu	264313.0	275975.0	265401.9	273547.2	2661.	156.	AG	129.	100.0	.0	12.0	1.48	135.2
28. 25 Kyles WB Rt. @ D	264300.0	276003.0	264303.0	276071.0	68.	3.	AG	710.	11.5	.0	32.0		
29. 26 Kyles WB Appr	264359.0	275852.0	264296.0	275980.0	143.	334.	AG	10.	11.5	.0	32.0		
30. 28 WB Kyles L	264307.0	275957.0	264308.4	275954.1	3.	154.	AG	129.	100.0	.0	12.0	.02	.2
31. 27 Kyles WB @ Dixie	264296.0	275980.0	264280.0	276013.0	37.	334.	AG	5.	11.5	.0	32.0		
32. 28 Kyles WB Lt.	264296.0	275980.0	264252.0	275994.0	46.	288.	AG	5.	11.5	.0	32.0		
33. 29 Kyles WB Lt.	264359.0	275852.0	264325.0	275892.0	53.	320.	AG	160.	11.5	.0	32.0		
34. 30 Kyles WB Lt.	264325.0	275892.0	264287.0	275965.0	82.	333.	AG	160.	11.5	.0	32.0		
35. 33 Kyles WB Lt. Que	264295.0	275951.0	264317.7	275904.7	52.	154.	AG	129.	100.0	.0	12.0	.40	2.6
36. 31 Kyles WB Lt. @ D	264287.0	275965.0	264236.0	275956.0	52.	260.	AG	160.	11.5	.0	32.0		

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JOB: Brent Spence Bridge S1altIam.dat RUN: Kyles Lane & Dixie Hwy
DATE: 08/30/2010 TIME: 11:45:54.86

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
4. 03 Dixie NB Queue *	90	55	2.0	1520	1641	73.30	1	3
15. 14 Dixie SB Queue *	90	40	2.0	1020	1829	73.30	1	3
27. 25 Kyles WB Rt. Qu*	90	59	2.0	710	1599	73.30	1	3
30. 28 WB Kyles L*	90	59	2.0	10	1881	73.30	1	3
35. 33 Kyles WB Lt. Que*	90	59	2.0	160	1343	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	* COORDINATES (FT) X	Y	Z *
1. R1 SB Mid	* 264384.0	276323.0	5.0 *
2. R2 SB 164	* 264321.0	276211.0	5.0 *
3. R3 SB 82	* 264290.0	276136.0	5.0 *
4. R4 SB Corner	* 264262.0	276069.0	5.0 *
5. R5 SB Corner	* 264230.0	275990.0	5.0 *
6. R6 SB 82	* 264193.0	275900.0	5.0 *
7. R7 SB 164	* 264151.0	275798.0	5.0 *
8. R8 SB Mid	* 264103.0	275678.0	5.0 *
9. R9 NB Mid	* 264155.0	275655.0	5.0 *
10. R10 NB 164	* 264184.0	275729.0	5.0 *
11. R11 NB 82	* 264215.0	275805.0	5.0 *
12. R12 NB Corner	* 264242.0	275872.0	5.0 *
13. R13 EB Corner	* 264272.0	275903.0	5.0 *
14. R14 EB 82	* 264340.0	275765.0	5.0 *
15. R15 EB 164	* 264378.0	275678.0	5.0 *
16. R16 EB Mid	* 264408.0	275600.0	5.0 *
17. R17 WB Mid	* 264455.0	275722.0	5.0 *
18. R18 WB 164	* 264399.0	275833.0	5.0 *
19. R19 WB 82	* 264362.0	275906.0	5.0 *
20. R20 WB Corner	* 264330.0	275971.0	5.0 *
21. R21 NB Corner	* 264319.0	276046.0	5.0 *
22. R22 NB 82	* 264343.0	276114.0	5.0 *
23. R23 NB 164	* 264376.0	276189.0	5.0 *
24. R24 NB Mid	* 264447.0	276280.0	5.0 *

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.1	.1	.1	.1	.1	.1	.1	.1	2.3	2.2	2.1	1.4	1.3	1.1	.9	.8	.1	.1	.5	1.0
5. *	.1	.1	.2	.3	.3	.2	.2	.1	2.5	2.3	2.1	1.5	1.4	1.1	.8	.7	.1	.0	.3	.7
10. *	.1	.3	.2	.5	.5	.3	.2	.3	2.5	2.3	2.0	1.6	1.5	.9	.8	.7	.0	.0	.2	.6
15. *	.1	.3	.5	.7	.6	.6	.6	.6	2.3	2.1	1.7	1.5	1.6	.9	.8	.7	.0	.0	.0	.5
20. *	.1	.4	.7	1.1	1.0	.7	.9	1.0	2.1	1.8	1.6	1.4	1.4	.8	.7	.7	.0	.0	.0	.3
25. *	.2	.8	1.2	1.4	1.2	.9	1.1	1.3	1.4	1.6	1.2	1.4	1.1	.7	.7	.7	.0	.0	.0	.2
30. *	.3	.9	1.4	1.8	1.3	1.2	1.3	1.6	1.0	1.2	1.2	1.1	1.0	.7	.7	.7	.0	.0	.0	.0
35. *	.4	1.1	1.6	2.0	1.8	1.1	1.3	1.5	.9	.8	.8	.9	.7	.7	.7	.7	.0	.0	.0	.0
40. *	.5	1.2	1.9	2.2	1.6	1.3	1.6	1.6	.6	.6	.6	.7	.6	.7	.7	.7	.0	.0	.0	.0
45. *	.7	1.5	1.9	2.1	1.4	1.1	1.4	1.7	.5	.5	.5	.7	.7	.7	.7	.7	.0	.0	.0	.0
50. *	.8	1.4	1.9	2.0	1.4	1.1	1.7	1.8	.3	.3	.3	.5	.7	.7	.7	.6	.0	.0	.0	.0
55. *	.9	1.5	1.8	1.9	1.2	1.0	1.7	1.7	.4	.3	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
60. *	1.2	1.4	1.7	1.9	1.1	1.1	1.6	1.6	.4	.4	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
65. *	1.1	1.3	1.8	1.8	.9	1.1	1.7	1.7	.4	.4	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
70. *	1.1	1.2	1.7	1.7	1.0	1.2	1.8	1.8	.4	.4	.4	.6	.7	.7	.7	.6	.0	.0	.0	.0
75. *	1.2	1.1	1.5	1.5	1.1	1.2	1.4	1.6	.4	.4	.4	.4	.7	.7	.7	.6	.0	.0	.0	.0
80. *	1.2	1.2	1.5	1.6	1.0	1.1	1.6	1.6	.4	.4	.4	.5	.6	.7	.7	.6	.0	.0	.0	.0
85. *	1.0	1.0	1.5	1.6	.9	1.2	1.6	1.5	.4	.4	.3	.5	.7	.7	.7	.7	.0	.0	.0	.0
90. *	1.0	1.1	1.5	1.6	.7	1.1	1.6	1.5	.2	.3	.3	.4	.8	.7	.7	.7	.0	.0	.0	.0
95. *	1.0	1.0	1.5	1.5	1.0	1.0	1.6	1.4	.2	.3	.3	.5	.8	.7	.7	.7	.0	.0	.0	.0
100. *	.9	1.0	1.5	1.4	1.1	1.1	1.5	1.4	.2	.3	.3	.4	.6	.7	.7	.7	.0	.0	.0	.0
105. *	1.0	1.1	1.5	1.5	1.0	1.3	1.6	1.5	.2	.3	.3	.4	.7	.8	.8	.7	.0	.0	.0	.0
110. *	1.0	1.0	1.6	1.6	1.0	1.4	1.6	1.4	.1	.2	.3	.4	.8	.8	.8	.7	.0	.0	.0	.0
115. *	.9	1.0	1.6	1.5	1.1	1.5	1.6	1.4	.1	.2	.3	.4	.8	.8	.8	.6	.0	.0	.0	.0
120. *	.9	1.0	1.6	1.5	1.3	1.6	1.5	1.3	.1	.2	.3	.4	.8	.8	.8	.6	.0	.1	.0	.1
125. *	.9	1.0	1.5	1.4	1.3	1.6	1.5	1.3	.1	.2	.3	.4	.8	.8	.8	.6	.1	.1	.0	.1
130. *	.9	1.0	1.5	1.4	1.4	1.7	1.5	1.3	.1	.1	.2	.5	.9	1.0	.8	.6	.1	.1	.0	.1
135. *	1.0	1.0	1.6	1.5	1.5	1.6	1.4	1.4	.2	.1	.2	.5	.9	1.0	.7	.4	.1	.1	.2	.2
140. *	.9	1.0	1.6	1.6	1.4	1.6	1.4	1.4	.2	.1	.3	.6	.9	.9	.7	.4	.2	.3	.2	.4
145. *	1.0	1.0	1.7	1.6	1.3	1.5	1.4	1.4	.2	.1	.2	.5	.8	.9	.7	.4	.4	.4	.4	.6
150. *	.9	1.2	1.8	1.7	1.3	1.5	1.5	1.3	.2	.1	.2	.3	.8	.7	.5	.3	.5	.6	.7	.8
155. *	1.2	1.3	2.3	1.8	1.4	1.5	1.6	1.4	.1	.1	.2	.3	.7	.6	.4	.3	.7	1.0	.8	1.1
160. *	1.1	1.4	2.3	2.0	1.3	1.6	1.4	1.4	.1	.0	.1	.2	.4	.4	.3	.1	.9	1.1	1.1	1.3
165. *	1.2	1.6	2.4	1.9	1.1	1.5	1.5	1.4	.1	.0	.1	.1	.3	.3	.2	.1	.9	1.2	1.3	1.5
170. *	1.2	1.7	2.6	1.4	1.2	1.6	1.6	1.5	.2	.1	.1	.1	.2	.1	.1	.0	.9	1.2	1.2	1.4
175. *	1.3	1.7	2.5	1.6	1.1	1.8	1.7	1.5	.2	.2	.2	.2	.1	.1	.0	.0	1.0	1.2	1.1	1.4
180. *	1.5	1.9	2.3	1.4	1.2	1.7	1.7	1.5	.4	.3	.3	.3	.1	.1	.0	.0	1.1	1.0	1.2	1.4
185. *	1.5	2.1	2.2	1.5	1.5	1.8	1.9	1.5	.6	.5	.5	.6	.2	.1	.0	.0	1.0	1.0	1.2	1.2
190. *	1.7	2.0	2.1	1.6	1.5	1.9	1.7	1.3	.9	.9	.8	.9	.2	.0	.0	.0	1.0	1.0	1.0	1.3

195. *	1.6	1.9	1.9	1.4	1.4	1.7	1.6	1.2	1.3	1.4	1.3	1.4	.7	.1	.0	.0	.9	1.1	1.1	1.4
200. *	1.6	1.7	1.7	1.3	1.3	1.4	1.4	1.0	1.7	1.7	1.8	1.9	.9	.1	.1	.0	.9	1.1	1.2	1.5
205. *	1.4	1.3	1.2	1.1	1.1	1.2	1.0	.8	2.0	2.1	2.1	2.3	1.1	.2	.1	.1	.9	1.1	1.3	1.8

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JOB: Brent Spence Bridge S1altIam.dat RUN: Kyles Lane & Dixie Hwy

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	1.2	.9	.8	.9	.7	.8	.7	.5	2.1	2.5	2.4	2.6	1.6	.3	.2	.1	.9	1.0	1.3	1.9
215. *	.9	.5	.5	.3	.4	.5	.6	.3	2.1	2.5	2.5	2.7	1.7	.3	.2	.2	1.0	1.0	1.3	1.8
220. *	.5	.3	.3	.2	.2	.2	.2	.2	2.3	2.5	2.3	2.5	1.7	.4	.2	.2	1.0	1.2	1.3	1.9
225. *	.4	.2	.1	.1	.0	.1	.1	.1	2.1	2.3	2.3	2.3	1.6	.4	.2	.2	1.0	1.1	1.2	1.8
230. *	.2	.1	.1	.1	.0	.1	.1	.1	2.0	2.2	2.2	2.2	1.4	.4	.2	.2	1.0	1.1	1.4	1.8
235. *	.1	.1	.1	.1	.0	.1	.1	.0	2.0	2.0	2.2	2.2	1.2	.4	.2	.2	1.0	1.1	1.4	1.6
240. *	.1	.1	.1	.1	.0	.1	.1	.0	1.9	2.0	2.0	2.1	1.1	.4	.3	.2	1.0	1.2	1.3	1.5
245. *	.1	.1	.1	.1	.0	.0	.0	.0	1.8	1.9	1.8	1.8	1.1	.4	.3	.2	1.1	1.2	1.4	1.4
250. *	.1	.1	.1	.1	.0	.0	.0	.0	1.8	1.8	1.8	1.8	1.0	.5	.3	.2	1.1	1.2	1.4	1.3
255. *	.0	.1	.1	.0	.0	.0	.0	.0	1.7	1.7	1.7	1.7	.9	.4	.3	.2	1.1	1.1	1.3	1.2
260. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.9	.4	.3	.2	1.0	1.2	1.3	1.1
265. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.7	1.6	1.6	.7	.4	.4	.2	1.0	1.2	1.3	1.0
270. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.6	1.6	.8	.4	.3	.2	1.1	1.2	1.2	1.1
275. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.7	1.6	1.6	.8	.4	.3	.2	1.0	1.1	1.4	1.1
280. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.5	1.5	.7	.5	.4	.2	1.1	1.1	1.2	1.1
285. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.5	1.5	.7	.4	.4	.2	1.1	1.2	1.3	1.0
290. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.7	1.5	.8	.4	.3	.2	1.2	1.2	1.3	.9
295. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.6	1.5	.7	.4	.3	.2	1.1	1.3	1.3	.7
300. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.6	1.4	.8	.4	.3	.3	1.1	1.1	1.3	.9
305. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.5	1.4	.6	.6	.4	.2	1.1	.9	1.3	1.0
310. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.3	1.3	.6	.6	.3	.2	1.1	1.1	1.2	.9
315. *	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.6	1.6	1.2	.6	.4	.3	.3	1.0	1.1	1.1	1.0
320. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.2	.6	.4	.3	.3	.9	1.2	1.0	1.0
325. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.1	.7	.6	.4	.3	.8	.9	1.1	1.0
330. *	.0	.0	.1	.1	.0	.0	.0	.0	1.7	1.7	1.7	1.2	.9	.5	.4	.4	.9	1.1	1.2	1.0
335. *	.0	.0	.1	.1	.0	.0	.0	.0	1.8	1.8	1.8	1.1	1.0	.6	.5	.4	.7	.8	1.0	1.1
340. *	.0	.0	.1	.1	.0	.0	.0	.0	2.0	1.8	1.8	1.1	.9	.6	.7	.5	.5	.6	.8	1.2
345. *	.0	.1	.1	.1	.0	.1	.1	.0	2.1	2.1	1.9	1.1	.9	.9	.8	.5	.5	.6	.8	1.1
350. *	.1	.1	.1	.1	.0	.1	.1	.1	2.2	2.2	1.9	1.2	1.3	1.1	.8	.7	.2	.3	.5	1.0
355. *	.1	.1	.1	.1	.1	.1	.1	.1	2.1	2.2	2.0	1.2	1.3	1.0	1.0	.9	.1	.2	.5	1.0
360. *	.1	.1	.1	.1	.1	.1	.1	.1	2.3	2.2	2.1	1.4	1.3	1.1	.9	.8	.1	.1	.5	1.0
MAX *	1.7	2.1	2.6	2.2	1.8	1.9	1.9	1.8	2.5	2.5	2.5	2.7	1.7	1.1	1.0	.9	1.2	1.3	1.4	1.9
DEGR. *	190	185	170	40	35	190	185	50	5	210	215	215	215	0	355	355	290	295	230	210

1

JOB: Brent Spence Bridge S1altIam.dat RUN: Kyles Lane & Dixie Hwy

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24
0. *	1.7	1.5	1.3	.9
5. *	1.6	1.5	1.3	1.0
10. *	1.4	1.6	1.3	.9
15. *	1.3	1.5	1.4	.9
20. *	1.1	1.5	1.4	.9
25. *	1.0	1.2	1.3	.8
30. *	.6	.9	1.2	.8
35. *	.4	.7	.9	.7
40. *	.1	.6	.6	.5
45. *	.1	.3	.4	.3
50. *	.0	.2	.3	.2
55. *	.0	.1	.1	.1
60. *	.0	.1	.0	.1
65. *	.0	.1	.0	.0
70. *	.0	.1	.0	.0
75. *	.0	.1	.0	.0
80. *	.0	.1	.0	.0
85. *	.0	.1	.0	.0
90. *	.0	.0	.0	.0
95. *	.0	.0	.0	.0
100. *	.0	.0	.0	.0
105. *	.0	.0	.0	.0
110. *	.0	.0	.0	.0
115. *	.0	.0	.0	.0
120. *	.0	.0	.0	.0
125. *	.0	.0	.0	.0
130. *	.0	.0	.0	.0
135. *	.0	.0	.0	.0
140. *	.1	.1	.0	.0
145. *	.1	.1	.1	.0
150. *	.3	.2	.1	.0
155. *	.6	.2	.2	.0
160. *	.6	.4	.2	.1

165. *	.7	.5	.2	.1
170. *	.9	.5	.3	.1
175. *	1.0	.6	.4	.1
180. *	.8	.6	.5	.1
185. *	1.1	.6	.5	.2
190. *	1.2	1.1	.6	.3
195. *	1.3	1.4	1.2	.4
200. *	1.7	1.6	1.4	.3
205. *	1.7	1.7	1.7	.6

1

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
210. *	1.9	1.8	1.8	.7
215. *	1.9	1.8	1.9	1.0
220. *	1.5	1.8	1.9	1.0
225. *	1.6	1.8	1.7	1.1
230. *	1.3	1.8	1.7	1.1
235. *	1.1	1.6	1.6	1.3
240. *	1.1	1.7	1.5	1.0
245. *	1.1	1.6	1.4	1.0
250. *	1.2	1.5	1.3	1.1
255. *	1.2	1.5	1.2	1.1
260. *	1.1	1.5	1.2	1.1
265. *	1.2	1.4	1.1	1.1
270. *	1.1	1.4	1.0	1.0
275. *	1.2	1.4	1.0	.9
280. *	1.3	1.4	1.0	.9
285. *	1.3	1.5	1.0	1.0
290. *	1.3	1.5	1.1	.9
295. *	1.4	1.5	1.1	.8
300. *	1.5	1.5	1.1	.9
305. *	1.4	1.4	1.0	.9
310. *	1.5	1.3	1.1	.9
315. *	1.5	1.3	1.1	.9
320. *	1.4	1.4	1.0	.9
325. *	1.6	1.4	1.1	.9
330. *	1.6	1.3	1.2	.8
335. *	1.6	1.4	1.2	.9
340. *	1.7	1.3	1.2	.9
345. *	1.6	1.4	1.2	1.1
350. *	1.6	1.5	1.4	1.0
355. *	1.6	1.5	1.3	1.0
360. *	1.7	1.5	1.3	.9
MAX *	1.9	1.8	1.9	1.3
DEGR. *	210	210	215	235

THE HIGHEST CONCENTRATION IS 2.70 PPM AT 215 DEGREES FROM REC12.
THE 2ND HIGHEST CONCENTRATION IS 2.60 PPM AT 170 DEGREES FROM REC3 .
THE 3RD HIGHEST CONCENTRATION IS 2.50 PPM AT 210 DEGREES FROM REC10.

1

DATE: 08/30/2010 TIME: 11:45:54.86

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK # *	190	185	170	40	35	190	185	50	5	210	215	215	215	0	355	355	290	295	230	210
1 *	.0	.0	.0	.0	.0	.2	.4	.3	.7	.8	.3	.1	.1	.0	.0	.0	.0	.0	.1	.1
2 *	.0	.0	.0	.0	.0	.2	.2	.2	.3	.2	.7	.3	.2	.0	.0	.0	.1	.0	.1	.1
3 *	.0	.0	.0	.0	.0	.2	.0	.1	.1	.0	.0	.7	.4	.0	.0	.0	.1	.1	.1	.1
4 *	.1	.1	.0	.0	.0	.8	.8	.6	1.1	1.3	1.3	1.3	.8	.0	.0	.0	.1	.1	.3	.5
5 *	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
6 *	.0	.1	.2	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7 *	.3	.6	.4	.6	.3	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0
8 *	.4	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14 *	.2	.7	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
15 *	.1	.3	.7	.7	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.3	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0
18 *	.0	.0	.0	.0	.0	.1	.3	.1	.1	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.1	.2	.3	.1	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.1	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.4	.4	.4	.2	.2	.2	.2
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.4	.2	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.2	.0
26 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.3

```
  27  *    .1   .1   .2   .0   .0   .0   .0   .1   .0   .0   .0   .0   .0   .2   .2   .2   .3   .4   .3   .4
  28  *    .0   .0   .1   .0   .1   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0
  29  *    .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0
  30  *    .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0
  31  *    .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0
  32  *    .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0
  33  *    .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0
  34  *    .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0
  35  *    .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .2
  36  *    .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0   .0
1
                                                                 PAGE  8
  JOB: Brent Spence Bridge S1altIam.dat                  RUN: Kyles Lane & Dixie Hwy
  DATE: 08/30/2010   TIME: 11:45:54.86


  RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
  THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

     *    CO/LINK  (PPM)
     *    ANGLE (DEGREES)
     *  REC21 REC22 REC23 REC24
LINK # *   210   210   215   235
-------*------------------------
   1  *    .1    .0    .0    .0
   2  *    .1    .0    .0    .0
   3  *    .1    .1    .0    .0
   4  *    .4    .3    .2    .0
   5  *    .3    .1    .1    .0
   6  *    .3    .2    .1    .0
   7  *    .0    .6   1.0    .2
   8  *    .0    .0    .0    .5
   9  *    .0    .0    .0    .2
  10  *    .0    .0    .0    .0
  11  *    .0    .0    .0    .0
  12  *    .0    .0    .0    .0
  13  *    .0    .0    .0    .1
  14  *    .0    .2    .3    .2
  15  *    .0    .1    .2    .1
  16  *    .0    .0    .0    .0
  17  *    .1    .1    .0    .0
  18  *    .0    .0    .0    .0
  19  *    .0    .0    .0    .0
  20  *    .0    .0    .0    .0
  21  *    .1    .0    .0    .0
  22  *    .0    .0    .0    .0
  23  *    .0    .0    .0    .0
  24  *    .0    .0    .0    .0
  25  *    .0    .0    .0    .0
  26  *    .1    .0    .0    .0
  27  *    .0    .0    .0    .0
  28  *    .3    .1    .0    .0
  29  *    .0    .0    .0    .0
  30  *    .0    .0    .0    .0
  31  *    .0    .0    .0    .0
  32  *    .0    .0    .0    .0
  33  *    .0    .0    .0    .0
  34  *    .0    .0    .0    .0
  35  *    .0    .0    .0    .0
  36  *    .0    .0    .0    .0
1                  CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000                 PAGE  1

  JOB: Brent Spence Bridge S1altIpm.dat                  RUN: Kyles Lane & Dixie Hwy
  DATE: 08/30/2010   TIME: 11:51:25.23


   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =    .0 CM/S      VD =    .0 CM/S       Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

   LINK VARIABLES
   --------------
     LINK DESCRIPTION     *        LINK COORDINATES (FT)          *   LENGTH  BRG TYPE   VPH    EF      H   W    V/C QUEUE
                       *   X1        Y1        X2        Y2    *     (FT)  (DEG)            (G/MI)  (FT) (FT)        (VEH)
-------------------------*----------------------------------------*----------------------------------------------------------
   1. 01 Dixie  NB Appr   * 264099.0  275553.0  264162.0  275726.0 *     184.    20. AG    760.  11.5    .0 44.0
   2. 02 Dixie  NB Appr   * 264162.0  275726.0  264197.0  275813.0 *      94.    22. AG    760.  11.5    .0 44.0
   3. 03 Dixie  NB Appr   * 264197.0  275813.0  264240.0  275916.0 *     112.    23. AG    760.  11.5    .0 44.0
   4. 03 Dixie  NB Queue  * 264228.0  275888.0  263898.8  275071.9 *     880.   202. AG    295. 100.0    .0 24.0 1.20  44.7
   5. 04 Dixie  NB @ Kyles* 264240.0  275916.0  264280.0  276013.0 *     105.    22. AG    540.  11.5    .0 44.0
   6. 05 Dixie  NB Depart * 264280.0  276013.0  264303.0  276071.0 *      62.    22. AG    465.  11.5    .0 44.0
   7. 06 Dixie  NB Depart * 264303.0  276071.0  264360.0  276209.0 *     149.    22. AG   1295.  11.5    .0 44.0
   8. 07 Dixie  NB Depart * 264360.0  276209.0  264406.0  276278.0 *      83.    34. AG   1295.  11.5    .0 44.0
   9. 08 Dixie  NB Depart * 264406.0  276278.0  264446.0  276325.0 *      62.    40. AG   1295.  11.5    .0 44.0
  10. 09 Dixie  NB Depart * 264446.0  276325.0  264529.0  276400.0 *     112.    48. AG   1295.  11.5    .0 44.0
  11. 10 Dixie  SB Appr   * 264499.0  276415.0  264439.0  276361.0 *      81.   228. AG   1600.  11.5    .0 44.0
  12. 11 Dixie  SB Appr   * 264439.0  276361.0  264381.0  276288.0 *      93.   218. AG   1600.  11.5    .0 44.0
  13. 12 Dixie  SB Appr   * 264381.0  276288.0  264351.0  276234.0 *      62.   209. AG   1600.  11.5    .0 44.0
  14. 13 Dixie  SB Appr   * 264351.0  276234.0  264252.0  275994.0 *     260.   202. AG   1600.  11.5    .0 44.0
  15. 14 Dixie  SB Queue  * 264276.0  276054.0  264390.4  276326.2 *     295.    23. AG    197. 100.0    .0 24.0  .95  15.0
  16. 14 Dixie  SB @ Kyles* 264252.0  275994.0  264236.0  275956.0 *      41.   203. AG    965.  11.5    .0 40.0
  17. 15 Dixie  SB Depart * 264236.0  275956.0  264179.0  275824.0 *     144.   203. AG   1345.  11.5    .0 44.0
  18. 16 Dixie  SB Depart * 264179.0  275824.0  264143.0  275732.0 *      99.   201. AG   1345.  11.5    .0 44.0
  19. 17 Dixie  SB Depart * 264143.0  275732.0  264083.0  275564.0 *     178.   200. AG   1345.  11.5    .0 44.0
  20. 18 Dixie  NB Rt.    * 264240.0  275916.0  264284.0  275929.0 *      46.    74. AG    310.  11.5    .0 32.0
  21. 19 Kyles  EB @ Dixie* 264252.0  275994.0  264284.0  275929.0 *      72.   154. AG    650.  11.5    .0 32.0
  22. 20 Kyles  EB Depart * 264284.0  275929.0  264483.0  275522.0 *     453.   154. AG    960.  11.5    .0 44.0
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   23. 21 Kyles  WB Appr   * 264516.0  275540.0  264468.0  275639.0 *     110.   334. AG   1240.  11.5    .0 56.0
   24. 22 Kyles  WB Appr   * 264468.0  275639.0  264359.0  275852.0 *     239.   333. AG   1240.  11.5    .0 56.0
   25. 23 Kyles  WB  Rt.   * 264359.0  275852.0  264347.0  275900.0 *      49.   346. AG    830.  11.5    .0 32.0
   26. 24 Kyles  WB Rt.    * 264347.0  275900.0  264300.0  276003.0 *     113.   335. AG    830.  11.5    .0 32.0
   27. 25 Kyles  WB  Rt. Qu* 264313.0  275975.0  265453.3  273432.6 *    2786.   156. AG    116. 100.0    .0 12.0 1.40 141.6
   28. 25 Kyles  WB Rt. @ D* 264300.0  276003.0  264303.0  276071.0 *      68.     3. AG    830.  11.5    .0 32.0
   29. 26 Kyles  WB Appr   * 264359.0  275852.0  264296.0  275980.0 *     143.   334. AG     30.  11.5    .0 32.0
   30. 28        WB Kyles L* 264307.0  275957.0  264311.3  275948.3 *      10.   154. AG    116. 100.0    .0 12.0  .04    .5
   31. 27 Kyles  WB @ Dixie* 264296.0  275980.0  264280.0  276013.0 *      37.   334. AG     15.  11.5    .0 32.0
   32. 28 Kyles  WB Lt.    * 264296.0  275980.0  264252.0  275994.0 *      46.   288. AG     15.  11.5    .0 32.0
   33. 29 Kyles  WB Lt.    * 264359.0  275852.0  264325.0  275892.0 *      53.   320. AG    380.  11.5    .0 32.0
   34. 30 Kyles  WB Lt.    * 264325.0  275892.0  264287.0  275965.0 *      82.   333. AG    380.  11.5    .0 32.0
   35. 33 Kyles  WB Lt. Que* 264295.0  275951.0  264350.2  275838.5 *     125.   154. AG    116. 100.0    .0 12.0  .76   6.4
   36. 31 Kyles  WB Lt. @ D* 264287.0  275965.0  264236.0  275956.0 *      52.   260. AG    380.  11.5    .0 32.0
1
                                                                              PAGE  2
   JOB: Brent Spence Bridge S1altIpm.dat                    RUN: Kyles Lane & Dixie Hwy
   DATE: 08/30/2010   TIME: 11:51:25.23

    ADDITIONAL QUEUE LINK PARAMETERS
    --------------------------------
      LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                           *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE   EM FAC   TYPE     RATE
                           *    (SEC)    (SEC)    (SEC)      (VPH)     (VPH)    (gm/hr)
   ------------------------*------------------------------------------------------------------------------
    4. 03 Dixie  NB Queue  *     100       75       2.0       760       1511      73.30      1        3
   15. 14 Dixie  SB Queue  *     100       50       2.0      1600       1831      73.30      1        3
   27. 25 Kyles  WB  Rt. Qu*     100       59       2.0       830       1599      73.30      1        3
   30. 28        WB Kyles L*     100       59       2.0        30       1881      73.30      1        3
   35. 33 Kyles  WB Lt. Que*     100       59       2.0       380       1357      73.30      1        3

    RECEPTOR LOCATIONS
    ------------------
                           *           COORDINATES (FT)          *
      RECEPTOR             *      X           Y          Z       *
   ------------------------*-------------------------------------*
    1. R1 SB Mid           *    264384.0   276323.0       5.0    *
    2. R2 SB 164           *    264321.0   276211.0       5.0    *
    3. R3 SB 82            *    264290.0   276136.0       5.0    *
    4. R4 SB Corner        *    264262.0   276069.0       5.0    *
    5. R5 SB Corner        *    264230.0   275990.0       5.0    *
    6. R6 SB 82            *    264193.0   275900.0       5.0    *
    7. R7 SB 164           *    264151.0   275798.0       5.0    *
    8. R8 SB Mid           *    264103.0   275678.0       5.0    *
    9. R9 NB Mid           *    264155.0   275655.0       5.0    *
   10. R10 NB 164          *    264184.0   275729.0       5.0    *
   11. R11 NB 82           *    264215.0   275805.0       5.0    *
   12. R12 NB Corner       *    264242.0   275872.0       5.0    *
   13. R13 EB Corner       *    264272.0   275903.0       5.0    *
   14. R14 EB 82           *    264340.0   275765.0       5.0    *
   15. R15 EB 164          *    264378.0   275678.0       5.0    *
   16. R16 EB Mid          *    264408.0   275600.0       5.0    *
   17. R17 WB Mid          *    264455.0   275722.0       5.0    *
   18. R18 WB 164          *    264399.0   275833.0       5.0    *
   19. R19 WB 82           *    264362.0   275906.0       5.0    *
   20. R20 WB Corner       *    264330.0   275971.0       5.0    *
   21. R21 NB Corner       *    264319.0   276046.0       5.0    *
   22. R22 NB 82           *    264343.0   276114.0       5.0    *
   23. R23 NB 164          *    264376.0   276189.0       5.0    *
   24. R24 NB Mid          *    264447.0   276280.0       5.0    *
1
                                                                              PAGE  3
   JOB: Brent Spence Bridge S1altIpm.dat                    RUN: Kyles Lane & Dixie Hwy

    MODEL RESULTS
    -------------

    REMARKS : In search of the angle corresponding to
              the maximum concentration, only the first
              angle, of the angles with same maximum
              concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18
REC19 REC20
 ------*----------------------------------------------------------------------------------------------------------
   0.  *    .2    .1    .3    .3    .2    .2    .3    .2   2.3   2.4   2.1   1.3   1.6   1.3   1.2   1.0    .1    .2    .5   1.0
   5.  *    .2    .4    .4    .4    .4    .4    .3    .3   2.3   2.4   2.1   1.3   1.5   1.4   1.1    .9    .1    .1    .4    .7
  10.  *    .2    .4    .7    .6    .6    .5    .7    .6   2.3   2.2   2.0   1.4   1.5   1.4   1.0    .9    .1    .0    .2    .8
  15.  *    .3    .8    .9   1.1   1.1    .9    .8   1.1   2.2   1.9   1.8   1.3   1.6   1.1    .9    .9    .1    .0    .0    .5
  20.  *    .3   1.0   1.4   1.5   1.2   1.2   1.2   1.3   1.8   1.7   1.5   1.3   1.4   1.0    .9    .9    .1    .0    .0    .4
  25.  *    .6   1.4   1.7   2.1   1.5   1.3   1.5   1.6   1.5   1.4   1.3   1.1   1.2    .9    .9    .7    .1    .0    .0    .0
  30.  *    .7   1.8   2.1   2.3   1.6   1.4   1.6   1.9   1.1   1.1    .9   1.0   1.2    .9    .8    .7    .0    .0    .0    .0
  35.  *    .9   2.1   2.4   2.5   1.8   1.5   1.7   2.0    .7    .7    .8    .9    .9    .8    .8    .7    .0    .0    .0    .0
  40.  *   1.0   2.4   2.7   2.6   1.6   1.4   1.6   2.0    .5    .5    .6    .6    .9    .8    .7    .6    .0    .0    .0    .0
  45.  *   1.2   2.4   2.6   2.3   1.6   1.3   1.8   2.0    .5    .5    .5    .7    .9    .8    .7    .7    .0    .0    .0    .0
  50.  *   1.3   2.4   2.5   2.2   1.5   1.3   1.8   1.9    .4    .3    .5    .7    .9    .8    .7    .7    .0    .0    .0    .0
  55.  *   1.6   2.3   2.1   2.1   1.3   1.3   2.0   1.9    .4    .4    .4    .7   1.0    .8    .8    .6    .0    .0    .0    .0
  60.  *   1.6   2.3   2.1   2.0   1.3   1.1   2.0   2.0    .4    .3    .3    .6   1.0    .8    .8    .7    .0    .0    .0    .0
  65.  *   1.7   2.1   2.0   2.0   1.1   1.3   2.0   1.9    .4    .3    .4    .5   1.0    .8    .8    .7    .0    .0    .0    .0
  70.  *   1.8   1.9   1.8   1.7   1.1   1.3   1.7   1.8    .3    .3    .4    .5    .9    .8    .8    .7    .0    .0    .0    .0
  75.  *   1.8   1.8   1.8   1.8   1.0   1.3   1.9   1.8    .3    .3    .3    .6    .9    .8    .7    .6    .0    .0    .0    .0
  80.  *   1.7   1.8   1.8   1.9    .9   1.3   1.7   1.7    .3    .3    .3    .5    .9    .8    .7    .7    .0    .0    .0    .0
  85.  *   1.7   1.7   1.6   1.6   1.0   1.2   1.7   1.6    .3    .3    .3    .5    .9    .8    .7    .7    .0    .0    .0    .0
  90.  *   1.7   1.6   1.6   1.6   1.0   1.1   1.6   1.6    .3    .3    .3    .6   1.0    .8    .7    .7    .0    .0    .0    .0
```

95. *	1.7	1.6	1.6	1.5	1.1	1.2	1.6	1.6	.3	.3	.4	.6	1.0	.8	.8	.7	.0	.0	.0	.0
100. *	1.5	1.7	1.6	1.6	1.0	1.4	1.6	1.5	.2	.3	.4	.6	1.0	.8	.9	.7	.1	.0	.0	.0
105. *	1.5	1.6	1.6	1.6	1.2	1.5	1.6	1.5	.2	.3	.5	.5	1.1	.9	.9	.7	.1	.1	.0	.0
110. *	1.5	1.6	1.6	1.5	1.2	1.5	1.6	1.5	.2	.4	.5	.6	1.1	.9	.9	.8	.1	.1	.0	.1
115. *	1.5	1.6	1.6	1.5	1.3	1.5	1.6	1.4	.1	.3	.4	.5	1.2	1.0	.9	.8	.1	.1	.0	.1
120. *	1.5	1.6	1.6	1.4	1.4	1.6	1.6	1.4	.1	.2	.4	.5	1.3	1.0	1.0	.7	.1	.1	.0	.1
125. *	1.5	1.6	1.6	1.4	1.6	1.7	1.5	1.4	.1	.2	.3	.6	1.1	1.1	1.0	.6	.1	.1	.0	.1
130. *	1.6	1.6	1.6	1.4	1.7	1.7	1.5	1.4	.1	.1	.3	.6	1.1	1.2	1.0	.6	.1	.1	.0	.1
135. *	1.6	1.6	1.6	1.4	1.7	1.7	1.4	1.4	.1	.1	.2	.5	1.2	1.1	.9	.6	.1	.2	.2	.2
140. *	1.7	1.6	1.6	1.5	1.8	1.6	1.5	1.4	.1	.1	.2	.5	1.1	1.1	.8	.4	.4	.3	.2	.4
145. *	1.6	1.8	1.9	1.7	1.7	1.7	1.6	1.6	.1	.1	.2	.5	1.0	1.0	.7	.4	.4	.5	.5	.5
150. *	1.8	1.9	2.1	1.7	1.6	1.7	1.6	1.5	.1	.1	.1	.2	1.0	.9	.7	.3	.6	.9	.8	1.1
155. *	1.9	1.9	2.3	2.0	1.7	1.6	1.5	1.5	.1	.0	.1	.2	.8	.8	.5	.3	.9	1.0	1.0	1.3
160. *	1.9	2.2	2.4	1.9	1.6	1.6	1.7	1.7	.1	.0	.0	.2	.6	.5	.3	.2	1.0	1.2	1.4	1.5
165. *	2.2	2.4	2.5	2.0	1.2	1.8	1.9	1.7	.1	.0	.0	.1	.4	.4	.2	.1	1.1	1.3	1.3	1.6
170. *	2.3	2.5	2.7	1.9	1.2	1.9	1.9	1.7	.1	.0	.1	.1	.2	.2	.1	.0	1.2	1.4	1.4	1.6
175. *	2.8	2.4	2.6	1.8	1.2	1.9	2.0	1.7	.2	.2	.2	.2	.1	.1	.1	.0	1.3	1.2	1.4	1.7
180. *	2.7	2.5	2.4	1.6	1.3	2.2	2.1	1.7	.2	.2	.2	.2	.1	.1	.0	.0	1.1	1.2	1.5	1.8
185. *	3.2	2.6	2.5	1.6	1.6	2.2	2.1	1.8	.4	.4	.4	.4	.2	.1	.0	.0	1.1	1.3	1.4	1.7
190. *	3.4	2.6	2.3	1.7	1.7	2.1	2.0	1.6	.6	.8	.9	.8	.2	.1	.0	.0	1.1	1.1	1.4	1.5
195. *	3.4	2.2	2.1	1.8	1.6	2.0	1.8	1.4	1.1	1.2	1.1	1.3	.4	.0	.0	.0	1.0	1.0	1.4	1.5
200. *	3.4	2.0	1.6	1.7	1.5	1.8	1.5	1.3	1.4	1.6	1.5	1.7	.9	.1	.0	.0	1.0	1.0	1.4	1.6
205. *	3.1	1.6	1.3	1.3	1.4	1.5	1.4	.9	1.8	2.0	2.0	2.0	1.2	.1	.0	.0	1.0	1.1	1.4	1.8

1

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	2.7	1.3	1.1	.8	.9	.9	1.0	.6	2.0	2.2	2.1	2.3	1.5	.2	.1	.0	1.0	1.1	1.4	2.2
215. *	2.4	.8	.7	.5	.5	.7	.6	.4	2.1	2.4	2.4	2.4	1.6	.2	.1	.1	.9	1.2	1.5	2.3
220. *	1.7	.4	.5	.4	.3	.5	.4	.3	2.3	2.4	2.5	2.5	1.5	.3	.2	.1	.9	1.1	1.6	2.0
225. *	1.4	.2	.2	.2	.2	.2	.2	.1	2.2	2.3	2.4	2.4	1.5	.4	.2	.1	1.0	1.3	1.8	2.0
230. *	1.0	.2	.2	.1	.1	.2	.2	.1	2.1	2.1	2.3	2.4	1.3	.5	.2	.2	1.0	1.3	1.8	1.8
235. *	.8	.1	.1	.1	.0	.1	.1	.1	2.0	2.0	2.1	2.2	1.4	.5	.2	.2	1.1	1.4	1.7	1.7
240. *	.5	.1	.1	.1	.0	.1	.1	.1	2.1	2.0	2.0	2.1	1.3	.5	.2	.2	1.1	1.4	1.7	1.6
245. *	.4	.1	.1	.1	.0	.1	.1	.1	1.9	1.8	1.8	2.0	1.1	.5	.3	.2	1.1	1.5	1.8	1.6
250. *	.4	.1	.1	.1	.0	.1	.1	.1	1.8	1.9	1.8	1.9	1.0	.5	.3	.2	1.2	1.5	1.9	1.5
255. *	.3	.1	.1	.1	.0	.1	.1	.1	1.7	1.8	1.7	1.7	.9	.6	.4	.2	1.1	1.3	1.5	1.3
260. *	.3	.1	.1	.1	.0	.1	.1	.1	1.7	1.8	1.7	1.7	.7	.6	.4	.2	1.1	1.3	1.6	1.2
265. *	.3	.1	.1	.1	.0	.1	.1	.0	1.6	1.7	1.7	1.7	.6	.6	.4	.3	1.1	1.3	1.6	1.1
270. *	.3	.0	.0	.0	.0	.1	.1	.0	1.6	1.6	1.5	1.6	.6	.5	.4	.3	1.2	1.5	1.5	1.1
275. *	.3	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.6	.7	.5	.3	.4	1.2	1.4	1.5	1.0
280. *	.3	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.6	.5	.3	.4	1.2	1.4	1.3	1.0
285. *	.3	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.7	.6	.4	.3	1.3	1.4	1.3	1.0
290. *	.3	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.6	.6	.3	.3	1.2	1.6	1.4	1.1
295. *	.3	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.6	.5	.3	.3	1.3	1.5	1.6	.8
300. *	.2	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.5	.6	.5	.3	.3	1.3	1.3	1.5	.8
305. *	.2	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.4	.6	.5	.4	.3	1.3	1.3	1.4	1.0
310. *	.1	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.3	.5	.5	.4	.3	1.3	1.3	1.3	1.1
315. *	.1	.0	.0	.0	.0	.0	.1	.0	1.6	1.6	1.6	1.2	.5	.5	.4	.2	1.3	1.3	1.3	1.0
320. *	.1	.1	.1	.1	.0	.1	.1	.1	1.6	1.7	1.7	1.2	.6	.5	.3	.3	1.2	1.1	1.0	.9
325. *	.1	.1	.1	.1	.0	.1	.1	.1	1.7	1.7	1.7	1.1	.8	.6	.4	.3	1.2	1.0	1.0	1.0
330. *	.1	.1	.1	.1	.0	.1	.1	.1	1.7	1.7	1.7	1.0	.9	.5	.5	.4	1.1	.9	1.0	1.2
335. *	.2	.1	.1	.1	.0	.1	.1	.1	1.9	1.8	1.8	1.0	.9	.7	.7	.5	.9	.9	1.0	1.2
340. *	.2	.1	.1	.1	.0	.1	.1	.1	2.0	2.0	1.8	1.0	.9	.7	.9	.6	.6	.8	1.0	1.1
345. *	.1	.1	.1	.1	.0	.1	.1	.1	2.1	2.1	1.8	1.2	1.2	1.0	1.0	.9	.5	.6	.9	1.2
350. *	.1	.1	.1	.1	.1	.1	.1	.1	2.2	2.1	1.9	1.1	1.1	1.1	1.1	.9	.4	.4	.7	1.0
355. *	.1	.1	.2	.2	.1	.1	.3	.1	2.4	2.3	2.0	1.1	1.4	1.3	1.1	1.1	.2	.4	.6	1.0
360. *	.2	.1	.3	.3	.2	.2	.3	.2	2.3	2.4	2.1	1.3	1.6	1.3	1.2	1.0	.1	.2	.5	1.0
MAX *	3.4	2.6	2.7	2.6	1.8	2.2	2.1	2.0	2.4	2.4	2.5	2.5	1.6	1.4	1.2	1.1	1.3	1.6	1.9	2.3
DEGR. *	195	185	40	40	140	180	180	35	355	5	220	220	0	5	0	355	315	290	250	215

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24
0. *	1.7	1.8	1.6	.9
5. *	1.7	1.7	1.5	.9
10. *	1.7	1.6	1.4	.8
15. *	1.5	1.6	1.5	.8
20. *	1.1	1.5	1.2	.7
25. *	.8	1.2	1.2	.7
30. *	.5	.9	.7	.5
35. *	.2	.4	.7	.5
40. *	.1	.4	.5	.4
45. *	.0	.1	.3	.2
50. *	.0	.1	.2	.1
55. *	.0	.1	.1	.1
60. *	.0	.1	.0	.0

65.	*	.0	.1	.0	.0
70.	*	.0	.1	.0	.0
75.	*	.0	.1	.0	.0
80.	*	.0	.0	.0	.0
85.	*	.0	.0	.0	.0
90.	*	.0	.0	.0	.0
95.	*	.0	.0	.0	.0
100.	*	.0	.0	.0	.0
105.	*	.0	.0	.0	.0
110.	*	.0	.0	.0	.0
115.	*	.0	.0	.0	.0
120.	*	.0	.0	.0	.0
125.	*	.0	.0	.0	.0
130.	*	.0	.0	.0	.0
135.	*	.0	.0	.0	.0
140.	*	.0	.0	.0	.0
145.	*	.2	.0	.0	.0
150.	*	.3	.2	.0	.0
155.	*	.5	.3	.2	.0
160.	*	.6	.5	.2	.1
165.	*	.9	.5	.3	.1
170.	*	1.0	.5	.4	.1
175.	*	.9	.6	.4	.1
180.	*	1.0	.6	.4	.3
185.	*	.9	.8	.6	.3
190.	*	.9	.9	.6	.4
195.	*	1.4	1.1	.8	.3
200.	*	1.5	1.3	1.1	.5
205.	*	1.6	1.4	1.4	.6

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WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
210.	*	1.8	1.5	1.6	.7
215.	*	1.7	1.5	1.7	.9
220.	*	1.5	1.7	1.8	1.0
225.	*	1.2	1.6	1.8	1.3
230.	*	1.3	1.5	1.7	1.3
235.	*	1.3	1.7	1.7	1.2
240.	*	1.2	1.6	1.7	1.2
245.	*	.9	1.5	1.6	1.3
250.	*	1.0	1.4	1.5	1.1
255.	*	1.0	1.4	1.4	1.3
260.	*	1.0	1.4	1.4	1.3
265.	*	1.1	1.4	1.4	1.1
270.	*	1.1	1.4	1.4	1.2
275.	*	1.1	1.4	1.4	1.2
280.	*	1.1	1.4	1.4	1.2
285.	*	1.2	1.4	1.4	1.2
290.	*	1.3	1.4	1.4	1.1
295.	*	1.3	1.4	1.4	.9
300.	*	1.3	1.4	1.5	1.0
305.	*	1.5	1.4	1.3	1.0
310.	*	1.4	1.4	1.3	1.0
315.	*	1.4	1.4	1.4	1.0
320.	*	1.5	1.4	1.4	.9
325.	*	1.5	1.4	1.5	.8
330.	*	1.5	1.5	1.4	.8
335.	*	1.5	1.6	1.4	.8
340.	*	1.6	1.6	1.5	.9
345.	*	1.7	1.6	1.5	.9
350.	*	1.8	1.8	1.5	.8
355.	*	1.8	1.9	1.6	.9
360.	*	1.7	1.8	1.6	.9
MAX	*	1.8	1.9	1.8	1.3
DEGR.	*	210	355	225	225

THE HIGHEST CONCENTRATION IS 3.40 PPM AT 195 DEGREES FROM REC1 .
THE 2ND HIGHEST CONCENTRATION IS 2.70 PPM AT 40 DEGREES FROM REC3 .
THE 3RD HIGHEST CONCENTRATION IS 2.60 PPM AT 40 DEGREES FROM REC4 .

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM) * ANGLE (DEGREES)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	*	195	185	40	40	140	180	180	35	355	5	220	220	0	5	0	355	315	290	250	215
1	*	.0	.0	.0	.0	.0	.0	.2	.1	.4	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
2	*	.0	.0	.0	.0	.0	.1	.1	.1	.1	.4	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0
3	*	.0	.0	.0	.0	.0	.2	.0	.1	.0	.1	.0	.3	.0	.0	.0	.0	.0	.1	.1	.1
4	*	.2	.1	.0	.0	.0	.9	.9	.6	1.3	1.3	1.5	1.5	.0	.0	.0	.0	.0	.1	.3	.5
5	*	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
6	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

LINK #																				
7 *	.2	.4	.3	.4	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0
8 *	.2	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.5	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.4	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14 *	.3	1.0	.9	1.0	.0	.0	.0	.1	.0	.1	.0	.0	.3	.1	.1	.1	.0	.0	.0	.0
15 *	1.6	.8	.9	.9	.0	.0	.0	.1	.0	.1	.0	.0	.2	.1	.1	.1	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.4	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.1	.7	.0	.1	.1	.2	.0	.2	.0	.0	.0	.0	.1	.1	.1	.1
18 *	.0	.0	.0	.0	.0	.2	.6	.2	.2	.2	.3	.2	.0	.0	.0	.0	.0	.0	.1	.1
19 *	.0	.0	.0	.0	.0	.1	.3	.6	.3	.0	.2	.1	.0	.0	.0	.0	.0	.0	.0	.1
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.1	.0	.0	.3	.0	.0	.0	.0	.0	.0	.0	.2	.5	.5	.4	.2	.2	.2	.2
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.3	.6	.4	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.2	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.2	.4
27 *	.0	.1	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.3	.3	.3	.4
28 *	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
31 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
34 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
35 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.2	.2	.2
36 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0

1

JOB: Brent Spence Bridge S1altIpm.dat RUN: Kyles Lane & Dixie Hwy
DATE: 08/30/2010 TIME: 11:51:25.23

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM) * ANGLE (DEGREES) * LINK #	REC21 210	REC22 355	REC23 225	REC24 225
1 *	.0	.0	.0	.0
2 *	.0	.0	.0	.0
3 *	.1	.0	.0	.0
4 *	.4	.0	.1	.1
5 *	.1	.0	.0	.0
6 *	.1	.0	.0	.0
7 *	.0	.7	.7	.2
8 *	.0	.1	.0	.3
9 *	.0	.0	.0	.0
10 *	.0	.0	.0	.0
11 *	.0	.0	.0	.0
12 *	.0	.0	.0	.0
13 *	.0	.1	.0	.1
14 *	.1	.5	.6	.3
15 *	.0	.5	.4	.3
16 *	.1	.0	.0	.0
17 *	.2	.0	.0	.0
18 *	.1	.0	.0	.0
19 *	.1	.0	.0	.0
20 *	.0	.0	.0	.0
21 *	.1	.0	.0	.0
22 *	.0	.0	.0	.0
23 *	.0	.0	.0	.0
24 *	.0	.0	.0	.0
25 *	.0	.0	.0	.0
26 *	.1	.0	.0	.0
27 *	.0	.0	.0	.0
28 *	.3	.0	.0	.0
29 *	.0	.0	.0	.0
30 *	.0	.0	.0	.0
31 *	.0	.0	.0	.0
32 *	.0	.0	.0	.0
33 *	.0	.0	.0	.0
34 *	.0	.0	.0	.0
35 *	.0	.0	.0	.0
36 *	.0	.0	.0	.0

1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000

JOB: Brent Spence Bridge NB-AM S1nbam.dat RUN: Kyles Lane & Dixie Hwy
DATE: 08/30/2010 TIME: 10:43:58.98

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION *	X1	Y1	X2	Y2 *	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 01 Dixie NB Appr *	264099.0	275553.0	264162.0	275726.0 *	184.	20.	AG	1460.	11.5	.0	44.0		
2. 02 Dixie NB Appr *	264162.0	275726.0	264197.0	275813.0 *	94.	22.	AG	1460.	11.5	.0	44.0		

```
  3. 03 Dixie  NB Appr   * 264197.0  275813.0  264240.0  275916.0 *     112.    23. AG   1460.  11.5    .0 44.0
  4. 03 Dixie  NB Queue  * 264228.0  275888.0  263487.8  274052.7 *    1979.   202. AG    242. 100.0    .0 24.0 1.27 100.5
  5. 04 Dixie  NB @ Kyles* 264240.0  275916.0  264280.0  276013.0 *     105.    22. AG   1210.  11.5    .0 44.0
  6. 05 Dixie  NB Depart * 264280.0  276013.0  264303.0  276071.0 *      62.    22. AG   1215.  11.5    .0 44.0
  7. 06 Dixie  NB Depart * 264303.0  276071.0  264360.0  276209.0 *     149.    22. AG   1955.  11.5    .0 44.0
  8. 07 Dixie  NB Depart * 264360.0  276209.0  264406.0  276278.0 *      83.    34. AG   1955.  11.5    .0 44.0
  9. 08 Dixie  NB Depart * 264406.0  276278.0  264446.0  276325.0 *      62.    40. AG   1955.  11.5    .0 44.0
 10. 09 Dixie  NB Depart * 264446.0  276325.0  264529.0  276400.0 *     112.    48. AG   1955.  11.5    .0 44.0
 11. 10 Dixie  SB Appr   * 264499.0  276415.0  264439.0  276361.0 *      81.   228. AG   1020.  11.5    .0 44.0
 12. 11 Dixie  SB Appr   * 264439.0  276361.0  264381.0  276288.0 *      93.   218. AG   1020.  11.5    .0 44.0
 13. 12 Dixie  SB Appr   * 264381.0  276288.0  264351.0  276234.0 *      62.   209. AG   1020.  11.5    .0 44.0
 14. 13 Dixie  SB Appr   * 264351.0  276234.0  264252.0  275994.0 *     260.   202. AG   1020.  11.5    .0 44.0
 15. 14 Dixie  SB Queue  * 264276.0  276054.0  264335.5  276195.4 *     153.    23. AG    180. 100.0    .0 24.0  .55   7.8
 16. 14 Dixie  SB @ Kyles* 264252.0  275994.0  264236.0  275956.0 *      41.   203. AG    485.  11.5    .0 40.0
 17. 15 Dixie  SB Depart * 264236.0  275956.0  264179.0  275824.0 *     144.   203. AG    625.  11.5    .0 44.0
 18. 16 Dixie  SB Depart * 264179.0  275824.0  264143.0  275732.0 *      99.   201. AG    625.  11.5    .0 44.0
 19. 17 Dixie  SB Depart * 264143.0  275732.0  264083.0  275564.0 *     178.   200. AG    625.  11.5    .0 44.0
 20. 18 Dixie  NB Rt.    * 264240.0  275916.0  264284.0  275929.0 *      46.    74. AG    250.  11.5    .0 32.0
 21. 19 Kyles  EB @ Dixie* 264252.0  275994.0  264284.0  275929.0 *      72.   154. AG    540.  11.5    .0 32.0
 22. 20 Kyles  EB Depart * 264284.0  275929.0  264483.0  275522.0 *     453.   154. AG    790.  11.5    .0 44.0
 23. 21 Kyles  WB Appr   * 264516.0  275540.0  264468.0  275639.0 *     110.   334. AG    890.  11.5    .0 56.0
 24. 22 Kyles  WB Appr   * 264468.0  275639.0  264359.0  275852.0 *     239.   333. AG    890.  11.5    .0 56.0
 25. 23 Kyles  WB  Rt.   * 264359.0  275852.0  264347.0  275900.0 *      49.   346. AG    740.  11.5    .0 32.0
 26. 24 Kyles  WB Rt.    * 264347.0  275900.0  264300.0  276003.0 *     113.   335. AG    740.  11.5    .0 32.0
 27. 25 Kyles  WB  Rt. Qu* 264313.0  275975.0  265450.1  273439.7 *    2779.   156. AG    128. 100.0    .0 12.0 1.46 141.2
 28. 25 Kyles  WB Rt. @ D* 264300.0  276003.0  264303.0  276071.0 *      68.     3. AG    740.  11.5    .0 32.0
 29. 26 Kyles  WB Appr   * 264359.0  275852.0  264296.0  275980.0 *     143.   334. AG     10.  11.5    .0 32.0
 30. 28        WB Kyles L* 264307.0  275957.0  264308.9  275953.2 *       4.   154. AG    128. 100.0    .0 12.0  .02    .2
 31. 27 Kyles  WB @ Dixie* 264296.0  275980.0  264280.0  276013.0 *      37.   334. AG      5.  11.5    .0 32.0
 32. 28 Kyles  WB Lt.    * 264296.0  275980.0  264252.0  275994.0 *      46.   288. AG      5.  11.5    .0 32.0
 33. 29 Kyles  WB Lt.    * 264359.0  275852.0  264325.0  275892.0 *      53.   320. AG    140.  11.5    .0 32.0
 34. 30 Kyles  WB Lt.    * 264325.0  275892.0  264287.0  275965.0 *      82.   333. AG    140.  11.5    .0 32.0
 35. 33 Kyles  WB Lt. Que* 264295.0  275951.0  264321.3  275897.4 *      60.   154. AG    128. 100.0    .0 12.0  .33   3.0
 36. 31 Kyles  WB Lt. @ D* 264287.0  275965.0  264236.0  275956.0 *      52.   260. AG    140.  11.5    .0 32.0
1
                                                                          PAGE  2
 JOB: Brent Spence Bridge NB-AM S1nbam.dat                  RUN: Kyles Lane & Dixie Hwy
 DATE: 08/30/2010   TIME: 10:43:58.98

  ADDITIONAL QUEUE LINK PARAMETERS
  --------------------------------
    LINK DESCRIPTION     *   CYCLE    RED     CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                         *   LENGTH   TIME    LOST TIME    VOL     FLOW RATE   EM FAC   TYPE     RATE
                         *   (SEC)   (SEC)    (SEC)      (VPH)     (VPH)     (gm/hr)
 ------------------------*--------------------------------------------------------------------------------
  4. 03 Dixie  NB Queue  *    120      74      2.0      1460      1642      73.30      1       3
 15. 14 Dixie  SB Queue  *    120      55      2.0      1020      1829      73.30      1       3
 27. 25 Kyles  WB  Rt. Qu*    120      78      2.0       740      1599      73.30      1       3
 30. 28        WB Kyles L*    120      78      2.0        10      1881      73.30      1       3
 35. 33 Kyles  WB Lt. Que*    120      78      2.0       140      1350      73.30      1       3

  RECEPTOR LOCATIONS
  ------------------
                         *        COORDINATES (FT)        *
    RECEPTOR             *      X          Y         Z    *
 ------------------------*--------------------------------*
  1. R1 SB Mid           *   264384.0   276323.0      5.0  *
  2. R2 SB 164           *   264321.0   276211.0      5.0  *
  3. R3 SB 82            *   264290.0   276136.0      5.0  *
  4. R4 SB Corner        *   264262.0   276069.0      5.0  *
  5. R5 SB Corner        *   264230.0   275990.0      5.0  *
  6. R6 SB 82            *   264193.0   275900.0      5.0  *
  7. R7 SB 164           *   264151.0   275798.0      5.0  *
  8. R8 SB Mid           *   264103.0   275678.0      5.0  *
  9. R9 NB Mid           *   264155.0   275655.0      5.0  *
 10. R10 NB 164          *   264184.0   275729.0      5.0  *
 11. R11 NB 82           *   264215.0   275805.0      5.0  *
 12. R12 NB Corner       *   264242.0   275872.0      5.0  *
 13. R13 EB Corner       *   264272.0   275903.0      5.0  *
 14. R14 EB 82           *   264340.0   275765.0      5.0  *
 15. R15 EB 164          *   264378.0   275678.0      5.0  *
 16. R16 EB Mid          *   264408.0   275600.0      5.0  *
 17. R17 WB Mid          *   264455.0   275722.0      5.0  *
 18. R18 WB 164          *   264399.0   275833.0      5.0  *
 19. R19 WB 82           *   264362.0   275906.0      5.0  *
 20. R20 WB Corner       *   264330.0   275971.0      5.0  *
 21. R21 NB Corner       *   264319.0   276046.0      5.0  *
 22. R22 NB 82           *   264343.0   276114.0      5.0  *
 23. R23 NB 164          *   264376.0   276189.0      5.0  *
 24. R24 NB Mid          *   264447.0   276280.0      5.0  *
1
                                                                          PAGE  3
 JOB: Brent Spence Bridge NB-AM S1nbam.dat                  RUN: Kyles Lane & Dixie Hwy

  MODEL RESULTS
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  REMARKS : In search of the angle corresponding to
            the maximum concentration, only the first
            angle, of the angles with same maximum
            concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18
REC19 REC20
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WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.1	.1	.1	.1	.1	.1	.1	.1	2.3	2.2	2.0	1.4	1.3	1.1	.9	.8	.1	.1	.6	1.1
5. *	.1	.1	.2	.3	.3	.2	.2	.1	2.4	2.3	2.2	1.5	1.4	1.1	.8	.7	.1	.0	.3	.7
10. *	.1	.3	.3	.5	.5	.3	.2	.3	2.4	2.4	1.9	1.4	1.5	.9	.8	.7	.0	.0	.2	.6
15. *	.1	.3	.6	.7	.7	.6	.7	.6	2.3	2.1	1.8	1.3	1.6	.9	.8	.7	.0	.0	.0	.6
20. *	.1	.4	.9	1.1	1.0	.7	1.0	1.0	2.0	2.0	1.5	1.3	1.4	.8	.7	.7	.0	.0	.0	.3
25. *	.2	.8	1.4	1.5	1.3	.8	1.1	1.3	1.4	1.6	1.3	1.3	1.2	.7	.7	.7	.0	.0	.0	.2
30. *	.3	.9	1.7	1.9	1.4	1.1	1.3	1.5	1.0	1.1	1.1	1.2	1.0	.7	.7	.7	.0	.0	.0	.0
35. *	.4	1.1	1.9	2.1	1.9	1.1	1.4	1.5	.8	.8	.9	.9	.7	.7	.7	.7	.0	.0	.0	.0
40. *	.5	1.2	2.2	2.3	1.6	1.2	1.6	1.5	.6	.6	.7	.7	.7	.7	.7	.7	.0	.0	.0	.0
45. *	.7	1.5	2.2	2.2	1.4	1.2	1.4	1.6	.5	.5	.5	.6	.7	.7	.7	.7	.0	.0	.0	.0
50. *	.8	1.4	2.2	2.1	1.3	1.1	1.6	1.8	.3	.3	.3	.5	.7	.7	.7	.6	.0	.0	.0	.0
55. *	.9	1.5	2.1	1.9	1.2	1.0	1.5	1.7	.4	.3	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
60. *	1.2	1.4	1.9	1.9	1.1	1.1	1.7	1.6	.4	.4	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
65. *	1.1	1.3	2.0	1.8	.9	1.1	1.7	1.7	.4	.4	.3	.6	.7	.7	.7	.6	.0	.0	.0	.0
70. *	1.1	1.2	1.8	1.8	1.0	1.2	1.6	1.7	.4	.4	.4	.6	.7	.7	.7	.6	.0	.0	.0	.0
75. *	1.2	1.1	1.6	1.5	1.1	1.2	1.4	1.5	.4	.4	.4	.6	.7	.7	.7	.6	.0	.0	.0	.0
80. *	1.2	1.2	1.6	1.6	1.0	1.1	1.5	1.4	.4	.4	.4	.5	.7	.7	.7	.5	.0	.0	.0	.0
85. *	1.0	1.0	1.6	1.6	1.0	1.2	1.5	1.4	.4	.4	.3	.5	.8	.7	.7	.6	.0	.0	.0	.0
90. *	1.0	1.1	1.6	1.6	.7	1.1	1.5	1.4	.2	.3	.3	.4	.8	.7	.7	.7	.0	.0	.0	.0
95. *	1.0	1.0	1.6	1.6	1.0	.9	1.4	1.3	.2	.3	.3	.5	.8	.7	.7	.7	.0	.0	.0	.0
100. *	.9	1.0	1.6	1.5	1.1	1.0	1.4	1.3	.2	.3	.3	.4	.7	.7	.7	.7	.0	.0	.0	.0
105. *	1.0	1.1	1.6	1.5	1.0	1.1	1.4	1.4	.2	.3	.3	.4	.7	.7	.8	.7	.0	.0	.0	.0
110. *	1.0	1.0	1.6	1.5	1.0	1.2	1.4	1.3	.1	.2	.3	.4	.8	.8	.8	.7	.0	.0	.0	.0
115. *	.9	1.1	1.6	1.5	1.1	1.3	1.4	1.3	.1	.2	.3	.4	.8	.8	.8	.6	.0	.0	.0	.0
120. *	.9	1.1	1.6	1.5	1.3	1.4	1.3	1.2	.1	.2	.3	.4	.8	.8	.8	.6	.0	.1	.0	.1
125. *	.9	1.2	1.6	1.4	1.3	1.4	1.3	1.2	.1	.2	.3	.4	.9	.8	.8	.6	.1	.1	.0	.1
130. *	.9	1.2	1.6	1.4	1.4	1.4	1.3	1.2	.1	.1	.2	.5	.9	1.0	.8	.6	.1	.1	.0	.1
135. *	1.0	1.3	1.6	1.4	1.5	1.4	1.3	1.2	.2	.1	.2	.5	.9	1.0	.7	.4	.1	.1	.2	.2
140. *	.9	1.3	1.6	1.4	1.4	1.5	1.3	1.4	.2	.1	.3	.6	.9	.9	.7	.4	.2	.3	.2	.5
145. *	1.0	1.4	1.7	1.6	1.3	1.5	1.4	1.4	.2	.1	.2	.5	.9	.9	.7	.4	.4	.4	.4	.6
150. *	.9	1.6	1.8	1.7	1.3	1.6	1.5	1.4	.2	.1	.2	.3	.8	.8	.5	.3	.5	.6	.7	1.0
155. *	1.2	1.8	2.3	1.9	1.4	1.5	1.5	1.4	.1	.1	.2	.3	.7	.6	.4	.3	.7	1.0	.8	1.1
160. *	1.1	1.8	2.4	1.9	1.3	1.6	1.4	1.4	.1	.0	.1	.2	.4	.4	.3	.1	.9	1.1	1.1	1.3
165. *	1.2	2.1	2.4	1.9	1.1	1.4	1.5	1.4	.1	.0	.1	.1	.3	.3	.2	.1	.9	1.2	1.2	1.5
170. *	1.2	2.2	2.6	1.5	1.2	1.5	1.5	1.5	.2	.1	.1	.1	.1	.1	.1	.0	.9	1.2	1.2	1.4
175. *	1.3	2.2	2.5	1.6	1.0	1.8	1.7	1.4	.3	.2	.2	.2	.1	.1	.0	.0	1.0	1.2	1.2	1.5
180. *	1.6	2.3	2.4	1.4	1.2	1.7	1.7	1.4	.4	.3	.3	.3	.1	.1	.0	.0	1.1	1.1	1.2	1.4
185. *	1.6	2.5	2.2	1.5	1.5	1.8	1.7	1.4	.5	.5	.5	.5	.1	.1	.0	.0	1.0	1.0	1.2	1.2
190. *	1.7	2.3	2.1	1.6	1.5	1.8	1.7	1.3	.9	.9	.8	.9	.2	.0	.0	.0	1.0	1.0	1.0	1.3
195. *	1.7	2.2	1.9	1.4	1.4	1.7	1.6	1.2	1.3	1.3	1.3	1.4	.7	.1	.0	.0	.9	1.0	1.1	1.5
200. *	1.7	1.9	1.7	1.3	1.3	1.4	1.1	1.0	1.6	1.7	1.7	1.7	.8	.1	.1	.0	.9	1.0	1.2	1.6
205. *	1.5	1.4	1.2	1.1	1.0	1.1	1.0	.8	1.9	2.1	2.1	2.3	1.1	.2	.1	.1	1.0	1.1	1.2	1.9

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	1.2	.9	.8	.8	.6	.8	.7	.5	2.1	2.3	2.5	2.5	1.4	.2	.2	.1	.9	1.0	1.3	1.9
215. *	.9	.5	.5	.3	.4	.4	.5	.3	2.2	2.4	2.5	2.5	1.6	.3	.2	.1	1.0	1.0	1.3	1.8
220. *	.6	.3	.3	.2	.2	.2	.2	.2	2.2	2.4	2.4	2.6	1.6	.4	.2	.2	1.0	1.2	1.3	1.9
225. *	.4	.2	.1	.1	.0	.1	.1	.1	2.1	2.3	2.3	2.4	1.6	.4	.2	.2	1.0	1.1	1.2	1.8
230. *	.2	.1	.1	.1	.0	.1	.1	.1	2.1	2.1	2.2	2.1	1.4	.4	.2	.2	1.0	1.1	1.4	1.8
235. *	.1	.1	.1	.1	.0	.1	.1	.0	2.0	2.0	2.1	2.0	1.2	.4	.2	.2	1.0	1.1	1.4	1.6
240. *	.1	.1	.1	.1	.0	.1	.1	.0	1.9	2.0	2.0	2.1	1.1	.5	.3	.2	1.0	1.2	1.3	1.4
245. *	.1	.1	.1	.1	.0	.0	.0	.0	1.8	1.9	1.8	1.8	1.0	.4	.3	.2	1.1	1.2	1.3	1.4
250. *	.1	.1	.1	.1	.0	.0	.0	.0	1.7	1.8	1.8	1.7	1.0	.4	.3	.2	1.1	1.2	1.4	1.3
255. *	.0	.1	.1	.0	.0	.0	.0	.0	1.6	1.7	1.7	1.6	.9	.4	.3	.2	1.1	1.1	1.4	1.2
260. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.5	1.6	1.6	.9	.4	.3	.2	1.1	1.2	1.3	1.1
265. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.7	1.6	1.6	.7	.4	.3	.2	1.0	1.2	1.2	1.0
270. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.7	.3	.3	.2	1.1	1.2	1.3	1.1
275. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.6	.8	.4	.3	.2	1.0	1.1	1.3	1.1
280. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.4	1.5	.6	.3	.4	.2	1.1	1.1	1.3	1.0
285. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.5	1.5	1.5	.7	.4	.4	.2	1.1	1.2	1.4	1.0
290. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.5	1.5	1.5	.8	.4	.3	.2	1.1	1.2	1.3	.9
295. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.5	.6	.4	.3	.2	1.1	1.4	1.3	.8
300. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.5	.6	.4	.3	.2	1.1	1.1	1.3	1.0
305. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.4	.6	.5	.4	.2	1.1	1.0	1.3	1.1
310. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.4	1.3	.6	.5	.3	.2	1.2	1.1	1.2	.9
315. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.4	1.2	.6	.4	.3	.2	1.0	1.1	1.1	1.0
320. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.2	.6	.4	.3	.3	.9	1.2	1.0	1.0
325. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.1	.6	.6	.4	.3	.8	1.0	1.1	1.0
330. *	.0	.0	.1	.1	.0	.0	.0	.0	1.6	1.8	1.6	1.2	.9	.5	.4	.4	.9	1.1	1.2	1.1
335. *	.0	.0	.1	.1	.0	.0	.0	.0	1.7	1.8	1.8	1.1	1.0	.6	.5	.4	.7	.8	1.0	1.1
340. *	.0	.0	.1	.1	.0	.0	.0	.0	1.9	1.8	1.8	1.1	.9	.6	.7	.5	.6	.7	.9	1.2
345. *	.0	.1	.1	.1	.0	.0	.0	.0	2.1	2.1	1.9	1.1	.9	1.0	.8	.5	.5	.6	.8	1.1
350. *	.1	.1	.1	.1	.0	.1	.1	.0	2.1	2.2	1.9	1.2	1.3	1.1	.8	.8	.2	.4	.5	1.0
355. *	.1	.1	.1	.1	.1	.1	.1	.1	2.1	2.2	2.0	1.0	1.3	1.1	1.0	.9	.1	.3	.5	1.0
360. *	.1	.1	.1	.1	.1	.1	.1	.1	2.3	2.2	2.0	1.4	1.3	1.1	.9	.8	.1	.1	.6	1.1
MAX *	1.7	2.5	2.6	2.3	1.9	1.8	1.7	1.8	2.4	2.4	2.5	2.6	1.6	1.1	1.0	.9	1.2	1.4	1.4	1.9
DEGR. *	190	185	170	40	35	175	60	50	5	215	210	220	15	0	355	355	310	295	230	205

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)
(DEGR)* REC21 REC22 REC23 REC24

(DEGR)	REC21	REC22	REC23	REC24
0.	1.7	1.7	1.3	.9
5.	1.7	1.6	1.3	1.0
10.	1.5	1.7	1.3	.9
15.	1.4	1.6	1.4	.9
20.	1.2	1.5	1.4	.9
25.	1.0	1.2	1.3	.8
30.	.6	.9	1.2	.8
35.	.4	.7	.9	.7
40.	.1	.6	.6	.5
45.	.1	.3	.4	.3
50.	.0	.2	.3	.2
55.	.0	.1	.1	.1
60.	.0	.1	.0	.1
65.	.0	.1	.0	.0
70.	.0	.1	.0	.0
75.	.0	.1	.0	.0
80.	.0	.1	.0	.0
85.	.0	.1	.0	.0
90.	.0	.0	.0	.0
95.	.0	.0	.0	.0
100.	.0	.0	.0	.0
105.	.0	.0	.0	.0
110.	.0	.0	.0	.0
115.	.0	.0	.0	.0
120.	.0	.0	.0	.0
125.	.0	.0	.0	.0
130.	.0	.0	.0	.0
135.	.0	.0	.0	.0
140.	.1	.1	.0	.0
145.	.1	.1	.1	.0
150.	.3	.2	.1	.0
155.	.6	.2	.2	.0
160.	.6	.4	.2	.1
165.	.7	.5	.2	.1
170.	.8	.5	.3	.1
175.	1.0	.6	.4	.1
180.	.9	.6	.5	.1
185.	1.1	.6	.5	.2
190.	1.2	1.1	.6	.3
195.	1.2	1.4	1.1	.3
200.	1.8	1.4	1.4	.3
205.	1.7	1.6	1.7	.7

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WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)
(DEGR)* REC21 REC22 REC23 REC24

(DEGR)	REC21	REC22	REC23	REC24
210.	1.9	1.8	1.8	.7
215.	1.7	1.7	2.0	1.0
220.	1.5	1.8	1.8	1.1
225.	1.6	1.8	1.8	1.2
230.	1.3	1.7	1.8	1.1
235.	1.1	1.6	1.8	1.3
240.	1.1	1.8	1.7	1.1
245.	1.1	1.6	1.6	1.1
250.	1.1	1.5	1.6	1.1
255.	1.1	1.5	1.4	1.1
260.	1.0	1.5	1.4	1.1
265.	1.1	1.4	1.4	1.1
270.	1.1	1.4	1.3	1.0
275.	1.1	1.4	1.2	.9
280.	1.3	1.4	1.2	.9
285.	1.3	1.5	1.1	1.0
290.	1.4	1.5	1.2	.9
295.	1.4	1.5	1.2	.8
300.	1.4	1.5	1.1	.9
305.	1.4	1.4	1.0	.9
310.	1.5	1.4	1.1	.9
315.	1.5	1.4	1.1	.9
320.	1.6	1.5	1.0	.9
325.	1.6	1.5	1.1	.9
330.	1.6	1.5	1.2	.8
335.	1.6	1.6	1.2	.9
340.	1.7	1.6	1.2	.9
345.	1.7	1.6	1.2	1.1
350.	1.8	1.7	1.4	1.0
355.	1.7	1.7	1.3	1.0
360.	1.7	1.7	1.3	.9
MAX	1.9	1.8	2.0	1.3
DEGR.	210	210	215	235

THE HIGHEST CONCENTRATION IS 2.60 PPM AT 170 DEGREES FROM REC3 .
THE 2ND HIGHEST CONCENTRATION IS 2.60 PPM AT 220 DEGREES FROM REC12.
THE 3RD HIGHEST CONCENTRATION IS 2.50 PPM AT 185 DEGREES FROM REC2 .

1

JOB: Brent Spence Bridge NB-AM S1nbam.dat RUN: Kyles Lane & Dixie Hwy
DATE: 08/30/2010 TIME: 10:43:58.98

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK # *	190	185	170	40	35	175	60	50	5	215	210	220	15	0	355	355	310	295	230	205
1 *	.0	.0	.0	.0	.0	.1	.0	.3	.7	.7	.3	.1	.0	.0	.0	.0	.0	.0	.1	.1
2 *	.0	.0	.0	.0	.0	.2	.2	.2	.2	.2	.7	.2	.0	.0	.0	.0	.0	.0	.1	.1
3 *	.0	.0	.0	.0	.0	.4	.3	.1	.1	.0	.0	.7	.0	.0	.0	.0	.1	.1	.1	.1
4 *	.1	.1	.0	.0	.0	.7	.6	.6	1.1	1.3	1.3	1.3	.0	.0	.0	.0	.1	.1	.3	.4
5 *	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.1	.0	.0
6 *	.0	.1	.2	.0	.2	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
7 *	.3	.6	.4	.6	.3	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.1	.0	.0	.0	.0
8 *	.4	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14 *	.2	.7	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0	.0	.0	.0
15 *	.1	.7	.7	.8	.3	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.3	.1	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0
18 *	.0	.0	.0	.0	.0	.1	.3	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.3	.1	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.1	.1	.0	.0	.0	.1	.1	.0	.0	.0	.0	.2	.4	.4	.4	.2	.2	.2	.2
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.5	.3	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.2	.0
26 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.1	.4
27 *	.1	.1	.2	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.1	.2	.2	.3	.4	.3	.4
28 *	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
35 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.2
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

1

JOB: Brent Spence Bridge NB-AM S1nbam.dat RUN: Kyles Lane & Dixie Hwy
DATE: 08/30/2010 TIME: 10:43:58.98

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC21	REC22	REC23	REC24
LINK # *	210	210	215	235
1 *	.1	.0	.0	.0
2 *	.1	.0	.0	.0
3 *	.1	.1	.0	.0
4 *	.4	.3	.2	.0
5 *	.3	.1	.1	.0
6 *	.3	.2	.1	.0
7 *	.0	.6	1.0	.2
8 *	.0	.0	.0	.5
9 *	.0	.0	.0	.2
10 *	.0	.0	.0	.0
11 *	.0	.0	.0	.0
12 *	.0	.0	.0	.0
13 *	.0	.0	.0	.1
14 *	.0	.2	.3	.2
15 *	.0	.1	.3	.1
16 *	.0	.0	.0	.0
17 *	.1	.1	.0	.0
18 *	.0	.0	.0	.0
19 *	.0	.0	.0	.0
20 *	.0	.0	.0	.0
21 *	.1	.0	.0	.0
22 *	.0	.0	.0	.0
23 *	.0	.0	.0	.0
24 *	.0	.0	.0	.0
25 *	.0	.0	.0	.0
26 *	.1	.0	.0	.0
27 *	.0	.0	.0	.0
28 *	.3	.1	.0	.0
29 *	.0	.0	.0	.0
30 *	.0	.0	.0	.0
31 *	.0	.0	.0	.0
32 *	.0	.0	.0	.0
33 *	.0	.0	.0	.0
34 *	.0	.0	.0	.0

```
    35  *    .0    .0    .0    .0
    36  *    .0    .0    .0    .0
1                 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000                   PAGE  1

    JOB: Brent Spence Bridge NB-PM S1nbpm.dat               RUN: Kyles Lane & Dixie Hwy
    DATE: 08/30/2010   TIME: 10:57:22.60


     SITE & METEOROLOGICAL VARIABLES
     -------------------------------
     VS =    .0 CM/S       VD =    .0 CM/S       Z0 = 175. CM
      U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

     LINK VARIABLES
     --------------
       LINK DESCRIPTION     *        LINK COORDINATES (FT)          *   LENGTH  BRG TYPE   VPH    EF      H   W    V/C QUEUE
                          *   X1        Y1        X2        Y2    *     (FT)  (DEG)            (G/MI)  (FT) (FT)        (VEH)
    ------------------------*----------------------------------------*-------------------------------------------------------
     1. 01 Dixie  NB Appr   * 264099.0  275553.0  264162.0  275726.0 *     184.    20. AG    720.  11.5    .0 44.0
     2. 02 Dixie  NB Appr   * 264162.0  275726.0  264197.0  275813.0 *      94.    22. AG    720.  11.5    .0 44.0
     3. 03 Dixie  NB Appr   * 264197.0  275813.0  264240.0  275916.0 *     112.    23. AG    720.  11.5    .0 44.0
     4. 03 Dixie  NB Queue  * 264228.0  275888.0  263907.4  275093.1 *     857.   202. AG    300. 100.0    .0 24.0 1.20  43.5
     5. 04 Dixie  NB @ Kyles* 264240.0  275916.0  264280.0  276013.0 *     105.    22. AG    430.  11.5    .0 44.0
     6. 05 Dixie  NB Depart * 264280.0  276013.0  264303.0  276071.0 *      62.    22. AG    445.  11.5    .0 44.0
     7. 06 Dixie  NB Depart * 264303.0  276071.0  264360.0  276209.0 *     149.    22. AG   1295.  11.5    .0 44.0
     8. 07 Dixie  NB Depart * 264360.0  276209.0  264406.0  276278.0 *      83.    34. AG   1295.  11.5    .0 44.0
     9. 08 Dixie  NB Depart * 264406.0  276278.0  264446.0  276325.0 *      62.    40. AG   1295.  11.5    .0 44.0
    10. 09 Dixie  NB Depart * 264446.0  276325.0  264529.0  276400.0 *     112.    48. AG   1295.  11.5    .0 44.0
    11. 10 Dixie  SB Appr   * 264499.0  276415.0  264439.0  276361.0 *      81.   228. AG   1020.  11.5    .0 44.0
    12. 11 Dixie  SB Appr   * 264439.0  276361.0  264381.0  276288.0 *      93.   218. AG   1570.  11.5    .0 44.0
    13. 12 Dixie  SB Appr   * 264381.0  276288.0  264351.0  276234.0 *      62.   209. AG   1570.  11.5    .0 44.0
    14. 13 Dixie  SB Appr   * 264351.0  276234.0  264252.0  275994.0 *     260.   202. AG   1570.  11.5    .0 44.0
    15. 14 Dixie  SB Queue  * 264276.0  276054.0  264371.4  276281.0 *     246.    23. AG    186. 100.0    .0 24.0  .87  12.5
    16. 14 Dixie  SB @ Kyles* 264252.0  275994.0  264236.0  275956.0 *      41.   203. AG    915.  11.5    .0 40.0
    17. 15 Dixie  SB Depart * 264236.0  275956.0  264179.0  275824.0 *     144.   203. AG   1265.  11.5    .0 44.0
    18. 16 Dixie  SB Depart * 264179.0  275824.0  264143.0  275732.0 *      99.   201. AG   1265.  11.5    .0 44.0
    19. 17 Dixie  SB Depart * 264143.0  275732.0  264083.0  275564.0 *     178.   200. AG   1265.  11.5    .0 44.0
    20. 18 Dixie  NB Rt.    * 264240.0  275916.0  264284.0  275929.0 *      46.    74. AG    290.  11.5    .0 32.0
    21. 19 Kyles  EB @ Dixie* 264252.0  275994.0  264284.0  275929.0 *      72.   154. AG    670.  11.5    .0 32.0
    22. 20 Kyles  EB Depart * 264284.0  275929.0  264483.0  275522.0 *     453.   154. AG    960.  11.5    .0 44.0
    23. 21 Kyles  WB Appr   * 264516.0  275540.0  264468.0  275639.0 *     110.   334. AG   1230.  11.5    .0 56.0
    24. 22 Kyles  WB Appr   * 264468.0  275639.0  264359.0  275852.0 *     239.   333. AG   1230.  11.5    .0 56.0
    25. 23 Kyles  WB  Rt.   * 264359.0  275852.0  264347.0  275900.0 *      49.   346. AG    850.  11.5    .0 32.0
    26. 24 Kyles  WB Rt.    * 264347.0  275900.0  264300.0  276003.0 *     113.   335. AG    850.  11.5    .0 32.0
    27. 25 Kyles  WB  Rt. Qu* 264313.0  275975.0  265406.9  273536.2 *    2673.   156. AG    113. 100.0    .0 12.0 1.36 135.8
    28. 25 Kyles  WB Rt. @ D* 264300.0  276003.0  264303.0  276071.0 *      68.     3. AG    850.  11.5    .0 32.0
    29. 26 Kyles  WB Appr   * 264359.0  275852.0  264296.0  275980.0 *     143.   334. AG     30.  11.5    .0 32.0
    30. 28        WB Kyles L* 264307.0  275957.0  264311.6  275947.7 *      10.   154. AG    113. 100.0    .0 12.0  .04    .5
    31. 27 Kyles  WB @ Dixie* 264296.0  275980.0  264280.0  276013.0 *      37.   334. AG     15.  11.5    .0 32.0
    32. 28 Kyles  WB Lt.    * 264296.0  275980.0  264252.0  275994.0 *      46.   288. AG     15.  11.5    .0 32.0
    33. 29 Kyles  WB Lt.    * 264359.0  275852.0  264325.0  275892.0 *      53.   320. AG    350.  11.5    .0 32.0
    34. 30 Kyles  WB Lt.    * 264325.0  275892.0  264287.0  275965.0 *      82.   333. AG    350.  11.5    .0 32.0
    35. 33 Kyles  WB Lt. Que* 264295.0  275951.0  264348.1  275842.7 *     121.   154. AG    113. 100.0    .0 12.0  .65   6.1
    36. 31 Kyles  WB Lt. @ D* 264287.0  275965.0  264236.0  275956.0 *      52.   260. AG    350.  11.5    .0 32.0
1
                                                                                PAGE  2
    JOB: Brent Spence Bridge NB-PM S1nbpm.dat               RUN: Kyles Lane & Dixie Hwy
    DATE: 08/30/2010   TIME: 10:57:22.60

     ADDITIONAL QUEUE LINK PARAMETERS
     --------------------------------
       LINK DESCRIPTION     *   CYCLE    RED    CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                          *   LENGTH   TIME    LOST TIME    VOL      FLOW RATE   EM FAC   TYPE      RATE
                          *    (SEC)   (SEC)     (SEC)     (VPH)      (VPH)    (gm/hr)
    ------------------------*--------------------------------------------------------------------------
     4. 03 Dixie  NB Queue  *     110      84       2.0       720       1505     73.30       1        3
    15. 14 Dixie  SB Queue  *     110      52       2.0      1570       1831     73.30       1        3
    27. 25 Kyles  WB  Rt. Qu*     110      63       2.0       850       1599     73.30       1        3
    30. 28        WB Kyles L*     110      63       2.0        30       1881     73.30       1        3
    35. 33 Kyles  WB Lt. Que*     110      63       2.0       350       1370     73.30       1        3

     RECEPTOR LOCATIONS
     ------------------
                          *          COORDINATES (FT)         *
       RECEPTOR           *       X          Y          Z     *
    ------------------------*-----------------------------------*
     1. R1 SB Mid           *     264384.0   276323.0       5.0  *
     2. R2 SB 164           *     264321.0   276211.0       5.0  *
     3. R3 SB 82            *     264290.0   276136.0       5.0  *
     4. R4 SB Corner        *     264262.0   276069.0       5.0  *
     5. R5 SB Corner        *     264230.0   275990.0       5.0  *
     6. R6 SB 82            *     264193.0   275900.0       5.0  *
     7. R7 SB 164           *     264151.0   275798.0       5.0  *
     8. R8 SB Mid           *     264103.0   275678.0       5.0  *
     9. R9 NB Mid           *     264155.0   275655.0       5.0  *
    10. R10 NB 164          *     264184.0   275729.0       5.0  *
    11. R11 NB 82           *     264215.0   275805.0       5.0  *
    12. R12 NB Corner       *     264242.0   275872.0       5.0  *
    13. R13 EB Corner       *     264272.0   275903.0       5.0  *
    14. R14 EB 82           *     264340.0   275765.0       5.0  *
    15. R15 EB 164          *     264378.0   275678.0       5.0  *
    16. R16 EB Mid          *     264408.0   275600.0       5.0  *
    17. R17 WB Mid          *     264455.0   275722.0       5.0  *
    18. R18 WB 164          *     264399.0   275833.0       5.0  *
    19. R19 WB 82           *     264362.0   275906.0       5.0  *
    20. R20 WB Corner       *     264330.0   275971.0       5.0  *
    21. R21 NB Corner       *     264319.0   276046.0       5.0  *
    22. R22 NB 82           *     264343.0   276114.0       5.0  *
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23. R23 NB 164 * 264376.0 276189.0 5.0 *
24. R24 NB Mid * 264447.0 276280.0 5.0 *

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.1	.1	.2	.3	.2	.2	.3	.2	2.2	2.4	2.0	1.3	1.5	1.3	1.2	.9	.1	.2	.4	.9
5. *	.1	.3	.4	.4	.4	.3	.3	.3	2.3	2.3	1.9	1.1	1.5	1.4	1.0	.9	.1	.0	.4	.8
10. *	.1	.4	.6	.6	.5	.5	.6	.6	2.4	2.2	1.9	1.3	1.4	1.4	1.0	.9	.1	.0	.2	.7
15. *	.2	.7	.9	1.0	.9	.9	.8	.9	2.2	1.9	1.7	1.4	1.6	1.1	.9	.9	.1	.0	.0	.5
20. *	.2	.9	1.4	1.4	1.2	1.1	1.1	1.3	1.8	1.7	1.3	1.2	1.3	1.0	.9	.8	.1	.0	.0	.4
25. *	.3	1.2	1.6	1.9	1.4	1.3	1.5	1.6	1.5	1.3	1.2	1.2	1.2	.9	.9	.7	.1	.0	.0	.0
30. *	.5	1.5	1.9	2.2	1.5	1.3	1.4	1.7	1.1	1.0	.9	.9	1.2	.8	.8	.7	.0	.0	.0	.0
35. *	.5	1.8	2.2	2.4	1.7	1.5	1.6	1.8	.5	.5	.8	.7	1.0	.8	.8	.6	.0	.0	.0	.0
40. *	.7	2.2	2.5	2.6	1.6	1.4	1.6	2.0	.4	.4	.6	.6	.9	.8	.7	.6	.0	.0	.0	.0
45. *	.9	2.3	2.4	2.2	1.5	1.2	1.7	2.0	.5	.4	.5	.7	.9	.8	.7	.7	.0	.0	.0	.0
50. *	.9	2.2	2.3	2.1	1.3	1.2	1.9	1.9	.4	.3	.5	.7	.9	.8	.7	.7	.0	.0	.0	.0
55. *	1.1	2.1	2.1	2.1	1.3	1.1	2.0	1.9	.4	.4	.4	.7	1.0	.8	.8	.6	.0	.0	.0	.0
60. *	1.1	2.2	2.0	1.9	1.3	1.0	2.0	2.0	.4	.3	.3	.5	1.0	.8	.8	.7	.0	.0	.0	.0
65. *	1.2	2.1	1.8	1.9	1.1	1.3	1.8	1.7	.3	.3	.4	.5	1.0	.8	.8	.7	.0	.0	.0	.0
70. *	1.2	1.9	1.8	1.7	1.1	1.2	1.7	1.7	.3	.3	.4	.5	.9	.8	.8	.7	.0	.0	.0	.0
75. *	1.2	1.7	1.7	1.7	1.0	1.1	1.8	1.7	.3	.3	.3	.6	.9	.8	.7	.6	.0	.0	.0	.0
80. *	1.2	1.7	1.7	1.8	.9	1.1	1.8	1.7	.3	.3	.3	.5	.9	.8	.7	.6	.0	.0	.0	.0
85. *	1.1	1.7	1.6	1.6	.9	1.2	1.8	1.7	.3	.3	.3	.5	.9	.8	.7	.7	.0	.0	.0	.0
90. *	1.1	1.6	1.6	1.6	.9	1.2	1.7	1.7	.3	.3	.3	.6	1.0	.8	.7	.7	.0	.0	.0	.0
95. *	1.1	1.6	1.6	1.5	1.0	1.2	1.7	1.7	.2	.3	.4	.6	1.0	.8	.8	.7	.0	.0	.0	.0
100. *	1.0	1.7	1.6	1.6	.9	1.4	1.7	1.6	.2	.3	.4	.6	1.0	.8	.9	.7	.1	.0	.0	.0
105. *	1.0	1.6	1.6	1.6	.9	1.5	1.6	1.6	.2	.3	.5	.5	.9	.8	.8	.7	.1	.1	.0	.0
110. *	.9	1.6	1.6	1.4	1.1	1.5	1.6	1.5	.2	.3	.5	.5	1.0	.9	.9	.7	.1	.1	.0	.1
115. *	.9	1.6	1.6	1.4	1.1	1.5	1.6	1.4	.1	.3	.4	.5	1.2	1.0	.9	.8	.1	.1	.0	.1
120. *	.9	1.6	1.6	1.4	1.4	1.6	1.7	1.5	.1	.2	.4	.5	1.3	1.0	1.0	.7	.1	.1	.0	.1
125. *	.9	1.6	1.6	1.3	1.6	1.6	1.6	1.5	.1	.2	.3	.6	1.1	1.1	1.0	.6	.1	.1	.0	.1
130. *	.9	1.6	1.6	1.4	1.6	1.7	1.6	1.5	.1	.1	.3	.6	1.1	1.2	1.0	.6	.1	.1	.0	.1
135. *	.9	1.6	1.6	1.4	1.6	1.7	1.5	1.5	.1	.1	.2	.5	1.2	1.1	.9	.6	.1	.2	.2	.2
140. *	1.0	1.6	1.6	1.5	1.5	1.6	1.5	1.5	.1	.1	.2	.4	1.1	1.1	.8	.4	.4	.3	.2	.4
145. *	.9	1.7	1.8	1.6	1.6	1.6	1.5	1.5	.1	.1	.2	.4	1.0	1.0	.7	.4	.4	.5	.5	.5
150. *	1.0	1.8	2.0	1.7	1.5	1.6	1.5	1.5	.0	.1	.1	.2	1.0	.9	.7	.3	.6	.9	.8	1.0
155. *	1.1	1.9	2.3	1.8	1.3	1.6	1.4	1.5	.0	.0	.1	.2	.8	.7	.5	.2	.9	1.0	1.0	1.2
160. *	1.1	2.2	2.4	1.9	1.4	1.6	1.7	1.5	.1	.0	.0	.2	.6	.5	.3	.2	1.0	1.2	1.4	1.5
165. *	1.4	2.3	2.4	2.0	1.2	1.7	1.8	1.7	.1	.0	.0	.0	.4	.4	.2	.1	1.1	1.3	1.3	1.5
170. *	1.4	2.4	2.6	1.9	1.2	1.9	1.8	1.7	.1	.0	.1	.1	.2	.2	.1	.0	1.2	1.4	1.4	1.7
175. *	1.9	2.4	2.6	1.9	1.2	1.9	1.8	1.7	.2	.2	.2	.2	.1	.1	.1	.0	1.2	1.2	1.4	1.6
180. *	1.8	2.5	2.4	1.4	1.3	2.0	2.0	1.8	.2	.2	.2	.2	.1	.1	.0	.0	1.1	1.2	1.4	1.8
185. *	2.1	2.6	2.4	1.6	1.5	2.1	2.1	1.8	.4	.4	.4	.4	.2	.1	.0	.0	1.1	1.3	1.4	1.7
190. *	2.4	2.5	2.1	1.7	1.6	2.1	2.1	1.5	.6	.8	.9	.7	.2	.1	.0	.0	1.1	1.1	1.5	1.5
195. *	2.2	2.2	1.9	1.8	1.5	2.0	1.7	1.4	1.1	1.0	1.1	1.4	.4	.0	.0	.0	1.0	1.0	1.4	1.5
200. *	2.3	2.0	1.5	1.6	1.5	1.7	1.5	1.2	1.3	1.6	1.5	1.6	.9	.1	.0	.0	1.0	1.0	1.3	1.6
205. *	2.1	1.6	1.3	1.2	1.4	1.4	1.2	.8	1.8	1.9	2.0	2.0	1.2	.1	.0	.0	1.0	1.1	1.5	1.9

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	1.8	1.2	1.0	.7	.9	.9	.9	.6	2.0	2.2	2.1	2.4	1.5	.2	.1	.0	.9	1.1	1.4	2.1
215. *	1.6	.8	.7	.5	.5	.7	.6	.3	2.2	2.4	2.3	2.4	1.6	.2	.1	.0	.9	1.2	1.5	2.2
220. *	1.0	.4	.5	.3	.3	.5	.4	.3	2.2	2.4	2.4	2.4	1.5	.3	.2	.1	.9	1.1	1.6	2.1
225. *	.8	.2	.2	.2	.2	.2	.2	.1	2.2	2.2	2.4	2.3	1.5	.4	.2	.1	1.0	1.3	1.8	1.9
230. *	.5	.2	.2	.1	.0	.2	.1	.1	2.1	2.1	2.2	2.4	1.3	.5	.2	.2	1.0	1.3	1.8	1.8
235. *	.3	.1	.1	.1	.0	.1	.1	.1	2.0	2.1	2.1	2.3	1.3	.5	.2	.2	1.1	1.4	1.7	1.8
240. *	.1	.1	.1	.1	.0	.1	.1	.1	2.0	2.0	2.0	2.0	1.3	.5	.2	.2	1.1	1.4	1.7	1.6
245. *	.1	.1	.1	.1	.0	.1	.1	.1	1.8	1.8	1.8	1.9	1.1	.5	.2	.2	1.1	1.5	1.8	1.6
250. *	.1	.1	.1	.1	.0	.1	.1	.1	1.8	1.8	1.8	1.9	.9	.5	.3	.2	1.2	1.5	1.7	1.5
255. *	.1	.1	.1	.1	.0	.1	.1	.1	1.7	1.7	1.7	1.7	.8	.5	.4	.2	1.1	1.3	1.5	1.3
260. *	.1	.1	.1	.1	.0	.1	.1	.0	1.7	1.8	1.7	1.7	.7	.6	.4	.2	1.1	1.2	1.5	1.2
265. *	.1	.1	.1	.1	.0	.1	.1	.0	1.7	1.7	1.6	1.7	.6	.6	.4	.3	1.1	1.3	1.6	1.1
270. *	.1	.0	.0	.0	.0	.1	.1	.0	1.6	1.6	1.4	1.7	.6	.5	.4	.3	1.1	1.4	1.6	1.0
275. *	.1	.0	.0	.0	.0	.0	.0	.0	1.6	1.7	1.5	1.6	.7	.5	.3	.3	1.1	1.4	1.3	1.1
280. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.5	1.6	1.6	.6	.5	.3	.3	1.2	1.5	1.2	1.0
285. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.5	.6	.3	.3	1.2	1.4	1.2	1.0
290. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.7	1.6	1.6	.6	.5	.3	.3	1.2	1.4	1.4	1.0
295. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.7	1.6	.6	.6	.3	.3	1.3	1.4	1.3	.8
300. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.5	.6	.5	.3	.2	1.3	1.3	1.5	.8
305. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.4	.6	.5	.3	.3	1.3	1.3	1.3	1.0
310. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.7	1.6	1.3	.5	.5	.4	.2	1.3	1.4	1.3	.8
315. *	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.7	1.6	1.3	.5	.5	.4	.2	1.3	1.3	1.1	1.0
320. *	.0	.1	.1	.1	.0	.1	.1	.0	1.7	1.7	1.5	1.2	.5	.5	.3	.3	1.2	1.1	1.0	.9
325. *	.0	.1	.1	.1	.0	.1	.1	.1	1.7	1.7	1.7	1.1	.7	.6	.4	.3	1.2	1.0	1.1	1.0
330. *	.0	.1	.1	.1	.0	.1	.1	.1	1.7	1.8	1.7	1.0	.7	.5	.5	.4	1.0	.9	1.0	1.1
335. *	.1	.1	.1	.1	.0	.1	.1	.1	1.9	1.8	1.8	1.0	.8	.7	.7	.5	.9	.9	1.0	1.2

340. *	.1	.1	.1	.1	.0	.1	.1	.1	1.9	2.1	1.8	.9	.9	.7	.9	.6	.6	.7	.9	1.1
345. *	.1	.1	.1	.1	.0	.1	.1	.1	2.0	2.1	1.8	1.2	1.1	1.0	1.0	.8	.5	.6	.9	1.1
350. *	.1	.1	.1	.1	.1	.1	.1	.1	2.2	2.0	1.8	1.0	1.0	1.1	1.1	.9	.4	.4	.7	1.0
355. *	.1	.1	.2	.2	.1	.1	.1	.1	2.4	2.3	2.0	1.1	1.3	1.3	1.0	.9	.1	.4	.5	1.0
360. *	.1	.1	.2	.3	.2	.2	.3	.2	2.2	2.4	2.0	1.3	1.5	1.3	1.2	.9	.1	.2	.4	.9
MAX *	2.4	2.6	2.6	2.6	1.7	2.1	2.1	2.0	2.4	2.4	2.4	2.4	1.6	1.4	1.2	.9	1.3	1.5	1.8	2.2
DEGR. *	190	185	170	40	35	185	185	40	10	215	220	210	15	5	0	0	315	280	225	215

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
0. *	1.6	1.7	1.4	.8
5. *	1.6	1.7	1.3	.8
10. *	1.6	1.5	1.2	.7
15. *	1.5	1.5	1.3	.7
20. *	1.1	1.4	1.1	.6
25. *	.7	1.1	1.1	.6
30. *	.5	.8	.7	.5
35. *	.2	.4	.6	.5
40. *	.1	.4	.4	.3
45. *	.0	.1	.3	.2
50. *	.0	.1	.2	.1
55. *	.0	.1	.1	.1
60. *	.0	.1	.0	.0
65. *	.0	.1	.0	.0
70. *	.0	.1	.0	.0
75. *	.0	.1	.0	.0
80. *	.0	.0	.0	.0
85. *	.0	.0	.0	.0
90. *	.0	.0	.0	.0
95. *	.0	.0	.0	.0
100. *	.0	.0	.0	.0
105. *	.0	.0	.0	.0
110. *	.0	.0	.0	.0
115. *	.0	.0	.0	.0
120. *	.0	.0	.0	.0
125. *	.0	.0	.0	.0
130. *	.0	.0	.0	.0
135. *	.0	.0	.0	.0
140. *	.0	.0	.0	.0
145. *	.2	.0	.0	.0
150. *	.3	.2	.0	.0
155. *	.5	.3	.2	.0
160. *	.6	.4	.2	.1
165. *	1.0	.5	.3	.1
170. *	1.0	.5	.4	.1
175. *	.9	.6	.4	.1
180. *	1.0	.6	.4	.3
185. *	.9	.8	.6	.3
190. *	1.0	.9	.7	.3
195. *	1.4	1.0	.9	.3
200. *	1.5	1.2	1.2	.5
205. *	1.5	1.3	1.4	.6

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WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
210. *	1.7	1.4	1.6	.7
215. *	1.7	1.4	1.6	.9
220. *	1.4	1.6	1.6	1.0
225. *	1.2	1.6	1.7	1.3
230. *	1.3	1.5	1.7	1.3
235. *	1.2	1.5	1.6	1.2
240. *	1.2	1.5	1.5	1.2
245. *	.9	1.5	1.5	1.3
250. *	1.0	1.4	1.5	1.1
255. *	1.0	1.4	1.4	1.1
260. *	1.0	1.4	1.4	1.2
265. *	1.1	1.4	1.4	1.0
270. *	1.1	1.4	1.4	1.0
275. *	1.1	1.4	1.4	1.0
280. *	1.1	1.4	1.4	1.0
285. *	1.1	1.4	1.4	.9
290. *	1.2	1.4	1.4	.8
295. *	1.2	1.4	1.4	.7
300. *	1.2	1.4	1.4	.7

305.	*	1.3	1.4	1.3	.8
310.	*	1.3	1.4	1.3	.9
315.	*	1.3	1.4	1.4	.9
320.	*	1.5	1.4	1.3	.8
325.	*	1.5	1.4	1.5	.8
330.	*	1.5	1.5	1.4	.8
335.	*	1.5	1.5	1.4	.7
340.	*	1.6	1.5	1.5	.8
345.	*	1.6	1.5	1.5	.9
350.	*	1.7	1.7	1.4	.8
355.	*	1.7	1.8	1.5	.8
360.	*	1.6	1.7	1.4	.8
MAX	*	1.7	1.8	1.7	1.3
DEGR.	*	210	355	225	225

THE HIGHEST CONCENTRATION IS 2.60 PPM AT 40 DEGREES FROM REC4 .
THE 2ND HIGHEST CONCENTRATION IS 2.60 PPM AT 185 DEGREES FROM REC2 .
THE 3RD HIGHEST CONCENTRATION IS 2.60 PPM AT 170 DEGREES FROM REC3 .

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK # *	190	185	170	40	35	185	185	40	10	215	220	210	15	5	0	0	315	280	225	215
1 *	.0	.0	.0	.0	.0	.1	.2	.1	.3	.4	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0
3 *	.0	.0	.0	.0	.0	.1	.0	.1	.1	.0	.0	.3	.0	.0	.0	.0	.0	.1	.0	.1
4 *	.1	.1	.0	.0	.0	.9	.9	.7	1.3	1.5	1.5	1.5	.0	.0	.0	.0	.0	.2	.4	.5
5 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
6 *	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7 *	.2	.4	.3	.4	.2	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0
8 *	.3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.5	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14 *	.3	1.0	.9	1.0	.9	.0	.0	.0	.1	.0	.0	.0	.3	.1	.1	.0	.0	.0	.0	.0
15 *	.5	.8	.7	.9	.3	.0	.0	.0	.1	.0	.0	.0	.2	.1	.1	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.6	.0	.1	.1	.0	.0	.1	.0	.0	.0	.0	.1	.1	.0	.1
18 *	.0	.0	.0	.0	.0	.2	.6	.2	.2	.0	.2	.2	.0	.0	.0	.0	.0	.0	.1	.1
19 *	.0	.0	.0	.0	.0	.1	.3	.6	.1	.4	.2	.1	.0	.0	.0	.0	.0	.0	.1	.1
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
22 *	.1	.1	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.2	.5	.5	.4	.2	.2	.2	.2
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.3	.6	.4	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.3	.0
26 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.1	.4
27 *	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.3	.3	.3	.3
28 *	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
31 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
34 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1
35 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.1	.1	.2	.2
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

1

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC21	REC22	REC23	REC24
LINK # *	210	355	225	225
1 *	.0	.0	.0	.0
2 *	.0	.0	.0	.0
3 *	.1	.0	.0	.0
4 *	.4	.0	.1	.1
5 *	.1	.0	.0	.0
6 *	.1	.0	.0	.0
7 *	.0	.7	.7	.2
8 *	.0	.1	.0	.3
9 *	.0	.0	.0	.0
10 *	.0	.0	.0	.0
11 *	.0	.0	.0	.0
12 *	.0	.0	.0	.0
13 *	.0	.1	.0	.1
14 *	.1	.5	.5	.3

```
 15 *   .0   .4   .4   .3
 16 *   .0   .0   .0   .0
 17 *   .2   .0   .0   .0
 18 *   .1   .0   .0   .0
 19 *   .1   .0   .0   .0
 20 *   .0   .0   .0   .0
 21 *   .1   .0   .0   .0
 22 *   .0   .0   .0   .0
 23 *   .0   .0   .0   .0
 24 *   .0   .0   .0   .0
 25 *   .0   .0   .0   .0
 26 *   .1   .0   .0   .0
 27 *   .0   .0   .0   .0
 28 *   .3   .0   .0   .0
 29 *   .0   .0   .0   .0
 30 *   .0   .0   .0   .0
 31 *   .0   .0   .0   .0
 32 *   .0   .0   .0   .0
 33 *   .0   .0   .0   .0
 34 *   .0   .0   .0   .0
 35 *   .0   .0   .0   .0
 36 *   .0   .0   .0   .0
1              CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000                PAGE  1

 JOB: Brent Spence Bridge                          RUN: W 5th Street & Bakewell
 DATE: 08/31/2010   TIME: 11:43:54.29


  SITE & METEOROLOGICAL VARIABLES
  -------------------------------
  VS =    .0 CM/S      VD =    .0 CM/S      Z0 = 175. CM
   U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

  LINK VARIABLES
  --------------
   LINK DESCRIPTION     *        LINK COORDINATES (FT)         *   LENGTH  BRG TYPE   VPH    EF     H   W    V/C QUEUE
                      *   X1       Y1       X2       Y2    *     (FT)  (DEG)           (G/MI)  (FT) (FT)        (VEH)
 ------------------------*----------------------------------------*--------------------------------------------------------
  1. 1 EB 5th  Phil Appr * 269695.0  284787.0  269838.0  284789.0 *     143.    89. AG   1280.  11.5    .0 44.0
  2. 2 EB 5th  EB Queue  * 269805.0  284789.0  263736.1  284712.2 *    6069.   269. AG    202. 100.0    .0 24.0 8.89 308.3
  3. 3 EB 5th  Bake Appr * 269838.0  284789.0  270093.0  284793.0 *     255.    89. AG   1270.  11.5    .0 44.0
  4. 4 EB 5th  Bake LT   * 270093.0  284793.0  270194.0  284795.0 *     101.    89. AG   1250.  11.5    .0 44.0
  5. 5 EB 5th  EB Rt     * 270093.0  284776.0  270189.0  284778.0 *      96.    89. AG     20.  11.5    .0 44.0
  6. 6 EB 5th  Main Appr * 270194.0  284795.0  270550.0  284799.0 *     356.    89. AG   1340.  11.5    .0 44.0
  7. 7 EB 5th  EB Queue  * 270491.0  284798.0  264201.6  284738.7 *    6290.   269. AG    183. 100.0    .0 24.0 8.48 319.5
  8. 8 EB 5th  Main Dep  * 270550.0  284799.0  270695.0  284801.0 *     145.    89. AG   1270.  11.5    .0 44.0
  9. 9 NB Phil 5th Appr  * 269851.0  284462.0  269847.0  284786.0 *     324.   359. AG    460.  11.5    .0 44.0
 10. 10 NB PhilNB Queue  * 269848.0  284750.0  269872.3  282852.6 *    1898.   179. AG    235. 100.0    .0 24.0 4.04  96.4
 11. 11 NB Phil5th Dep   * 269847.0  284786.0  269841.0  285143.0 *     357.   359. AG    670.  11.5    .0 44.0
 12. 12 SB Phil5th Appr  * 269823.0  285126.0  269830.0  284793.0 *     333.   179. AG    130.  11.5    .0 44.0
 13. 13 SB PhilSB Queue  * 269829.0  284819.0  269825.0  285138.8 *     320.   359. AG    235. 100.0    .0 24.0 1.67  16.2
 14. 14 SB PhilPhil Dep  * 269830.0  284793.0  269835.0  284461.0 *     332.   179. AG    110.  11.5    .0 44.0
 15. 15 NB Park5th Appr  * 270203.0  284576.0  270200.0  284791.0 *     215.   359. AG     30.  11.5    .0 32.0
 16. 16 NB ParkNB Queue  * 270201.0  284761.0  270201.4  284737.6 *      23.   179. AG     98. 100.0    .0 12.0  .94   1.2
 17. 17 NB Bake5th Dep   * 270200.0  284791.0  270194.0  285216.0 *     425.   359. AG     50.  11.5    .0 32.0
 18. 18 SB Bake5th Appr  * 270180.0  285216.0  270189.0  284778.0 *     438.   179. AG    100.  11.5    .0 32.0
 19. 19 SB BakeSB Queue  * 270188.0  284828.0  270174.7  285595.0 *     767.   359. AG     98. 100.0    .0 12.0 3.13  39.0
 20. 20 SB BakeBake Dep  * 270189.0  284778.0  270192.0  284577.0 *     201.   179. AG     70.  11.5    .0 32.0
 21. 21 NB MainMain Appr * 270564.0  284513.0  270559.0  284795.0 *     282.   359. AG    160.  11.5    .0 32.0
 22. 22 NB MainNB Queue  * 270560.0  284768.0  270575.4  283584.7 *    1183.   179. AG    124. 100.0    .0 12.0 2.96  60.1
 23. 23 NB MainMain Dep  * 270559.0  284795.0  270556.0  285029.0 *     234.   359. AG    330.  11.5    .0 32.0
 24. 24 SB MainMain Appr * 270535.0  285030.0  270539.0  284802.0 *     228.   179. AG    250.  11.5    .0   .4
 25. 25 SB MainSB Queue  * 270538.0  284828.0  270526.3  285743.7 *     916.   359. AG    248. 100.0    .0 24.0 2.84  46.5
 26. 26 SB MainMain Dep  * 270539.0  284802.0  270543.0  284513.0 *     289.   179. AG    150.  11.5    .0 44.0
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                                                                                  PAGE  2
 JOB: Brent Spence Bridge                          RUN: W 5th Street & Bakewell
 DATE: 08/31/2010   TIME: 11:43:54.29

  ADDITIONAL QUEUE LINK PARAMETERS
  --------------------------------
   LINK DESCRIPTION     *   CYCLE    RED    CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                      *   LENGTH   TIME   LOST TIME    VOL     FLOW RATE   EM FAC   TYPE     RATE
                      *   (SEC)   (SEC)    (SEC)      (VPH)     (VPH)    (gm/hr)
 ------------------------*--------------------------------------------------------------------------------

  2. 2 EB 5th  EB Queue  *     60      31      2.0      1280       175      73.00      1        3
  7. 7 EB 5th  EB Queue  *     60      28      2.0      1340       171      73.00      1        3
 10. 10 NB PhilNB Queue  *     60      36      2.0       460       173      73.00      1        3
 13. 13 SB PhilSB Queue  *     60      36      2.0       130       119      73.00      1        3
 16. 16 NB ParkNB Queue  *     40      20      2.0        30        80      73.00      1        3
 19. 19 SB BakeSB Queue  *     40      20      2.0       100        80      73.00      1        3
 22. 22 NB MainNB Queue  *     60      38      2.0       160       183      73.00      1        3
 25. 25 SB MainSB Queue  *     60      38      2.0       250       147      73.00      1        3

  RECEPTOR LOCATIONS
  ------------------
                      *         COORDINATES (FT)          *
   RECEPTOR           *      X          Y          Z      *
 ------------------------*------------------------------------*

 1. R1 EB 82          *    269739.0   284764.0        5.0   *
 2. R2 SW Corner      *    269811.0   284765.0        5.0   *
 3. R3 SB 82          *    269812.0   284693.0        5.0   *
 4. R4 SB 164         *    269813.0   284611.0        5.0   *
 5. R5 NB 164         *    269868.0   284612.0        5.0   *
 6. R6 NB 82          *    269867.0   284694.0        5.0   *
 7. R7 SE Corner      *    269866.0   284766.0        5.0   *
 8. R8 EB 82          *    269938.0   284768.0        5.0   *
 9. R9 EB 164         *    270018.0   284770.0        5.0   *
```

RECEPTOR	X	Y	Z
10. R10 EB 82	270099.0	284760.0	5.0
11. R10 SW Corner	270171.0	284761.0	5.0
12. R12 SE Corner	270217.0	284772.0	5.0
13. R13 EB 82r	270289.0	284773.0	5.0
14. R14 EB 164	270368.0	284774.0	5.0
15. R15 EB 82	270447.0	284775.0	5.0
16. R16 SW Corner	270519.0	284776.0	5.0
17. R17 SB 82	270520.0	284704.0	5.0
18. R18 SB 164	270521.0	284622.0	5.0
19. R19 NB 164	270583.0	284618.0	5.0
20. R20 NB 82	270581.0	284700.0	5.0
21. R21 SE Corner	270580.0	284773.0	5.0
22. R22 SB 82	270652.0	284773.0	5.0
23. R23 WB 82	270652.0	284829.0	5.0
24. R24 NE Corner	270580.0	284829.0	5.0
25. R25 NB 82	270579.0	284901.0	5.0
26. R26 NB 164	270577.0	284983.0	5.0
27. R27 SB 164	270525.0	284975.0	5.0
28. R28 SB 82	270527.0	284893.0	5.0
29. R29 NW Corner	270518.0	284821.0	5.0
30. R30 WB 82	270446.0	284821.0	5.0
31. R31 WB 164	270368.0	284820.0	5.0
32. R32 WB 82	270288.0	284819.0	5.0
33. R33 NE Corner	270216.0	284818.0	5.0
34. R34 NB 82	270215.0	284890.0	5.0
35. R35 NB 164	270214.0	284972.0	5.0
36. R36 SB 164	270168.0	284972.0	5.0
37. R37 SB 82	270169.0	284890.0	5.0

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
38. R38 NW Corner	270170.0	284818.0	5.0
39. R39 WB 82	270098.0	284817.0	5.0
40. R40 WB 164	270017.0	284815.0	5.0
41. R41 WB 82	269937.0	284814.0	5.0
42. R42 NE Corner	269865.0	284813.0	5.0
43. R43 NB 82	269864.0	284885.0	5.0
44. R44 NB 164	269863.0	284967.0	5.0
45. R45 SB 164	269809.0	284966.0	5.0
46. R46 SB 82	269810.0	284884.0	5.0
47. R47 NW Corner	269811.0	284812.0	5.0
48. R48 WB 82	269738.0	284810.0	5.0

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MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	1.7	1.9	.9	.9	1.2	1.3	1.7	1.0	1.0	.9	1.0	1.2	1.0	1.1	1.2	1.2	.8	.5	.6	.8
5.	1.7	2.0	1.2	1.0	1.0	1.0	1.5	1.0	1.0	.9	1.1	1.1	1.1	1.1	1.3	1.4	.9	.7	.4	.5
10.	1.9	2.0	1.2	1.1	.7	.8	1.4	1.0	1.0	.9	1.1	1.1	1.1	1.2	1.3	1.4	.9	.7	.3	.4
15.	1.9	2.0	1.0	1.0	.4	.8	1.2	1.0	1.1	.9	1.3	1.1	1.1	1.2	1.4	1.3	.7	.5	.2	.3
20.	2.0	1.8	1.1	1.2	.4	.5	1.1	1.0	1.1	1.0	1.0	1.1	1.2	1.2	1.4	1.1	.7	.5	.1	.2
25.	2.0	1.5	1.1	1.0	.3	.4	1.0	1.1	1.1	1.0	1.1	1.1	1.2	1.2	1.4	1.0	.5	.5	.1	.2
30.	2.0	1.4	1.1	1.1	.2	.4	1.0	1.1	1.2	1.0	1.1	1.1	1.2	1.2	1.4	1.0	.5	.4	.1	.2
35.	2.0	1.5	1.1	1.3	.4	.5	1.1	1.2	1.3	1.0	.9	1.3	1.3	1.4	1.3	.9	.4	.4	.1	.2
40.	2.0	1.5	1.2	1.3	.4	.5	1.1	1.4	1.3	1.1	1.1	1.3	1.4	1.4	1.4	.9	.5	.4	.0	.2
45.	2.3	1.6	1.2	1.2	.4	.5	1.3	1.4	1.4	1.2	1.1	1.3	1.4	1.4	1.4	.8	.5	.4	.0	.1
50.	2.2	1.5	1.2	1.1	.4	.5	1.3	1.4	1.5	1.3	1.1	1.3	1.4	1.4	1.3	.8	.5	.4	.0	.1
55.	2.3	1.5	1.3	1.1	.4	.6	1.3	1.4	1.6	1.1	1.1	1.5	1.6	1.5	1.3	.9	.5	.3	.0	.1
60.	2.1	1.6	1.2	1.1	.4	.6	1.4	1.5	1.6	1.1	1.2	1.5	1.5	1.5	1.3	.9	.4	.3	.0	.1
65.	2.2	1.8	1.2	1.0	.3	.8	1.5	1.5	1.7	1.2	1.2	1.6	1.5	1.4	1.2	.8	.4	.3	.0	.0
70.	2.2	1.7	1.2	.8	.2	.6	1.5	1.7	1.6	1.3	1.2	1.6	1.6	1.5	1.2	.8	.4	.3	.0	.0
75.	1.9	1.7	1.1	.8	.2	.6	1.7	1.7	1.6	1.2	1.1	1.6	1.6	1.4	1.0	.8	.3	.3	.0	.0
80.	1.8	1.7	1.0	.8	.2	.3	1.7	1.6	1.7	1.1	1.1	1.5	1.6	1.3	1.0	.8	.3	.3	.0	.0
85.	1.7	1.5	.8	.6	.0	.2	1.4	1.4	1.4	.9	.9	1.3	1.3	1.0	.8	.7	.3	.3	.0	.0
90.	1.5	1.2	.8	.6	.0	.2	1.2	1.2	1.3	.6	.7	1.1	1.0	.8	.7	.7	.3	.3	.0	.0
95.	1.2	1.0	.6	.6	.0	.0	.8	.9	.8	.5	.5	.8	.7	.7	.5	.6	.3	.3	.0	.0
100.	.7	.7	.6	.6	.0	.0	.6	.6	.6	.2	.3	.5	.4	.6	.4	.5	.3	.3	.0	.0
105.	.6	.5	.6	.6	.0	.0	.3	.3	.4	.2	.2	.3	.4	.4	.4	.4	.3	.3	.0	.0
110.	.5	.5	.6	.6	.0	.0	.2	.2	.2	.0	.1	.2	.2	.2	.2	.4	.3	.3	.0	.0
115.	.4	.4	.6	.6	.0	.0	.1	.1	.1	.0	.1	.2	.2	.2	.2	.3	.3	.3	.0	.0
120.	.4	.5	.6	.6	.0	.0	.1	.1	.1	.0	.2	.2	.2	.2	.2	.3	.3	.3	.0	.0
125.	.4	.6	.7	.7	.0	.0	.1	.1	.1	.0	.2	.2	.2	.2	.2	.3	.3	.3	.0	.0
130.	.4	.8	.8	.8	.0	.0	.0	.1	.1	.0	.2	.2	.2	.2	.2	.3	.3	.3	.0	.0
135.	.4	.8	.9	.9	.0	.0	.0	.1	.1	.0	.2	.1	.2	.2	.2	.3	.3	.3	.0	.0
140.	.4	.9	.9	.9	.0	.0	.0	.0	.0	.0	.2	.1	.1	.1	.1	.3	.3	.3	.0	.0

WIND ANGLE (DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
145.	*	.4	.9	.9	.9	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.4	.3	.3	.0	.0
150.	*	.4	.9	1.0	1.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.5	.4	.4	.0	.0
155.	*	.4	1.0	1.0	1.0	.2	.2	.2	.0	.0	.0	.0	.1	.1	.1	.1	.5	.4	.4	.0	.0
160.	*	.4	1.0	1.0	1.0	.3	.3	.3	.0	.0	.0	.0	.0	.1	.1	.1	.4	.4	.4	.0	.1
165.	*	.4	1.1	1.1	1.0	.4	.4	.4	.0	.0	.0	.0	.0	.1	.1	.1	.4	.4	.4	.1	.1
170.	*	.3	1.0	.9	.9	.7	.8	.8	.1	.0	.0	.0	.0	.0	.1	.1	.4	.4	.4	.2	.2
175.	*	.3	.9	.9	.9	1.0	1.0	1.0	.2	.1	.0	.0	.0	.0	.0	.1	.3	.3	.3	.3	.3
180.	*	.2	.7	.7	.6	1.3	1.4	1.3	.3	.1	.1	.0	.0	.0	.0	.1	.3	.3	.3	.3	.5
185.	*	.1	.5	.4	.4	1.4	1.5	1.4	.3	.2	.1	.1	.2	.0	.0	.0	.2	.2	.1	.5	.5
190.	*	.1	.2	.2	.2	1.6	1.6	1.5	.4	.2	.2	.1	.2	.1	.0	.0	.1	.1	.1	.5	.5
195.	*	.0	.1	.1	.1	1.6	1.6	1.4	.5	.3	.2	.1	.2	.1	.1	.1	.0	.0	.0	.5	.5
200.	*	.0	.0	.0	.0	1.5	1.5	1.3	.5	.3	.2	.2	.2	.1	.1	.1	.1	.1	.1	.5	.5
205.	*	.0	.0	.0	.0	1.4	1.4	1.2	.5	.2	.2	.2	.3	.1	.1	.1	.1	.1	.1	.6	.7

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210.	*	.0	.0	.0	.0	1.3	1.3	1.0	.5	.2	.2	.2	.3	.1	.1	.1	.1	.1	.1	.6	.7
215.	*	.0	.0	.0	.0	1.2	1.2	.9	.4	.2	.2	.1	.3	.1	.1	.1	.1	.1	.1	.6	.7
220.	*	.0	.0	.0	.0	1.1	1.1	.8	.4	.3	.2	.1	.3	.1	.1	.1	.1	.1	.1	.5	.6
225.	*	.0	.0	.0	.0	1.1	1.1	.7	.5	.4	.2	.1	.3	.2	.2	.2	.2	.1	.1	.5	.5
230.	*	.0	.0	.0	.0	1.0	1.0	.6	.5	.4	.2	.1	.2	.2	.2	.2	.2	.1	.1	.5	.5
235.	*	.0	.1	.0	.0	1.0	1.0	.5	.5	.4	.2	.1	.2	.2	.2	.2	.2	.1	.1	.5	.5
240.	*	.0	.1	.0	.0	1.0	1.0	.4	.5	.4	.2	.1	.2	.2	.2	.2	.2	.1	.1	.5	.5
245.	*	.1	.1	.0	.0	1.0	1.0	.4	.4	.4	.1	.1	.2	.2	.2	.2	.2	.1	.1	.5	.5
250.	*	.3	.3	.0	.0	1.0	1.0	.6	.6	.6	.2	.2	.4	.3	.3	.4	.4	.1	.1	.5	.5
255.	*	.5	.6	.0	.0	.9	.9	.9	1.0	.6	.4	.4	.6	.8	.6	.6	.7	.1	.1	.5	.5
260.	*	.8	.9	.2	.0	1.0	1.2	1.2	1.1	1.1	.7	.7	1.1	1.0	1.0	1.0	1.0	.3	.1	.5	.7
265.	*	1.3	1.4	.4	.2	1.2	1.4	1.6	1.5	1.5	1.1	1.0	1.4	1.4	1.5	1.4	1.4	.4	.3	.7	.8
270.	*	1.6	1.8	.5	.3	1.3	1.5	2.1	2.0	1.9	1.3	1.3	1.6	1.5	1.6	1.7	1.7	.5	.4	.7	.8
275.	*	1.9	2.1	.6	.4	1.4	1.6	2.2	2.1	1.9	1.4	1.4	1.7	1.8	1.8	1.9	1.9	.7	.5	.8	1.0
280.	*	2.0	2.3	.7	.4	1.4	1.6	2.3	2.0	2.0	1.5	1.4	1.9	1.8	2.0	2.0	1.8	.6	.3	.7	.9
285.	*	1.9	2.2	.7	.4	1.4	1.6	2.3	2.1	2.0	1.5	1.4	1.8	1.9	1.9	1.8	1.7	.7	.4	.7	1.0
290.	*	1.9	2.1	.6	.4	1.3	1.6	2.0	1.8	1.9	1.3	1.4	1.6	1.7	1.7	1.7	1.5	.6	.5	.8	.9
295.	*	1.9	2.1	.6	.4	1.4	1.7	2.0	1.7	1.7	1.3	1.3	1.5	1.5	1.5	1.5	1.3	.6	.4	.7	.9
300.	*	1.7	1.9	.7	.4	1.4	1.7	1.8	1.8	1.7	1.2	1.2	1.6	1.6	1.6	1.4	1.1	.5	.4	.7	.8
305.	*	1.7	1.9	.7	.4	1.4	1.8	1.7	1.5	1.5	1.2	1.1	1.4	1.5	1.5	1.5	1.1	.5	.3	.7	.8
310.	*	1.8	1.8	.6	.4	1.6	1.6	1.6	1.5	1.5	1.2	1.1	1.3	1.3	1.3	1.3	.9	.4	.3	.7	.8
315.	*	1.6	1.8	.7	.4	1.6	1.6	1.7	1.6	1.5	1.1	1.0	1.3	1.3	1.3	1.3	.8	.4	.3	.7	.7
320.	*	1.6	1.5	.7	.5	1.6	1.6	1.6	1.4	1.4	.9	.9	1.3	1.3	1.3	1.3	.8	.4	.3	.7	.7
325.	*	1.6	1.5	.6	.5	1.6	1.6	1.6	1.4	1.4	1.0	.8	1.3	1.2	1.2	1.2	.7	.4	.2	.7	.8
330.	*	1.6	1.5	.6	.4	1.6	1.7	1.7	1.4	1.2	.9	.8	1.1	1.1	1.1	1.1	.6	.4	.2	.9	.7
335.	*	1.6	1.5	.6	.4	1.7	1.8	2.0	1.4	1.1	.8	.8	1.2	1.1	1.1	1.0	.6	.4	.2	.7	.8
340.	*	1.6	1.5	.7	.3	1.8	1.7	1.9	1.3	1.1	.8	.8	1.3	1.1	1.1	1.0	.6	.4	.3	.7	.8
345.	*	1.6	1.5	.7	.4	1.9	1.6	1.9	1.3	1.0	.8	.9	1.2	1.1	1.1	1.0	.8	.5	.3	.9	1.0
350.	*	1.6	1.6	.9	.4	1.7	1.6	1.9	1.2	1.0	.8	.9	1.2	1.1	1.0	1.1	.9	.6	.4	.9	1.0
355.	*	1.6	1.7	.9	.7	1.6	1.5	1.8	1.1	1.0	.9	1.0	1.2	1.1	1.0	1.1	1.1	.6	.6	.8	.8
360.	*	1.7	1.9	.9	.9	1.2	1.3	1.7	1.0	1.0	.9	1.0	1.2	1.0	1.1	1.2	1.2	.8	.5	.6	.8
MAX	*	2.3	2.3	1.3	1.3	1.9	1.8	2.3	2.1	2.0	1.5	1.4	1.9	1.9	2.0	2.0	1.9	.9	.7	.9	1.0
DEGR.	*	45	280	55	35	345	335	280	275	280	280	275	280	285	280	280	275	5	5	330	275

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	*	1.0	.6	.1	.5	.5	.4	1.7	1.8	.9	.2	.1	.0	.2	.2	.2	.4	.4	.4	.1	.0
5.	*	.9	.6	.1	.4	.4	.3	1.8	2.0	1.2	.3	.1	.0	.1	.1	.1	.4	.4	.4	.1	.0
10.	*	.8	.4	.0	.2	.2	.2	1.8	2.0	1.3	.3	.2	.1	.1	.1	.1	.5	.5	.5	.1	.0
15.	*	.5	.4	.0	.1	.1	.1	1.8	1.9	1.3	.4	.2	.1	.1	.1	.0	.5	.5	.5	.1	.1
20.	*	.4	.4	.0	.0	.0	.0	1.6	1.8	1.2	.4	.2	.2	.1	.1	.1	.6	.6	.5	.1	.1
25.	*	.5	.4	.0	.0	.0	.0	1.6	1.6	1.1	.4	.2	.2	.1	.1	.1	.5	.5	.5	.2	.1
30.	*	.5	.4	.0	.0	.0	.0	1.5	1.5	1.0	.4	.2	.2	.1	.1	.1	.5	.5	.5	.2	.2
35.	*	.5	.4	.0	.0	.0	.0	1.4	1.4	1.0	.4	.2	.2	.1	.1	.1	.5	.5	.5	.2	.2
40.	*	.5	.4	.0	.0	.0	.0	1.3	1.3	.9	.3	.2	.2	.1	.1	.1	.5	.4	.3	.2	.2
45.	*	.5	.4	.0	.0	.0	.0	1.2	1.2	.8	.4	.3	.3	.2	.1	.1	.4	.4	.3	.2	.2
50.	*	.5	.4	.0	.0	.0	.0	1.2	1.2	.8	.4	.3	.3	.2	.1	.1	.4	.4	.3	.2	.2
55.	*	.6	.4	.0	.0	.0	.0	1.1	1.1	.7	.4	.3	.3	.2	.1	.1	.4	.4	.3	.2	.3
60.	*	.6	.3	.0	.0	.0	.0	1.1	1.1	.6	.4	.3	.3	.2	.1	.1	.4	.4	.2	.3	.3
65.	*	.6	.3	.0	.0	.0	.0	1.0	1.0	.7	.4	.3	.3	.2	.1	.1	.4	.4	.3	.3	.3
70.	*	.5	.3	.0	.0	.0	.0	1.0	1.0	.7	.3	.3	.3	.4	.1	.1	.4	.4	.4	.5	.4
75.	*	.5	.2	.0	.1	.0	.0	1.0	1.0	.6	.5	.5	.4	.5	.1	.1	.4	.4	.5	.5	.6
80.	*	.5	.2	.0	.1	.0	.0	1.0	1.0	.6	.5	.6	.7	.7	.1	.1	.4	.3	.7	.8	.8
85.	*	.4	.2	.1	.2	.0	.0	1.1	1.0	.8	.6	.8	1.0	.9	.1	.1	.4	.3	.9	1.0	1.1
90.	*	.3	.1	.1	.2	.0	.0	1.1	1.0	.7	.8	1.0	1.2	1.3	.1	.1	.3	.4	1.2	1.2	1.3
95.	*	.2	.1	.1	.3	.0	.0	1.1	1.0	.9	.9	1.2	1.3	1.5	.2	.1	.4	.5	1.4	1.3	1.5
100.	*	.1	.0	.2	.4	.0	.0	1.0	1.0	.8	1.0	1.2	1.5	1.4	.3	.1	.4	.6	1.5	1.5	1.6
105.	*	.1	.0	.2	.5	.0	.0	1.0	1.0	.8	1.0	1.3	1.5	1.5	.3	.1	.4	.6	1.5	1.5	1.6

110.	*	.1	.0	.3	.5	.0	.0	1.0	1.1	.8	1.0	1.4	1.5	1.5	.4	.2	.5	.6	1.5	1.5	1.6
115.	*	.0	.0	.3	.5	.0	.0	1.0	1.1	.8	1.2	1.4	1.5	1.5	.4	.3	.5	.7	1.4	1.4	1.6
120.	*	.0	.0	.3	.5	.1	.0	1.1	1.2	.8	1.2	1.4	1.5	1.5	.4	.2	.5	.7	1.4	1.4	1.4
125.	*	.0	.0	.3	.5	.1	.0	1.1	1.3	.7	1.2	1.4	1.5	1.5	.5	.2	.5	.8	1.5	1.4	1.4
130.	*	.0	.0	.4	.5	.1	.0	1.3	1.4	.7	1.2	1.3	1.3	1.3	.5	.2	.5	.8	1.3	1.1	1.3
135.	*	.0	.0	.4	.5	.1	.0	1.3	1.4	.8	1.2	1.3	1.3	1.3	.5	.3	.7	.8	1.3	1.1	1.1
140.	*	.0	.0	.4	.5	.2	.0	1.4	1.5	.7	1.2	1.3	1.3	1.3	.5	.3	.7	.8	1.3	1.1	1.1
145.	*	.0	.0	.4	.5	.2	.1	1.5	1.6	.7	1.1	1.2	1.2	1.3	.5	.3	.8	.9	1.3	1.1	1.1
150.	*	.0	.0	.4	.5	.2	.1	1.6	1.6	.9	1.1	1.1	1.1	1.1	.5	.3	.7	.9	1.1	1.0	1.1
155.	*	.0	.0	.4	.4	.2	.1	1.6	1.8	.8	1.1	1.1	1.1	1.1	.5	.3	.7	.9	1.0	.9	1.0
160.	*	.1	.0	.4	.4	.2	.1	1.8	1.7	.9	1.1	1.1	1.1	1.0	.5	.3	.6	.7	1.0	.9	1.0
165.	*	.1	.0	.4	.5	.3	.2	1.8	1.8	.9	1.1	1.1	1.1	1.0	.4	.2	.6	.7	1.0	.9	1.0
170.	*	.2	.0	.4	.6	.3	.3	1.9	1.7	.9	1.1	1.1	1.0	1.0	.4	.2	.6	.5	1.0	1.0	1.0
175.	*	.3	.1	.6	.6	.5	.4	1.8	1.7	.8	1.1	1.0	1.0	1.0	.4	.3	.6	.6	1.0	1.0	1.1
180.	*	.5	.1	.6	.8	.5	.4	1.5	1.5	.9	1.1	1.0	1.0	1.0	.4	.3	.4	.5	1.0	1.1	1.1
185.	*	.5	.1	.5	.8	.6	.6	1.2	1.2	.6	1.0	1.0	1.0	1.1	.6	.5	.4	.5	1.1	1.1	1.2
190.	*	.6	.2	.6	.9	.6	.8	1.1	1.1	.6	1.0	1.0	1.1	1.2	.6	.6	.4	.5	1.1	1.2	1.2
195.	*	.6	.2	.6	.9	.5	.8	.8	.8	.5	1.1	1.1	1.1	1.2	.6	.5	.3	.5	1.1	1.2	1.3
200.	*	.6	.2	.6	.9	.8	1.0	.7	.8	.6	1.1	1.1	1.1	1.2	.6	.5	.5	.6	1.2	1.2	1.3
205.	*	.7	.3	.7	.8	1.0	1.0	.6	.7	.7	1.1	1.1	1.1	1.1	.6	.5	.5	.6	1.2	1.1	1.3

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JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
210.	*	.7	.3	.7	.8	.9	1.1	.6	.7	.7	1.1	1.1	1.1	1.3	.7	.7	.5	.7	1.2	1.3	1.3
215.	*	.7	.2	.7	.8	1.0	1.1	.5	.7	.8	1.2	1.2	1.2	1.3	.7	.7	.4	.5	1.2	1.3	1.3
220.	*	.6	.2	.7	.7	.9	1.1	.6	.7	.9	1.3	1.3	1.3	1.3	.7	.6	.4	.5	1.2	1.3	1.4
225.	*	.5	.2	.7	.8	1.0	1.0	.5	.6	.9	1.3	1.3	1.3	1.3	.8	.6	.4	.6	1.2	1.4	1.5
230.	*	.5	.2	.7	.9	1.1	1.0	.5	.7	1.0	1.3	1.3	1.3	1.3	.8	.6	.4	.7	1.4	1.4	1.6
235.	*	.5	.2	.8	.9	1.1	1.0	.5	.7	1.2	1.5	1.5	1.5	1.5	.8	.6	.5	.6	1.5	1.5	1.6
240.	*	.4	.2	.9	.9	1.1	1.0	.5	.7	1.3	1.5	1.5	1.5	1.6	.9	.7	.4	.6	1.4	1.5	1.5
245.	*	.4	.2	.9	1.1	1.2	1.0	.5	.7	1.5	1.5	1.5	1.5	1.7	.9	.6	.5	.7	1.5	1.6	1.7
250.	*	.6	.3	1.0	1.2	1.2	1.0	.4	.7	1.6	1.7	1.7	1.7	1.8	.9	.8	.5	.6	1.8	1.7	1.9
255.	*	.7	.5	1.2	1.4	1.2	.9	.3	.6	1.7	1.8	1.9	1.9	1.8	.8	.7	.5	.7	1.8	1.9	2.0
260.	*	.9	.8	1.3	1.5	1.1	.9	.4	.6	1.8	2.0	1.9	1.9	2.0	.9	.7	.5	.7	1.8	2.0	1.9
265.	*	1.1	.9	1.2	1.6	1.2	1.0	.5	.6	1.9	1.9	1.8	1.8	1.7	.9	.7	.5	.8	1.9	1.8	2.0
270.	*	1.4	1.2	1.2	1.5	.9	.9	.3	.5	1.6	1.7	1.6	1.5	1.7	.7	.5	.3	.5	1.7	1.7	1.9
275.	*	1.3	1.1	.9	1.2	.9	.8	.3	.4	1.1	1.3	1.4	1.3	1.3	.6	.5	.3	.4	1.2	1.3	1.6
280.	*	1.5	1.1	.7	1.1	.8	.6	.0	.3	.9	.8	.9	1.0	.9	.5	.3	.1	.3	.8	1.0	1.2
285.	*	1.5	1.1	.5	.7	.6	.6	.0	.0	.5	.5	.5	.6	.7	.3	.3	.1	.1	.6	.7	.8
290.	*	1.1	.9	.3	.8	.6	.6	.0	.1	.3	.3	.4	.4	.4	.3	.3	.1	.1	.3	.4	.5
295.	*	1.0	.8	.4	.6	.6	.6	.1	.1	.1	.1	.3	.3	.2	.3	.3	.1	.1	.2	.3	.4
300.	*	.9	.8	.4	.6	.6	.6	.1	.1	.1	.2	.2	.3	.2	.3	.2	.0	.1	.2	.2	.4
305.	*	.8	.8	.4	.6	.6	.6	.1	.1	.1	.2	.2	.3	.3	.2	.2	.0	.1	.1	.2	.4
310.	*	.8	.8	.4	.6	.6	.7	.1	.1	.1	.2	.2	.2	.3	.2	.2	.0	.0	.1	.2	.3
315.	*	.8	.9	.4	.7	.7	.7	.1	.2	.1	.1	.2	.2	.2	.2	.2	.0	.0	.1	.1	.3
320.	*	1.0	.9	.4	.8	.8	.7	.1	.2	.0	.1	.1	.1	.2	.2	.2	.0	.0	.0	.1	.3
325.	*	.9	.9	.3	.8	.8	.7	.2	.2	.0	.1	.1	.1	.2	.2	.2	.0	.0	.0	.1	.2
330.	*	1.0	.8	.3	.8	.8	.7	.2	.3	.0	.1	.1	.1	.3	.3	.2	.0	.0	.0	.0	.2
335.	*	1.1	.7	.3	.9	.9	.8	.4	.4	.1	.0	.1	.1	.3	.3	.3	.0	.0	.0	.0	.1
340.	*	1.1	.7	.3	.9	.9	.8	.5	.6	.1	.0	.1	.1	.3	.3	.3	.0	.0	.0	.0	.0
345.	*	1.1	.7	.3	.9	.8	.8	.8	.9	.3	.0	.1	.1	.3	.3	.3	.1	.1	.1	.0	.0
350.	*	1.2	.8	.3	.8	.7	.7	1.1	1.2	.5	.1	.0	.1	.3	.3	.3	.2	.2	.2	.0	.0
355.	*	1.2	.7	.2	.7	.6	.6	1.4	1.6	.7	.1	.0	.1	.2	.2	.2	.2	.2	.2	.0	.0
360.	*	1.0	.6	.1	.5	.5	.4	1.7	1.8	.9	.2	.1	.0	.2	.2	.2	.4	.4	.4	.1	.0
MAX	*	1.5	1.2	1.3	1.6	1.2	1.1	1.9	2.0	1.9	2.0	1.9	1.9	2.0	.9	.8	.8	.9	1.9	2.0	2.0
DEGR.	*	280	270	260	265	245	210	170	5	265	260	255	255	260	240	250	145	145	265	260	255

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JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
0.	*	.0	.7	.7	.5	.8	.9	1.1	.1
5.	*	.0	.5	.5	.4	1.1	1.2	1.3	.1
10.	*	.0	.3	.3	.3	1.2	1.3	1.4	.2
15.	*	.0	.3	.2	.1	1.3	1.5	1.5	.3
20.	*	.0	.1	.1	.1	1.4	1.5	1.4	.4
25.	*	.1	.1	.1	.1	1.4	1.5	1.4	.4
30.	*	.1	.1	.1	.1	1.4	1.4	1.3	.4
35.	*	.2	.1	.1	.0	1.4	1.4	1.2	.4
40.	*	.2	.1	.1	.0	1.2	1.3	1.2	.4
45.	*	.2	.1	.1	.1	1.3	1.3	1.1	.6
50.	*	.2	.1	.1	.1	1.2	1.2	1.0	.6
55.	*	.3	.2	.1	.1	1.2	1.2	1.0	.6
60.	*	.3	.2	.1	.1	1.2	1.2	.9	.6
65.	*	.2	.2	.1	.1	1.2	1.2	.8	.7

70.	*	.3	.3	.1	.1	1.2	1.2	1.0	.6
75.	*	.6	.5	.1	.1	1.1	1.1	1.2	.9
80.	*	.9	.8	.1	.1	1.2	1.2	1.3	1.2
85.	*	1.1	1.2	.2	.1	1.2	1.3	1.5	1.4
90.	*	1.3	1.3	.3	.1	1.2	1.4	1.7	1.8
95.	*	1.5	1.5	.3	.1	1.2	1.5	2.0	2.2
100.	*	1.6	1.7	.4	.2	1.3	1.4	1.8	2.3
105.	*	1.7	1.6	.5	.2	1.3	1.5	1.8	2.1
110.	*	1.7	1.5	.6	.2	1.2	1.6	1.7	2.3
115.	*	1.5	1.5	.6	.3	1.5	1.6	1.7	2.3
120.	*	1.3	1.3	.5	.3	1.4	1.6	1.7	2.3
125.	*	1.3	1.3	.5	.3	1.4	1.6	1.5	2.2
130.	*	1.3	1.3	.5	.3	1.5	1.6	1.6	2.3
135.	*	1.2	1.2	.4	.3	1.5	1.6	1.5	2.4
140.	*	1.1	1.1	.4	.3	1.6	1.6	1.6	2.1
145.	*	1.1	1.1	.5	.4	1.7	1.7	1.6	2.1
150.	*	1.1	1.1	.5	.4	1.7	1.7	1.6	2.1
155.	*	1.1	1.3	.5	.3	1.7	1.8	1.8	2.1
160.	*	1.1	1.4	.6	.4	1.7	1.9	2.0	2.2
165.	*	1.0	1.5	.7	.5	1.9	1.8	2.0	2.1
170.	*	1.1	1.7	1.0	.7	1.9	1.8	2.1	2.0
175.	*	1.2	1.9	1.1	1.0	1.8	1.7	2.0	2.0
180.	*	1.3	2.2	1.3	1.3	1.4	1.4	1.8	1.9
185.	*	1.3	2.2	1.5	1.5	1.2	1.1	1.8	1.8
190.	*	1.4	2.1	1.3	1.4	.7	.9	1.5	1.8
195.	*	1.5	2.0	1.3	1.3	.5	.8	1.5	1.7
200.	*	1.5	1.8	1.4	1.3	.4	.6	1.5	1.7
205.	*	1.6	1.8	1.4	1.4	.4	.6	1.5	1.7

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WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
210.	*	1.5	1.6	1.4	1.4	.5	.6	1.6	1.7
215.	*	1.5	1.6	1.2	1.5	.5	.7	1.6	1.7
220.	*	1.5	1.6	1.4	1.4	.4	.7	1.7	1.9
225.	*	1.5	1.6	1.4	1.4	.4	.7	1.9	1.9
230.	*	1.6	1.7	1.6	1.2	.4	.7	1.9	1.9
235.	*	1.6	1.7	1.6	1.2	.4	.7	2.0	2.0
240.	*	1.7	1.9	1.5	1.2	.4	.7	2.1	2.0
245.	*	1.8	2.1	1.5	1.2	.4	.6	2.2	2.2
250.	*	2.0	2.4	1.5	1.2	.4	.6	2.4	2.2
255.	*	2.0	2.5	1.5	1.2	.4	.7	2.4	2.3
260.	*	2.1	2.6	1.5	1.2	.4	.7	2.3	2.3
265.	*	2.2	2.6	1.4	1.2	.4	.6	2.3	2.1
270.	*	2.0	2.2	1.3	1.1	.3	.5	2.0	1.8
275.	*	1.6	1.9	1.2	1.0	.2	.4	1.5	1.4
280.	*	1.2	1.6	1.0	.8	.0	.2	1.0	.9
285.	*	.8	1.1	.8	.8	.0	.0	.5	.5
290.	*	.6	1.0	.8	.8	.0	.0	.3	.3
295.	*	.4	.7	.8	.8	.0	.0	.1	.2
300.	*	.5	.8	.8	.8	.0	.0	.1	.1
305.	*	.4	.8	.8	.8	.0	.0	.1	.1
310.	*	.4	.8	.9	.9	.0	.0	.0	.1
315.	*	.4	.9	.9	.9	.0	.0	.0	.1
320.	*	.4	.9	.9	.9	.0	.0	.0	.0
325.	*	.4	1.1	1.1	1.0	.0	.0	.0	.0
330.	*	.4	1.1	1.1	1.0	.0	.0	.0	.0
335.	*	.3	1.2	1.1	1.0	.1	.1	.1	.0
340.	*	.3	1.2	1.1	.9	.1	.1	.1	.0
345.	*	.2	1.2	1.0	.9	.2	.2	.2	.0
350.	*	.2	1.0	.9	.8	.3	.6	.6	.0
355.	*	.1	.8	.8	.7	.7	.8	.8	.0
360.	*	.0	.7	.7	.5	.8	.9	1.1	.1
MAX	*	2.2	2.6	1.6	1.5	1.9	1.9	2.4	2.4
DEGR.	*	265	260	230	185	165	160	250	135

THE HIGHEST CONCENTRATION IS 2.60 PPM AT 260 DEGREES FROM REC42.
THE 2ND HIGHEST CONCENTRATION IS 2.40 PPM AT 250 DEGREES FROM REC47.
THE 3RD HIGHEST CONCENTRATION IS 2.40 PPM AT 135 DEGREES FROM REC48.

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DATE: 08/31/2010 TIME: 11:43:54.29

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM) * ANGLE (DEGREES)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	*	45	280	55	35	345	335	280	275	280	280	275	280	285	280	280	275	5	5	330	275
1	*	.6	.6	.0	.0	.1	.1	.4	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	*	.6	.9	.0	.0	.1	.1	.7	.5	.3	.2	.3	.2	.1	.1	.1	.2	.0	.0	.0	.2
3	*	.0	.0	.2	.1	.0	.1	.2	.5	.7	.5	.3	.2	.1	.1	.1	.1	.0	.0	.0	.0
4	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.4	.2	.1	.0	.0	.0	.0	.0	.0
5	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.6	.7	.8	.8	.2	.1	.1	.1
7	*	.6	.8	.3	.2	.1	.2	.8	.8	.8	.6	.6	.8	.8	.9	.9	.8	.0	.0	.1	.3

8 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
9 *	.0	.0	.2	.2	.3	.2	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.5	.6	1.0	.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.1	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.3	.0	.0	.0	.2	.2	.0	.0	.1	.1	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0
14 *	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
22 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.4	.3
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.3	.1	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
LINK # *	280	270	260	265	245	210	170	5	265	260	255	255	260	240	250	145	145	265	260	255
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
2 *	.1	.2	.1	.2	.0	.0	.0	.0	.2	.1	.1	.1	.2	.0	.2	.0	.0	.3	.2	.2
3 *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.2	.2	.1	.0	.0	.3	.7	.7
4 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.4	.1	.0	.0	.0	.4	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.6	.3	.3	.5	.2	.1	.1	.0	.8	.8	.7	.6	.2	.0	.0	.1	.2	.0	.0	.0
7 *	.5	.4	.4	.5	.3	.1	.0	.0	.8	.8	.8	.8	.9	.3	.2	.2	.2	.8	.9	.9
8 *	.2	.3	.4	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.0	.1	.1	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
14 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.3	.3	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0
23 *	.0	.0	.0	.1	.1	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.1	.2	.5	.6	1.5	1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
LINK # *	265	260	230	185	165	160	250	135
1 *	.2	.4	.2	.1	.0	.1	.6	.6
2 *	.5	.7	.3	.0	.0	.0	.9	.7
3 *	.4	.2	.0	.1	.1	.1	.0	.0
4 *	.0	.0	.0	.0	.0	.0	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.0	.0	.0	.0	.0	.0	.0	.0
7 *	.9	.9	.3	.1	.1	.2	.9	.7
8 *	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.1	.1	.1	.0	.1
10 *	.0	.0	.0	.4	.3	.3	.0	.3
11 *	.1	.3	.3	.4	.2	.2	.0	.0
12 *	.0	.0	.0	.0	.1	.1	.0	.0
13 *	.1	.1	.5	.3	1.0	.8	.0	.0
14 *	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.0	.0	.0	.0	.0	.0	.0
23 *	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0

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  25 *   .0   .0   .0   .0   .0   .0   .0   .0
  26 *   .0   .0   .0   .0   .0   .0   .0   .0
1                CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000                PAGE  1

  JOB: Brent Spence Bridge                          RUN: W 5th Street & Bakewell
  DATE: 08/31/2010   TIME: 12:02:35.16


   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =    .0 CM/S       VD =    .0 CM/S       Z0 = 175. CM
    U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

   LINK VARIABLES
   --------------
     LINK DESCRIPTION     *        LINK COORDINATES (FT)         *   LENGTH  BRG TYPE  VPH    EF      H   W    V/C QUEUE
                          *   X1       Y1        X2        Y2    *    (FT)  (DEG)          (G/MI)  (FT) (FT)       (VEH)
  ------------------------*--------------------------------------*--------------------------------------------------------
   1. 1 EB 5th  Phil Appr * 269695.0  284787.0  269838.0  284789.0 *     143.    89. AG  10701.   1.5    .0 44.0
   2. 2 EB 5th  EB Queue  * 269805.0  284789.0  264562.6  284722.7 *    5243.   269. AG    248. 100.0    .0 24.0 **** 266.3
   3. 3 EB 5th  Bake Appr * 269838.0  284789.0  270093.0  284793.0 *     255.    89. AG   1060.  11.5    .0 44.0
   4. 4 EB 5th  Bake LT   * 270093.0  284793.0  270194.0  284795.0 *     101.    89. AG   1050.  11.5    .0 44.0
   5. 5 EB 5th  EB Rt     * 270093.0  284776.0  270189.0  284778.0 *      96.    89. AG     10.  11.5    .0 44.0
   6. 6 EB 5th  Main Appr * 270194.0  284795.0  270550.0  284799.0 *     356.    89. AG    990.  11.5    .0 44.0
   7. 7 EB 5th  EB Queue  * 270491.0  284798.0  270396.5  284797.1 *      94.   270. AG    216. 100.0    .0 24.0  .76   4.8
   8. 8 EB 5th  Main Dep  * 270550.0  284799.0  270695.0  284801.0 *     145.    89. AG    810.  11.5    .0 44.0
   9. 9 NB Phil 5th Appr  * 269851.0  284462.0  269847.0  284786.0 *     324.   359. AG    250.  11.5    .0 44.0
  10. 10 NB PhilNB Queue  * 269848.0  284750.0  269862.6  283611.0 *    1139.   179. AG    307. 100.0    .0 24.0 5.00  57.9
  11. 11 NB Phil5th Dep   * 269847.0  284786.0  269841.0  285143.0 *     357.   359. AG    260.  11.5    .0 44.0
  12. 12 SB Phil5th Appr  * 269823.0  285126.0  269830.0  284793.0 *     333.   179. AG   1180.  11.5    .0 44.0
  13. 13 SB PhilSB Queue  * 269829.0  284819.0  269749.7  291089.6 *    6271.   359. AG    307. 100.0    .0 24.0 **** 318.6
  14. 14 SB PhilPhil Dep  * 269830.0  284793.0  269835.0  284461.0 *     332.   179. AG   1010.  11.5    .0 44.0
  15. 15 NB Park5th Appr  * 270203.0  284576.0  270200.0  284791.0 *     215.   359. AG     70.  11.5    .0 32.0
  16. 16 NB ParkNB Queue  * 270201.0  284761.0  270207.8  284318.6 *     442.   179. AG     98. 100.0    .0 12.0 2.19  22.5
  17. 17 NB Bake5th Dep   * 270200.0  284791.0  270194.0  285216.0 *     425.   359. AG    120.  11.5    .0 32.0
  18. 18 SB Bake5th Appr  * 270180.0  285216.0  270189.0  284778.0 *     438.   179. AG     80.  11.5    .0 32.0
  19. 19 SB BakeSB Queue  * 270188.0  284828.0  270178.4  285378.6 *     551.   359. AG     98. 100.0    .0 12.0 2.50  28.0
  20. 20 SB BakeBake Dep  * 270189.0  284778.0  270192.0  284577.0 *     201.   179. AG     40.  11.5    .0 32.0
  21. 21 NB MainMain Appr * 270564.0  284513.0  270559.0  284795.0 *     282.   359. AG    200.  11.5    .0 32.0
  22. 22 NB MainNB Queue  * 270560.0  284768.0  270578.6  283335.2 *    1433.   179. AG    108. 100.0    .0 12.0 2.86  72.8
  23. 23 NB MainMain Dep  * 270559.0  284795.0  270556.0  285029.0 *     234.   359. AG    310.  11.5    .0 32.0
  24. 24 SB MainMain Appr * 270535.0  285030.0  270539.0  284802.0 *     228.   179. AG    330.  11.5    .0 44.0
  25. 25 SB MainSB Queue  * 270538.0  284828.0  270522.3  286049.6 *    1222.   359. AG    215. 100.0    .0 24.0 3.00  62.1
  26. 26 SB MainMain Dep  * 270539.0  284802.0  270543.0  284513.0 *     289.   179. AG    130.  11.5    .0   .4
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                                                                        PAGE  2
  JOB: Brent Spence Bridge                          RUN: W 5th Street & Bakewell
  DATE: 08/31/2010   TIME: 12:02:35.16

   ADDITIONAL QUEUE LINK PARAMETERS
   --------------------------------
     LINK DESCRIPTION     *   CYCLE    RED     CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                          *   LENGTH   TIME    LOST TIME    VOL      FLOW RATE  EM FAC   TYPE      RATE
                          *   (SEC)   (SEC)     (SEC)      (VPH)      (VPH)    (gm/hr)
  ------------------------*----------------------------------------------------------------------
   2. 2 EB 5th  EB Queue  *     60      38       2.0       1070       173      73.00      1        3
   7. 7 EB 5th  EB Queue  *     60      33       2.0        990      1696      73.30      1        3
  10. 10 NB PhilNB Queue  *     60      47       2.0        250       173      73.00      1        3
  13. 13 SB PhilSB Queue  *     60      47       2.0       1180       179      73.00      1        3
  16. 16 NB ParkNB Queue  *     40      20       2.0         70        80      73.00      1        3
  19. 19 SB BakeSB Queue  *     40      20       2.0         80        80      73.00      1        3
  22. 22 NB MainNB Queue  *     60      33       2.0        200       183      73.00      1        3
  25. 25 SB MainSB Queue  *     60      33       2.0        330       146      73.00      1        3

   RECEPTOR LOCATIONS
   ------------------
                          *         COORDINATES (FT)         *
     RECEPTOR             *      X          Y          Z     *
  ------------------------*----------------------------------*
   1. R1 EB 82            *   269739.0   284764.0       5.0   *
   2. R2 SW Corner        *   269811.0   284765.0       5.0   *
   3. R3 SB 82            *   269812.0   284693.0       5.0   *
   4. R4 SB 164           *   269813.0   284611.0       5.0   *
   5. R5 NB 164           *   269868.0   284612.0       5.0   *
   6. R6 NB 82            *   269867.0   284694.0       5.0   *
   7. R7 SE Corner        *   269866.0   284766.0       5.0   *
   8. R8 EB 82            *   269938.0   284768.0       5.0   *
   9. R9 EB 164           *   270018.0   284770.0       5.0   *
  10. R10 EB 82           *   270099.0   284760.0       5.0   *
  11. R10 SW Corner       *   270171.0   284761.0       5.0   *
  12. R12 SE Corner       *   270217.0   284772.0       5.0   *
  13. R13 EB 82r          *   270289.0   284773.0       5.0   *
  14. R14 EB 164          *   270368.0   284774.0       5.0   *
  15. R15 EB 82           *   270447.0   284775.0       5.0   *
  16. R16 SW Corner       *   270519.0   284776.0       5.0   *
  17. R17 SB 82           *   270520.0   284704.0       5.0   *
  18. R18 SB 164          *   270521.0   284622.0       5.0   *
  19. R19 NB 164          *   270583.0   284618.0       5.0   *
  20. R20 NB 82           *   270581.0   284700.0       5.0   *
  21. R21 SE Corner       *   270580.0   284773.0       5.0   *
  22. R22 SB 82           *   270652.0   284773.0       5.0   *
  23. R23 WB 82           *   270652.0   284829.0       5.0   *
  24. R24 NE Corner       *   270580.0   284829.0       5.0   *
  25. R25 NB 82           *   270579.0   284901.0       5.0   *
  26. R26 NB 164          *   270577.0   284983.0       5.0   *
  27. R27 SB 164          *   270525.0   284975.0       5.0   *
  28. R28 SB 82           *   270527.0   284893.0       5.0   *
  29. R29 NW Corner       *   270518.0   284821.0       5.0   *
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30. R30 WB 82	*	270446.0	284821.0	5.0 *
31. R31 WB 164	*	270368.0	284820.0	5.0 *
32. R32 WB 82	*	270288.0	284819.0	5.0 *
33. R33 NE Corner	*	270216.0	284818.0	5.0 *
34. R34 NB 82	*	270215.0	284890.0	5.0 *
35. R35 NB 164	*	270214.0	284972.0	5.0 *
36. R36 SB 164	*	270168.0	284972.0	5.0 *
37. R37 SB 82	*	270169.0	284890.0	5.0 *

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RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z *
38. R38 NW Corner	*	270170.0	284818.0	5.0 *
39. R39 WB 82	*	270098.0	284817.0	5.0 *
40. R40 WB 164	*	270017.0	284815.0	5.0 *
41. R41 WB 82	*	269937.0	284814.0	5.0 *
42. R42 NE Corner	*	269865.0	284813.0	5.0 *
43. R43 NB 82	*	269864.0	284885.0	5.0 *
44. R44 NB 164	*	269863.0	284967.0	5.0 *
45. R45 SB 164	*	269809.0	284966.0	5.0 *
46. R46 SB 82	*	269810.0	284884.0	5.0 *
47. R47 NW Corner	*	269811.0	284812.0	5.0 *
48. R48 WB 82	*	269738.0	284810.0	5.0 *

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	1.7	2.7	1.8	1.7	1.6	1.7	1.6	.8	.6	.5	.6	.8	.5	.6	1.2	1.2	.6	.4	.6	.6
5. *	1.8	2.6	2.0	2.0	1.3	1.1	1.3	.6	.5	.6	.6	.5	.5	.5	1.3	1.3	.7	.5	.4	.4
10. *	1.9	2.5	1.8	1.8	1.0	.8	.9	.5	.5	.4	.5	.6	.5	.6	1.3	1.3	.7	.5	.3	.3
15. *	2.0	2.3	1.7	1.7	.5	.5	.6	.4	.4	.4	.7	.5	.5	.6	1.4	1.2	.7	.4	.2	.2
20. *	1.9	2.1	1.5	1.7	.3	.3	.5	.4	.5	.5	.6	.5	.6	.6	1.3	1.1	.5	.5	.1	.1
25. *	1.9	1.9	1.4	1.6	.2	.2	.4	.5	.6	.5	.5	.5	.6	.7	1.3	1.0	.4	.5	.1	.1
30. *	1.9	1.6	1.3	1.6	.2	.3	.5	.5	.6	.5	.5	.5	.6	.7	1.4	.9	.3	.4	.1	.1
35. *	1.9	1.5	1.4	1.5	.2	.3	.5	.6	.6	.6	.5	.5	.6	.7	1.4	.8	.2	.4	.0	.1
40. *	2.0	1.4	1.4	1.5	.2	.3	.6	.7	.7	.6	.5	.5	.6	.8	1.4	.7	.3	.4	.0	.1
45. *	1.9	1.5	1.5	1.5	.2	.3	.6	.7	.7	.6	.4	.5	.6	.8	1.3	.7	.4	.3	.0	.1
50. *	1.9	1.3	1.4	1.4	.2	.3	.6	.7	.7	.6	.5	.6	.6	1.0	1.4	.6	.4	.3	.0	.1
55. *	1.9	1.2	1.5	1.4	.2	.3	.6	.7	.8	.6	.5	.6	.6	1.1	1.3	.6	.4	.3	.0	.1
60. *	2.0	1.2	1.5	1.4	.2	.3	.7	.7	.8	.6	.5	.6	.7	1.0	1.1	.5	.4	.3	.0	.0
65. *	1.7	1.2	1.5	1.4	.2	.2	.7	.7	.7	.5	.6	.7	.8	1.1	1.1	.4	.4	.3	.0	.0
70. *	1.7	1.3	1.4	1.3	.1	.3	.7	.8	.9	.6	.5	.8	.8	1.2	1.1	.5	.3	.3	.0	.0
75. *	1.6	1.2	1.4	1.3	.1	.2	.8	.9	.8	.6	.6	.8	.9	1.2	.8	.5	.3	.3	.0	.0
80. *	1.2	1.2	1.4	1.2	.0	.1	.8	.7	.8	.6	.7	.8	.9	1.2	.7	.5	.3	.3	.0	.0
85. *	1.2	1.2	1.3	1.2	.0	.1	.7	.7	.7	.4	.5	.6	.7	1.0	.6	.4	.3	.3	.0	.0
90. *	1.1	1.2	1.2	1.2	.0	.0	.5	.6	.5	.4	.4	.6	.6	.8	.5	.3	.3	.3	.0	.0
95. *	.8	1.1	1.2	1.2	.0	.0	.4	.5	.4	.3	.4	.4	.4	.6	.3	.5	.3	.3	.0	.0
100. *	.7	1.0	1.2	1.2	.0	.0	.2	.3	.4	.2	.2	.3	.3	.3	.4	.4	.3	.3	.0	.0
105. *	.6	.8	1.2	1.2	.0	.0	.1	.1	.1	.1	.2	.2	.2	.3	.2	.4	.3	.3	.0	.0
110. *	.6	.9	1.2	1.2	.0	.0	.1	.1	.2	.1	.2	.1	.2	.2	.2	.2	.3	.3	.0	.0
115. *	.6	.9	1.2	1.2	.0	.0	.1	.1	.2	.1	.2	.1	.2	.2	.2	.2	.3	.3	.0	.0
120. *	.6	.9	1.2	1.2	.0	.0	.1	.1	.2	.1	.2	.1	.2	.2	.2	.3	.3	.3	.0	.0
125. *	.6	1.0	1.2	1.2	.0	.0	.0	.1	.2	.1	.2	.0	.1	.1	.1	.3	.3	.3	.0	.0
130. *	.6	1.2	1.3	1.3	.0	.0	.0	.1	.1	.1	.2	.1	.1	.1	.1	.3	.3	.3	.0	.0
135. *	.6	1.3	1.4	1.4	.0	.0	.0	.0	.1	.1	.2	.1	.1	.1	.1	.3	.3	.3	.0	.0
140. *	.6	1.3	1.4	1.4	.0	.0	.0	.0	.1	.1	.2	.1	.1	.1	.1	.3	.3	.3	.0	.0
145. *	.6	1.4	1.4	1.4	.0	.0	.0	.0	.1	.1	.3	.1	.1	.1	.1	.3	.3	.3	.0	.0
150. *	.6	1.5	1.6	1.6	.1	.1	.0	.0	.1	.1	.2	.1	.1	.1	.1	.3	.3	.2	.0	.0
155. *	.6	1.6	1.6	1.6	.1	.1	.1	.0	.0	.1	.2	.1	.1	.1	.1	.3	.3	.2	.0	.0
160. *	.5	1.8	1.6	1.6	.2	.2	.3	.0	.0	.1	.3	.0	.1	.1	.1	.3	.3	.2	.0	.0
165. *	.5	1.8	1.7	1.6	.5	.5	.6	.0	.0	.1	.2	.1	.1	.1	.1	.4	.3	.3	.1	.1
170. *	.5	1.7	1.6	1.6	.9	.9	.9	.1	.0	.1	.2	.2	.0	.1	.1	.2	.2	.2	.2	.2
175. *	.3	1.5	1.5	1.3	1.2	1.2	1.3	.2	.1	.0	.2	.2	.0	.0	.1	.2	.2	.2	.2	.3
180. *	.2	1.2	1.1	1.1	1.5	1.6	1.7	.3	.1	.0	.1	.3	.0	.0	.1	.2	.2	.2	.4	.4
185. *	.1	.9	.8	.8	1.8	2.0	1.9	.4	.2	.1	.1	.3	.1	.0	.0	.1	.1	.1	.5	.5
190. *	.0	.6	.6	.6	2.0	2.1	2.1	.6	.2	.1	.2	.5	.1	.0	.0	.1	.1	.1	.5	.5
195. *	.0	.3	.3	.3	2.0	2.2	2.0	.6	.3	.2	.1	.5	.2	.0	.0	.0	.0	.0	.5	.5
200. *	.0	.3	.3	.2	2.0	2.1	1.9	.6	.3	.2	.2	.5	.2	.1	.0	.0	.0	.0	.5	.5
205. *	.0	.1	.1	.1	1.9	1.9	1.7	.6	.3	.2	.2	.5	.2	.2	.1	.0	.0	.0	.4	.5

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WIND * CONCENTRATION
ANGLE * (PPM)
(DEGR)* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18

REC19 REC20

210.	.0	.1	.1	.1	1.9	1.9	1.5	.7	.4	.2	.2	.5	.2	.2	.1	.1	.1	.0	.4	.4
215.	.0	.1	.1	.1	1.8	1.8	1.3	.7	.4	.2	.2	.5	.2	.2	.1	.1	.1	.1	.5	.5
220.	.0	.1	.1	.1	1.7	1.7	1.2	.6	.4	.2	.2	.4	.2	.2	.2	.1	.1	.1	.5	.5
225.	.0	.1	.1	.1	1.7	1.7	1.1	.6	.4	.3	.2	.4	.2	.2	.2	.1	.1	.1	.5	.5
230.	.0	.2	.1	.0	1.5	1.5	.9	.6	.5	.3	.2	.4	.2	.2	.2	.1	.1	.1	.5	.5
235.	.1	.1	.0	.0	1.5	1.5	.8	.6	.5	.3	.3	.3	.2	.2	.2	.1	.1	.1	.5	.5
240.	.1	.1	.0	.0	1.4	1.4	.7	.6	.4	.3	.3	.4	.2	.3	.3	.2	.1	.1	.5	.5
245.	.2	.2	.0	.0	1.4	1.4	.7	.6	.4	.3	.3	.3	.3	.3	.2	.2	.1	.1	.5	.5
250.	.2	.2	.0	.0	1.4	1.4	.8	.6	.5	.3	.2	.4	.4	.3	.2	.2	.1	.1	.4	.5
255.	.4	.5	.1	.0	1.4	1.5	.9	.8	.7	.5	.4	.5	.5	.4	.4	.5	.1	.1	.5	.5
260.	.6	.7	.1	.1	1.5	1.5	1.2	1.0	.9	.5	.5	.6	.8	.4	.5	.6	.2	.2	.5	.6
265.	.9	1.0	.2	.1	1.5	1.6	1.5	1.2	1.1	.8	.6	.8	.7	.8	.9	.9	.3	.2	.5	.6
270.	1.1	1.5	.3	.2	1.6	1.7	1.7	1.3	1.3	1.0	.8	.9	.9	.8	.9	1.0	.3	.3	.6	.7
275.	1.4	1.6	.4	.3	1.7	1.8	1.9	1.5	1.3	1.0	.8	1.0	.9	1.0	1.1	1.3	.3	.3	.6	.7
280.	1.4	1.7	.4	.3	1.7	1.8	1.9	1.4	1.2	1.0	1.0	1.0	.9	1.0	1.0	1.3	.4	.3	.6	.6
285.	1.5	1.7	.4	.3	1.7	1.9	1.8	1.4	1.1	.9	.7	.9	.9	.9	1.1	1.3	.3	.1	.4	.8
290.	1.4	1.7	.4	.3	1.7	1.9	1.7	1.2	1.1	.7	.8	.9	.9	.6	1.1	1.2	.2	.2	.7	.8
295.	1.4	1.6	.5	.3	1.7	1.9	1.4	1.0	1.0	.7	.7	.8	.8	.6	1.1	1.2	.4	.2	.6	.8
300.	1.4	1.6	.5	.2	1.6	2.0	1.4	1.1	.9	.7	.7	.7	.9	.7	1.2	1.1	.4	.2	.6	.8
305.	1.4	1.4	.4	.2	1.7	2.0	1.4	1.0	.8	.7	.8	.8	.7	.7	1.3	1.0	.4	.2	.6	.8
310.	1.3	1.4	.5	.3	1.9	2.0	1.4	1.0	.8	.7	.8	.7	.7	.7	1.3	.9	.5	.2	.7	.8
315.	1.3	1.3	.6	.3	2.0	2.1	1.4	1.0	.9	.7	.7	.7	.6	.6	1.3	.8	.5	.2	.7	.8
320.	1.3	1.2	.6	.4	2.0	1.9	1.4	1.1	.9	.6	.6	.8	.6	.6	1.3	.7	.5	.3	.7	.8
325.	1.2	1.2	.6	.4	2.1	2.1	1.4	1.1	.8	.6	.6	.7	.7	.6	1.3	.6	.5	.3	.7	.8
330.	1.2	1.2	.6	.4	2.2	2.1	1.7	1.1	.8	.6	.5	.7	.7	.6	1.1	.6	.5	.3	.8	.8
335.	1.2	1.3	.7	.4	2.2	2.3	1.8	1.0	.8	.6	.5	.7	.7	.7	1.1	.7	.5	.3	.8	.7
340.	1.2	1.3	.7	.6	2.4	2.2	1.8	1.0	.7	.6	.5	.8	.7	.7	1.1	.6	.5	.4	.9	1.0
345.	1.3	1.6	1.0	.8	2.4	2.3	1.9	1.0	.7	.6	.6	.9	.7	.6	1.1	.8	.6	.4	.8	1.2
350.	1.4	2.0	1.4	1.1	2.4	2.2	2.0	1.0	.7	.7	.6	.9	.7	.5	1.2	1.0	.7	.5	.8	1.1
355.	1.6	2.2	1.6	1.3	2.2	1.9	1.9	.9	.7	.5	.7	.9	.6	.5	1.2	1.2	.9	.6	.8	1.0
360.	1.7	2.7	1.8	1.7	1.6	1.7	1.6	.8	.6	.5	.6	.8	.5	.6	1.2	1.2	.6	.4	.6	.6
MAX	2.0	2.7	2.0	2.0	2.4	2.3	2.1	1.5	1.3	1.0	1.0	1.0	.9	1.2	1.4	1.3	.9	.6	.9	1.2
DEGR.	15	0	5	5	340	335	190	275	270	270	280	280	285	70	30	275	355	355	340	345

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JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	.8	.4	.1	.5	.5	.4	1.6	1.8	1.0	.2	.2	.1	.4	.4	.3	.4	.4	.4	.2	.2
5.	.7	.4	.1	.4	.4	.3	1.7	2.0	1.2	.3	.1	.1	.2	.2	.1	.4	.4	.4	.2	.1
10.	.5	.3	.0	.2	.2	.2	1.7	2.0	1.3	.3	.2	.1	.2	.2	.1	.4	.4	.5	.1	.1
15.	.4	.3	.0	.1	.1	.1	1.7	1.9	1.3	.3	.2	.1	.1	.1	.1	.6	.6	.7	.1	.0
20.	.3	.3	.0	.0	.0	.0	1.6	1.7	1.3	.3	.2	.2	.1	.1	.1	.5	.5	.5	.2	.1
25.	.3	.3	.0	.0	.0	.0	1.6	1.6	1.2	.3	.2	.2	.1	.1	.1	.4	.5	.5	.2	.2
30.	.3	.3	.0	.0	.0	.0	1.5	1.5	1.1	.3	.2	.2	.1	.1	.1	.4	.4	.4	.2	.2
35.	.3	.3	.0	.0	.0	.0	1.4	1.4	1.1	.4	.2	.2	.1	.1	.1	.4	.4	.4	.2	.2
40.	.3	.3	.0	.0	.0	.0	1.2	1.3	1.0	.4	.2	.2	.1	.1	.1	.4	.4	.3	.2	.2
45.	.3	.3	.0	.0	.0	.0	1.2	1.2	.9	.4	.2	.2	.1	.1	.1	.4	.4	.3	.2	.2
50.	.3	.2	.0	.0	.0	.0	1.1	1.1	.8	.4	.2	.1	.1	.1	.1	.4	.4	.3	.2	.2
55.	.4	.2	.0	.0	.0	.0	1.1	1.1	.7	.4	.2	.1	.1	.1	.1	.4	.4	.3	.2	.2
60.	.4	.2	.0	.0	.0	.0	1.0	1.0	.7	.4	.3	.2	.2	.1	.1	.4	.4	.2	.2	.2
65.	.4	.2	.0	.0	.0	.0	1.0	1.0	.6	.4	.3	.2	.2	.1	.1	.4	.4	.2	.3	.3
70.	.3	.2	.0	.0	.0	.0	1.0	1.0	.6	.4	.3	.2	.2	.1	.1	.4	.4	.3	.3	.3
75.	.3	.2	.0	.0	.0	.0	1.0	1.0	.7	.4	.4	.3	.3	.1	.1	.4	.4	.3	.4	.4
80.	.3	.1	.0	.1	.0	.0	1.0	1.0	.6	.6	.4	.5	.5	.1	.1	.4	.3	.4	.5	.5
85.	.2	.1	.0	.1	.0	.0	1.0	1.0	.7	.4	.7	.6	.6	.1	.1	.4	.3	.6	.5	.5
90.	.2	.1	.1	.1	.0	.0	1.0	1.0	.7	.6	.9	.8	.7	.1	.1	.3	.3	.6	.6	.5
95.	.1	.0	.1	.2	.0	.0	1.0	1.0	.7	.7	1.1	.7	.7	.2	.1	.4	.4	.6	.7	.6
100.	.1	.0	.1	.2	.0	.0	1.0	1.0	.7	.7	1.0	.8	.7	.3	.1	.4	.6	.8	.6	.7
105.	.1	.0	.1	.3	.0	.0	1.0	1.0	.7	.7	1.1	.8	.7	.2	.1	.4	.5	.8	.6	.7
110.	.0	.0	.2	.3	.0	.0	1.0	1.0	.7	.9	1.0	.7	.7	.2	.1	.5	.5	.6	.7	.6
115.	.0	.0	.2	.3	.0	.0	1.0	1.1	.7	1.0	1.1	.6	.6	.3	.2	.4	.6	.6	.6	.6
120.	.0	.0	.2	.3	.0	.0	1.0	1.2	.6	1.1	1.1	.7	.5	.3	.2	.5	.6	.5	.6	.7
125.	.0	.0	.2	.3	.1	.0	1.1	1.2	.6	1.1	1.0	.6	.5	.3	.2	.5	.5	.5	.6	.7
130.	.0	.0	.2	.3	.1	.0	1.1	1.2	.5	1.2	.9	.6	.6	.2	.2	.5	.5	.5	.6	.6
135.	.0	.0	.2	.3	.1	.0	1.2	1.3	.6	1.1	.8	.5	.5	.3	.2	.4	.5	.5	.5	.6
140.	.0	.0	.3	.3	.1	.0	1.5	1.4	.6	1.1	.7	.5	.5	.3	.2	.4	.5	.6	.5	.5
145.	.0	.0	.3	.3	.1	.0	1.5	1.5	.8	1.1	.6	.5	.5	.3	.2	.5	.6	.6	.5	.5
150.	.0	.0	.3	.3	.1	.1	1.6	1.5	.8	1.1	.6	.5	.5	.3	.2	.5	.5	.6	.5	.5
155.	.0	.0	.3	.3	.1	.1	1.6	1.6	.8	1.1	.6	.5	.5	.3	.2	.5	.4	.6	.5	.5
160.	.0	.0	.3	.3	.1	.1	1.8	1.8	.8	1.1	.5	.5	.4	.3	.2	.5	.5	.6	.5	.4
165.	.1	.0	.3	.4	.2	.1	1.8	1.8	.8	1.1	.5	.5	.5	.3	.1	.6	.5	.6	.4	.4
170.	.2	.0	.3	.4	.2	.3	1.7	1.8	.7	1.1	.5	.4	.5	.3	.2	.5	.4	.6	.4	.4
175.	.4	.1	.4	.5	.4	.4	1.7	1.5	.7	1.1	.4	.4	.6	.2	.3	.4	.3	.6	.4	.5
180.	.4	.1	.4	.7	.4	.4	1.5	1.4	.6	1.1	.4	.4	.6	.2	.4	.4	.3	.5	.4	.5
185.	.5	.1	.4	.7	.4	.6	1.4	1.3	.5	1.0	.4	.5	.6	.4	.5	.4	.4	.5	.5	.6
190.	.5	.1	.4	.7	.6	.8	1.2	1.1	.5	1.0	.4	.5	.7	.6	.6	.3	.3	.6	.5	.6
195.	.5	.1	.4	.7	.6	.8	.8	.9	.4	1.0	.4	.6	.7	.6	.5	.2	.3	.5	.6	.7
200.	.5	.1	.4	.7	.7	.9	.6	.7	.4	1.0	.6	.6	.6	.6	.5	.3	.4	.6	.5	.7
205.	.5	.1	.4	.6	.5	1.0	.6	.9	.5	1.1	.6	.6	.7	.5	.6	.4	.3	.6	.6	.8

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
210. *	.5	.1	.4	.6	.8	1.1	.6	.8	.6	1.1	.6	.6	.7	.6	.6	.3	.4	.6	.6	.8
215. *	.5	.2	.5	.6	.8	1.1	.5	.8	.6	1.1	.6	.6	.7	.6	.7	.3	.4	.6	.6	.8
220. *	.5	.2	.5	.6	1.0	1.0	.4	.7	.7	1.2	.6	.6	.7	.6	.6	.4	.4	.6	.8	.9
225. *	.5	.2	.5	.6	1.0	1.0	.4	.7	.9	1.2	.6	.6	.7	.7	.6	.3	.5	.7	.8	.9
230. *	.4	.2	.5	.6	1.0	1.0	.3	.6	.9	1.3	.7	.7	.7	.8	.6	.3	.4	.8	.8	.8
235. *	.4	.2	.6	.7	1.0	.9	.3	.5	1.0	1.3	.7	.7	.8	.7	.6	.4	.4	.9	.9	.8
240. *	.4	.2	.5	.8	1.0	.8	.3	.5	1.1	1.1	.7	.7	.8	.6	.5	.4	.4	.9	.9	.9
245. *	.4	.2	.6	.9	1.0	.8	.2	.5	1.2	1.1	.6	.7	.8	.6	.5	.3	.5	.8	.9	1.0
250. *	.5	.2	.7	1.1	1.0	.8	.2	.3	1.2	1.1	.6	.9	1.0	.5	.6	.4	.4	.9	.9	1.1
255. *	.5	.4	.8	1.2	.9	.7	.1	.3	1.3	1.1	.9	.8	1.0	.6	.6	.4	.5	1.0	1.1	1.2
260. *	.7	.6	.8	1.2	.9	.9	.3	.3	1.3	1.2	1.0	.9	.9	.7	.7	.5	.7	1.2	1.1	1.2
265. *	.9	.8	.8	1.1	1.0	.9	.3	.3	1.2	.9	.9	.8	1.0	.9	.7	.4	.5	1.1	1.1	1.3
270. *	1.0	.7	.7	1.1	.9	.8	.3	.3	1.1	.9	.9	.9	1.0	.7	.7	.5	.5	1.1	1.1	1.2
275. *	1.1	.7	.6	1.1	.8	.8	.2	.2	.9	.6	.8	.8	.9	.7	.5	.4	.4	.9	.9	1.0
280. *	1.0	.8	.6	.9	.8	.7	.1	.2	.6	.4	.4	.8	.8	.5	.4	.3	.4	.6	.6	.8
285. *	1.0	.9	.4	.8	.7	.7	.1	.1	.4	.4	.4	.5	.6	.4	.4	.3	.3	.5	.5	.5
290. *	.9	.7	.3	.7	.7	.7	.1	.2	.2	.2	.3	.4	.3	.4	.3	.3	.3	.4	.4	.5
295. *	.8	.7	.3	.7	.7	.7	.2	.2	.2	.2	.3	.4	.3	.4	.3	.2	.3	.4	.4	.4
300. *	.8	.6	.3	.7	.7	.7	.2	.2	.2	.3	.3	.2	.5	.5	.5	.2	.3	.3	.3	.4
305. *	.8	.6	.4	.7	.8	.8	.2	.2	.1	.2	.2	.2	.5	.5	.5	.2	.2	.3	.3	.3
310. *	.9	.6	.3	.8	.8	.8	.2	.2	.1	.2	.2	.2	.5	.5	.5	.2	.2	.2	.3	.4
315. *	1.0	.8	.4	.8	.8	.8	.2	.3	.1	.2	.2	.2	.5	.5	.5	.2	.2	.2	.3	.4
320. *	.8	.9	.4	.8	.8	.8	.2	.4	.1	.2	.2	.2	.5	.5	.5	.2	.2	.2	.2	.4
325. *	.9	.7	.4	.8	.8	.8	.4	.4	.1	.1	.2	.3	.5	.5	.5	.2	.2	.2	.2	.4
330. *	1.1	.7	.4	1.0	.9	.8	.4	.5	.1	.1	.2	.3	.6	.5	.5	.2	.2	.2	.2	.4
335. *	1.0	.7	.4	1.0	1.0	.8	.5	.6	.2	.1	.3	.3	.6	.6	.6	.2	.2	.2	.2	.3
340. *	1.1	.7	.4	1.0	1.0	.8	.7	.7	.3	.1	.2	.3	.6	.6	.6	.2	.2	.2	.3	.3
345. *	1.2	.7	.4	1.0	.9	.8	.9	1.0	.5	.1	.2	.3	.6	.6	.6	.3	.3	.3	.3	.3
350. *	1.2	.7	.4	.9	.8	.8	1.2	1.4	.6	.2	.1	.3	.6	.5	.5	.3	.3	.3	.3	.3
355. *	1.1	.6	.3	.8	.7	.7	1.5	1.7	.9	.2	.1	.1	.5	.5	.5	.4	.4	.4	.2	.3
360. *	.8	.4	.1	.5	.5	.4	1.6	1.8	1.0	.2	.2	.1	.4	.4	.3	.4	.4	.4	.2	.2
MAX *	1.2	.9	.8	1.2	1.0	1.1	1.8	2.0	1.3	1.3	1.1	.9	1.0	.9	.7	.6	.7	1.2	1.1	1.3
DEGR. *	345	285	255	255	220	210	160	5	255	230	95	250	250	265	215	15	260	260	255	265

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
0. *	.4	1.2	1.1	1.0	2.1	2.3	2.3	.4
5. *	.2	.9	.8	.8	2.5	2.6	2.6	.6
10. *	.1	.6	.6	.5	2.5	2.6	2.6	.7
15. *	.0	.3	.3	.3	2.5	2.6	2.5	.7
20. *	.0	.1	.1	.1	2.4	2.4	2.4	.7
25. *	.0	.0	.0	.0	2.3	2.3	2.1	.7
30. *	.1	.1	.0	.0	2.2	2.2	2.0	.7
35. *	.2	.1	.1	.1	2.0	2.1	1.9	.6
40. *	.2	.1	.1	.1	2.0	2.0	1.8	.8
45. *	.2	.1	.1	.1	1.9	1.9	1.6	.8
50. *	.2	.1	.1	.1	1.8	1.8	1.5	.8
55. *	.2	.1	.1	.1	1.8	1.8	1.5	.8
60. *	.3	.2	.1	.1	1.7	1.7	1.4	.8
65. *	.2	.2	.1	.1	1.7	1.7	1.3	.7
70. *	.2	.2	.1	.1	1.7	1.7	1.3	.7
75. *	.3	.3	.1	.1	1.7	1.7	1.3	.9
80. *	.4	.4	.1	.1	1.7	1.7	1.3	.9
85. *	.5	.5	.1	.1	1.7	1.7	1.3	1.1
90. *	.6	.7	.1	.1	1.7	1.6	1.4	1.3
95. *	.7	.7	.1	.1	1.6	1.7	1.4	1.4
100. *	.7	.7	.1	.0	1.6	1.8	1.2	1.5
105. *	.8	.6	.2	.1	1.7	1.8	1.2	1.6
110. *	.7	.6	.2	.1	1.7	1.7	1.3	1.7
115. *	.5	.6	.1	.1	1.6	1.8	1.3	1.7
120. *	.5	.5	.2	.0	1.7	1.8	1.2	2.0
125. *	.5	.5	.2	.1	1.8	1.9	1.3	1.9
130. *	.6	.5	.2	.1	1.8	1.9	1.3	1.9
135. *	.6	.5	.2	.1	1.9	1.9	1.4	1.9
140. *	.4	.4	.2	.1	2.0	2.0	1.5	2.0
145. *	.4	.4	.2	.1	2.2	2.1	1.5	2.0
150. *	.4	.4	.2	.1	2.3	2.1	1.8	1.9
155. *	.4	.5	.3	.1	2.3	2.3	2.0	1.8
160. *	.4	.6	.3	.2	2.5	2.5	2.1	1.8
165. *	.4	.8	.6	.4	2.7	2.6	2.1	1.7

170.	*	.5	1.2	.8	.8	2.6	2.6	2.2	1.7
175.	*	.6	1.6	1.0	.9	2.4	2.3	2.3	1.7
180.	*	.7	1.7	1.2	1.1	2.0	1.9	2.1	1.5
185.	*	.8	1.9	1.4	1.3	1.6	1.7	1.7	1.3
190.	*	1.0	1.9	1.4	1.7	1.2	1.2	1.6	1.2
195.	*	1.0	1.8	1.4	1.7	.9	.9	1.3	1.2
200.	*	1.0	1.5	1.4	1.7	.6	.9	1.2	1.2
205.	*	1.1	1.5	1.3	1.7	.6	.6	1.2	1.2

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WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
210.	*	1.0	1.4	1.5	1.6	.4	.6	1.1	1.3
215.	*	1.0	1.3	1.6	1.6	.4	.6	1.2	1.3
220.	*	1.1	1.2	1.5	1.6	.3	.6	1.3	1.3
225.	*	1.0	1.2	1.7	1.6	.3	.6	1.3	1.4
230.	*	.9	1.1	1.7	1.5	.3	.5	1.4	1.4
235.	*	1.0	1.4	1.7	1.4	.3	.6	1.5	1.4
240.	*	.9	1.4	1.7	1.4	.3	.6	1.6	1.5
245.	*	1.0	1.5	1.7	1.5	.3	.4	1.7	1.5
250.	*	1.3	1.8	1.7	1.5	.3	.4	1.8	1.5
255.	*	1.3	1.9	1.6	1.5	.3	.4	1.7	1.6
260.	*	1.4	2.0	1.6	1.5	.3	.4	1.8	1.5
265.	*	1.5	2.0	1.6	1.4	.2	.4	1.6	1.4
270.	*	1.3	1.9	1.5	1.4	.2	.3	1.3	1.3
275.	*	1.2	1.8	1.4	1.3	.1	.2	1.0	.9
280.	*	1.0	1.6	1.3	1.2	.0	.1	.6	.6
285.	*	.9	1.2	1.2	1.2	.0	.0	.4	.4
290.	*	.7	1.2	1.2	1.2	.0	.0	.2	.2
295.	*	.6	1.0	1.2	1.2	.1	.0	.1	.1
300.	*	.5	1.1	1.2	1.2	.1	.1	.2	.1
305.	*	.6	1.1	1.2	1.2	.1	.1	.2	.1
310.	*	.6	1.2	1.2	1.2	.1	.1	.2	.1
315.	*	.6	1.2	1.3	1.3	.1	.1	.1	.1
320.	*	.7	1.3	1.3	1.3	.1	.1	.1	.0
325.	*	.7	1.4	1.4	1.3	.1	.1	.1	.0
330.	*	.6	1.6	1.6	1.4	.2	.2	.1	.0
335.	*	.6	1.6	1.6	1.5	.3	.3	.3	.0
340.	*	.6	1.7	1.7	1.6	.5	.5	.4	.0
345.	*	.6	1.7	1.6	1.5	.8	.9	.9	.1
350.	*	.6	1.7	1.7	1.6	1.2	1.3	1.3	.2
355.	*	.5	1.5	1.5	1.3	1.8	1.8	1.8	.3
360.	*	.4	1.2	1.1	1.0	2.1	2.3	2.3	.4
MAX	*	1.5	2.0	1.7	1.7	2.7	2.6	2.6	2.0
DEGR.	*	265	260	225	190	165	5	5	120

THE HIGHEST CONCENTRATION IS 2.70 PPM AT 0 DEGREES FROM REC2 .
THE 2ND HIGHEST CONCENTRATION IS 2.70 PPM AT 165 DEGREES FROM REC45.
THE 3RD HIGHEST CONCENTRATION IS 2.60 PPM AT 5 DEGREES FROM REC46.

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DATE: 08/31/2010 TIME: 12:02:35.16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	*	15	0	5	5	340	335	190	275	270	270	280	280	285	70	30	275	355	355	340	345
1	*	.5	.6	.2	.1	.1	.2	.0	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	*	.7	.2	.1	.1	.1	.1	.0	.6	.5	.4	.2	.2	.1	.0	.0	.2	.0	.0	.0	.0
3	*	.0	.0	.0	.0	.0	.1	.0	.4	.5	.3	.3	.2	.1	.0	.0	.0	.0	.0	.0	.0
4	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.1	.0	.0	.0	.0	.0	.0	.0
5	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.4	.6	.4	.6	.2	.1	.1	.1
7	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.6	.4	.1	.1	.1	.0
8	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
9	*	.0	.0	.0	.1	.2	.1	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	*	.0	.0	.0	.3	1.3	1.0	1.5	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	*	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	*	.2	.5	.3	.2	.1	.2	.0	.1	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
13	*	.6	1.1	.8	.6	.2	.3	.0	.0	.0	.0	.1	.1	.1	.0	.0	.1	.1	.1	.1	.1
14	*	.0	.2	.5	.6	.4	.3	.4	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
22	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2
23	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
24	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.0	.0	.1
25	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3	.0	.4	.3	.2	.4
26	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
	345	285	255	255	220	210	160	5	255	230	95	250	250	265	215	15	260	260	255	265
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
2	.0	.1	.1	.1	.0	.0	.0	.0	.1	.0	.0	.1	.1	.3	.0	.0	.3	.3	.2	.5
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.3	.6	.5
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.4	.0	.1	.0	.0	.4	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	.0	.2	.2	.4	.2	.1	.0	.0	.6	.5	.5	.4	.2	.0	.0	.0	.0	.0	.0	.0
7	.0	.1	.1	.2	.1	.1	.0	.0	.5	.6	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	.3	.3	.3	.1	.0	.0	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.0	.0	.1	.1	.1	.1	.0	.0	.1	.1	.0	.1	.1	.0	.2	.0	.0	.1	.1	.0
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.1
13	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.1
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.1	.0
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.4	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	.1	.0	.0	.1	.1	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	.1	.0	.0	.1	.1	.1	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	.6	.1	.0	.1	.4	.5	1.3	1.7	.0	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0
26	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
	265	260	225	190	165	5	5	120
1	.2	.5	.2	.1	.1	.0	.0	.7
2	.6	.8	.3	.1	.0	.0	.0	.8
3	.4	.2	.0	.1	.1	.0	.0	.1
4	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.0
7	.0	.0	.0	.0	.0	.0	.0	.0
8	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.0	.0
10	.0	.0	.0	.3	.3	.0	.0	.2
11	.0	.1	.1	.2	.1	.1	.1	.0
12	.1	.3	.4	.3	.7	.8	.8	.0
13	.1	.1	.7	.5	1.3	1.7	1.7	.0
14	.1	.0	.0	.1	.1	.0	.0	.2
15	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.0	.0	.0	.0	.0
17	.0	.0	.0	.0	.0	.0	.0	.0
18	.0	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.0	.0	.0	.0	.0
22	.0	.0	.0	.0	.0	.0	.0	.0
23	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.0	.0	.0	.0
25	.0	.0	.0	.0	.0	.0	.0	.0
26	.0	.0	.0	.0	.0	.0	.0	.0

1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000 PAGE 1

JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell
DATE: 08/31/2010 TIME: 11:07:59.62

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 1 EB 5th Phil Appr	269695.0	284787.0	269838.0	284789.0	143.	89.	AG	9801.	1.5	.0	44.0		
2. 2 EB 5th EB Queue	269805.0	284789.0	265181.1	284730.5	4624.	269.	AG	228.	100.0	.0	24.0	8.03	234.9

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 3. 3 EB 5th  Bake Appr * 269838.0  284789.0  270093.0  284793.0 *    255.   89. AG   1070.  11.5    .0 44.0
 4. 4 EB 5th  Bake LT   * 270093.0  284793.0  270194.0  284795.0 *    101.   89. AG   1040.  11.5    .0 44.0
 5. 5 EB 5th  EB Rt     * 270093.0  284776.0  270189.0  284778.0 *     96.   89. AG     30.  11.5    .0 44.0
 6. 6 EB 5th  Main Appr * 270194.0  284795.0  270550.0  284799.0 *    356.   89. AG   1340.  11.5    .0 44.0
 7. 7 EB 5th  EB Queue  * 270491.0  284798.0  263751.5  284734.4 *   6740.  269. AG    255. 100.0    .0 24.0 **** 342.4
 8. 8 EB 5th  Main Dep  * 270550.0  284799.0  270695.0  284801.0 *    145.   89. AG   1070.  11.5    .0 44.0
 9. 9 NB Phil 5th Appr  * 269851.0  284462.0  269847.0  284786.0 *    324.  359. AG    660.  11.5    .0 44.0
10. 10 NB PhilNB Queue  * 269848.0  284750.0  269883.7  281964.0 *   2786.  179. AG    202. 100.0    .0 24.0 4.58 141.5
11. 11 NB Phil5th Dep   * 269847.0  284786.0  269841.0  285143.0 *    357.  359. AG    180.  11.5    .0 44.0
12. 12 SB Phil5th Appr  * 269823.0  285126.0  269830.0  284793.0 *    333.  179. AG    290.  11.5    .0 44.0
13. 13 SB PhilSB Queue  * 269829.0  284819.0  269815.2  285912.0 *   1093.  359. AG    202. 100.0    .0 24.0 3.09  55.5
14. 14 SB PhilPhil Dep  * 269830.0  284793.0  269835.0  284461.0 *    332.  179. AG    180.  11.5    .0 44.0
15. 15 NB Park5th Appr  * 270203.0  284576.0  270200.0  284791.0 *    215.  359. AG     30.  11.5    .0 32.0
16. 16 NB ParkNB Queue  * 270201.0  284761.0  270201.4  284737.6 *     23.  179. AG     98. 100.0    .0 12.0  .94   1.2
17. 17 NB Bake5th Dep   * 270200.0  284791.0  270194.0  285216.0 *    425.  359. AG    200.  11.5    .0 32.0
18. 18 SB Bake5th Appr  * 270180.0  285216.0  270189.0  284778.0 *    438.  179. AG    150.  11.5    .0 32.0
19. 19 SB BakeSB Queue  * 270188.0  284828.0  270165.3  286136.0 *   1308.  359. AG     98. 100.0    .0 12.0 4.69  66.5
20. 20 SB BakeBake Dep  * 270189.0  284778.0  270192.0  284577.0 *    201.  179. AG     70.  11.5    .0 32.0
21. 21 NB MainMain Appr * 270564.0  284513.0  270559.0  284795.0 *    282.  359. AG    140.  11.5    .0 32.0
22. 22 NB MainNB Queue  * 270560.0  284768.0  270560.4  284738.2 *     30.  179. AG    128. 100.0    .0 12.0  .27   1.5
23. 23 NB MainMain Dep  * 270559.0  284795.0  270556.0  285029.0 *    234.  359. AG    430.  11.5    .0 32.0
24. 24 SB MainMain Appr * 270535.0  285030.0  270539.0  284802.0 *    228.  179. AG    150.  11.5    .0 44.0
25. 25 SB MainSB Queue  * 270538.0  284828.0  270537.8  284844.0 *     16.  359. AG    256. 100.0    .0 24.0  .17    .8
26. 26 SB MainMain Dep  * 270539.0  284802.0  270543.0  284513.0 *    289.  179. AG    130.  11.5    .0 44.0
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ADDITIONAL QUEUE LINK PARAMETERS

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  LINK DESCRIPTION    *   CYCLE    RED    CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                      *   LENGTH   TIME   LOST TIME    VOL     FLOW RATE   EM FAC   TYPE     RATE
                      *   (SEC)   (SEC)    (SEC)      (VPH)     (VPH)     (gm/hr)
------------------------*----------------------------------------------------------------------------
 2. 2 EB 5th  EB Queue  *    60     35      2.0       980       176      73.00      1        3
 7. 7 EB 5th  EB Queue  *    60     39      2.0      1340       170      73.00      1        3
10. 10 NB PhilNB Queue  *    60     31      2.0       660       173      73.00      1        3
13. 13 SB PhilSB Queue  *    60     31      2.0       290       114      73.00      1        3
16. 16 NB ParkNB Queue  *    40     20      2.0        30        80      73.00      1        3
19. 19 SB BakeSB Queue  *    40     20      2.0       150        80      73.00      1        3
22. 22 NB MainNB Queue  *    60     39      2.0       140      1863      73.30      1        3
25. 25 SB MainSB Queue  *    60     39      2.0       150      1535      73.30      1        3
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RECEPTOR LOCATIONS

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                      *        COORDINATES (FT)        *
  RECEPTOR            *      X           Y        Z    *
------------------------*--------------------------------------*
 1. R1 EB 82          *   269739.0   284764.0     5.0  *
 2. R2 SW Corner      *   269811.0   284765.0     5.0  *
 3. R3 SB 82          *   269812.0   284693.0     5.0  *
 4. R4 SB 164         *   269813.0   284611.0     5.0  *
 5. R5 NB 164         *   269868.0   284612.0     5.0  *
 6. R6 NB 82          *   269867.0   284694.0     5.0  *
 7. R7 SE Corner      *   269866.0   284766.0     5.0  *
 8. R8 EB 82          *   269938.0   284768.0     5.0  *
 9. R9 EB 164         *   270018.0   284770.0     5.0  *
10. R10 EB 82         *   270099.0   284760.0     5.0  *
11. R10 SW Corner     *   270171.0   284761.0     5.0  *
12. R12 SE Corner     *   270217.0   284772.0     5.0  *
13. R13 EB 82r        *   270289.0   284773.0     5.0  *
14. R14 EB 164        *   270368.0   284774.0     5.0  *
15. R15 EB 82         *   270447.0   284775.0     5.0  *
16. R16 SW Corner     *   270519.0   284776.0     5.0  *
17. R17 SB 82         *   270520.0   284704.0     5.0  *
18. R18 SB 164        *   270521.0   284622.0     5.0  *
19. R19 NB 164        *   270583.0   284618.0     5.0  *
20. R20 NB 82         *   270581.0   284700.0     5.0  *
21. R21 SE Corner     *   270580.0   284773.0     5.0  *
22. R22 SB 82         *   270652.0   284773.0     5.0  *
23. R23 WB 82         *   270652.0   284829.0     5.0  *
24. R24 NE Corner     *   270580.0   284829.0     5.0  *
25. R25 NB 82         *   270579.0   284901.0     5.0  *
26. R26 NB 164        *   270577.0   284983.0     5.0  *
27. R27 SB 164        *   270525.0   284975.0     5.0  *
28. R28 SB 82         *   270527.0   284893.0     5.0  *
29. R29 NW Corner     *   270518.0   284821.0     5.0  *
30. R30 WB 82         *   270446.0   284821.0     5.0  *
31. R31 WB 164        *   270368.0   284820.0     5.0  *
32. R32 WB 82         *   270288.0   284819.0     5.0  *
33. R33 NE Corner     *   270216.0   284818.0     5.0  *
34. R34 NB 82         *   270215.0   284890.0     5.0  *
35. R35 NB 164        *   270214.0   284972.0     5.0  *
36. R36 SB 164        *   270168.0   284972.0     5.0  *
37. R37 SB 82         *   270169.0   284890.0     5.0  *
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RECEPTOR LOCATIONS

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                      *        COORDINATES (FT)        *
  RECEPTOR            *      X           Y        Z    *
------------------------*--------------------------------------*
38. R38 NW Corner     *   270170.0   284818.0     5.0  *
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39.	R39 WB 82	*	270098.0	284817.0	5.0 *
40.	R40 WB 164	*	270017.0	284815.0	5.0 *
41.	R41 WB 82	*	269937.0	284814.0	5.0 *
42.	R42 NE Corner	*	269865.0	284813.0	5.0 *
43.	R43 NB 82	*	269864.0	284885.0	5.0 *
44.	R44 NB 164	*	269863.0	284967.0	5.0 *
45.	R45 SB 164	*	269809.0	284966.0	5.0 *
46.	R46 SB 82	*	269810.0	284884.0	5.0 *
47.	R47 NW Corner	*	269811.0	284812.0	5.0 *
48.	R48 WB 82	*	269738.0	284810.0	5.0 *

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	2.0	2.0	1.2	1.0	1.3	1.3	1.8	1.2	1.1	1.0	1.3	1.5	1.3	1.2	1.2	.8	.3	.2	.1	.4
5. *	2.0	2.2	1.3	1.1	1.1	1.0	1.6	1.2	1.2	1.1	1.3	1.4	1.2	1.2	1.2	.8	.4	.2	.1	.3
10. *	2.1	2.1	1.3	1.2	.8	1.0	1.4	1.1	1.2	1.0	1.3	1.4	1.2	1.2	1.2	.8	.5	.3	.1	.2
15. *	2.1	2.0	1.2	1.1	.7	.7	1.3	1.2	1.2	1.0	1.4	1.2	1.2	1.2	1.2	.8	.4	.2	.1	.2
20. *	2.1	1.8	1.1	1.1	.6	.6	1.1	1.2	1.2	1.0	1.3	1.2	1.2	1.2	1.2	.8	.5	.2	.1	.2
25. *	2.2	1.8	1.1	1.1	.5	.7	1.2	1.2	1.2	1.0	1.3	1.2	1.2	1.2	1.2	.8	.5	.2	.1	.2
30. *	2.3	1.7	1.1	1.1	.5	.7	1.2	1.2	1.2	1.0	1.3	1.3	1.3	1.3	1.3	.8	.3	.2	.1	.2
35. *	2.3	1.6	1.1	1.1	.4	.6	1.2	1.2	1.3	1.1	1.0	1.4	1.3	1.4	1.4	.8	.4	.2	.0	.2
40. *	2.3	1.7	1.2	1.1	.3	.5	1.3	1.4	1.4	1.1	1.1	1.4	1.4	1.4	1.5	.8	.4	.2	.0	.1
45. *	2.4	1.6	1.2	1.1	.3	.5	1.3	1.4	1.4	1.2	1.1	1.4	1.4	1.4	1.4	.7	.4	.2	.0	.1
50. *	2.3	1.5	1.2	1.1	.3	.5	1.3	1.4	1.5	1.3	1.2	1.5	1.5	1.5	1.5	.7	.4	.1	.0	.1
55. *	2.3	1.6	1.3	1.1	.3	.6	1.3	1.5	1.6	1.2	1.2	1.6	1.6	1.6	1.5	.7	.3	.1	.0	.1
60. *	2.3	1.7	1.3	1.1	.3	.6	1.5	1.5	1.7	1.2	1.3	1.6	1.6	1.6	1.5	.8	.3	.1	.0	.0
65. *	2.3	1.8	1.3	1.0	.3	.6	1.5	1.6	1.7	1.2	1.3	1.8	1.6	1.6	1.3	.7	.1	.0	.0	.0
70. *	2.4	1.8	1.3	1.0	.3	.5	1.6	1.8	1.8	1.4	1.2	1.8	1.7	1.6	1.1	.8	.1	.0	.0	.0
75. *	2.1	2.0	1.2	.9	.2	.5	1.7	1.8	1.7	1.3	1.2	1.7	1.7	1.5	1.1	.8	.0	.0	.0	.0
80. *	2.1	1.9	1.2	.9	.2	.3	1.7	1.6	1.7	1.1	1.2	1.6	1.7	1.4	1.0	.8	.1	.1	.0	.0
85. *	1.8	1.8	1.0	.8	.0	.3	1.5	1.5	1.6	.9	1.0	1.4	1.4	1.2	.8	.6	.1	.1	.0	.0
90. *	1.7	1.4	.9	.7	.0	.2	1.1	1.3	1.3	.7	.8	1.1	1.2	.9	.6	.7	.1	.1	.0	.0
95. *	1.3	1.4	.8	.7	.0	.1	.9	1.0	.9	.6	.5	.9	.7	.7	.4	.6	.1	.1	.0	.0
100. *	.8	1.0	.7	.7	.0	.0	.6	.6	.7	.3	.3	.5	.5	.4	.3	.4	.1	.1	.0	.0
105. *	.7	.8	.7	.7	.0	.0	.4	.3	.4	.2	.3	.3	.3	.3	.2	.4	.0	.0	.0	.0
110. *	.5	.7	.7	.7	.0	.0	.2	.2	.2	.0	.1	.2	.2	.1	.1	.3	.0	.0	.0	.0
115. *	.4	.5	.7	.7	.0	.0	.1	.1	.1	.0	.1	.1	.1	.1	.1	.2	.1	.0	.0	.0
120. *	.4	.6	.8	.8	.0	.0	.1	.1	.1	.0	.1	.1	.1	.1	.1	.2	.1	.1	.0	.0
125. *	.3	.6	.8	.8	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.1	.2	.1	.1	.0	.0
130. *	.3	.7	.8	.8	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.2	.1	.1	.0	.0
135. *	.3	.7	.8	.8	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.2	.1	.1	.0	.0
140. *	.4	.8	.8	.8	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.2	.1	.1	.0	.0
145. *	.4	.9	.9	.8	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0
150. *	.4	1.0	1.0	.9	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
155. *	.4	1.0	1.0	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
160. *	.4	1.0	1.0	.9	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
165. *	.3	1.1	1.0	1.0	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
170. *	.3	1.0	1.0	.9	.7	.7	.8	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
175. *	.3	.9	.9	.8	1.0	1.0	1.0	.2	.1	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
180. *	.2	.7	.7	.7	1.2	1.3	1.3	.3	.1	.1	.1	.0	.0	.0	.0	.1	.1	.0	.0	.1
185. *	.1	.6	.6	.4	1.5	1.5	1.5	.3	.2	.1	.1	.2	.1	.0	.0	.1	.0	.0	.0	.1
190. *	.1	.4	.3	.2	1.5	1.6	1.5	.5	.2	.2	.1	.2	.1	.1	.0	.0	.0	.0	.1	.1
195. *	.0	.1	.1	.1	1.6	1.6	1.5	.5	.2	.2	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1
200. *	.0	.0	.0	.0	1.5	1.5	1.3	.4	.2	.2	.1	.2	.1	.1	.1	.1	.1	.1	.2	.2
205. *	.0	.0	.0	.0	1.5	1.5	1.2	.4	.2	.2	.1	.3	.1	.1	.1	.1	.1	.1	.2	.2

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	.0	.0	.0	.0	1.4	1.4	1.1	.4	.2	.2	.1	.3	.1	.1	.1	.1	.1	.1	.2	.2
215. *	.0	.0	.0	.0	1.2	1.3	1.1	.4	.3	.2	.1	.3	.1	.1	.1	.1	.1	.1	.2	.2
220. *	.0	.0	.0	.0	1.2	1.2	.9	.4	.3	.1	.1	.3	.1	.1	.1	.1	.1	.1	.2	.2
225. *	.0	.0	.0	.0	1.2	1.2	.8	.4	.3	.1	.1	.3	.2	.2	.2	.2	.1	.1	.2	.2
230. *	.0	.0	.0	.0	1.1	1.1	.7	.4	.4	.1	.1	.2	.2	.2	.2	.2	.1	.1	.2	.2
235. *	.0	.1	.0	.0	1.1	1.1	.7	.4	.4	.2	.1	.2	.2	.2	.2	.2	.1	.1	.2	.2
240. *	.0	.1	.0	.0	1.1	1.1	.6	.4	.4	.2	.1	.2	.2	.2	.2	.2	.1	.1	.2	.2
245. *	.1	.2	.0	.0	1.1	1.1	.6	.5	.5	.2	.1	.3	.3	.3	.3	.3	.1	.1	.2	.2
250. *	.3	.3	.0	.0	1.1	1.1	.8	.6	.5	.3	.2	.4	.3	.3	.4	.4	.1	.1	.2	.2
255. *	.5	.6	.0	.0	1.0	1.0	1.0	.9	.8	.6	.5	.7	.7	.7	.7	.8	.2	.1	.2	.2
260. *	.9	1.0	.2	.2	1.2	1.2	1.6	1.3	1.4	.8	.8	1.1	1.1	1.1	1.1	1.0	.3	.2	.3	.4
265. *	1.6	1.7	.4	.2	1.3	1.5	2.1	1.8	1.9	1.3	1.0	1.5	1.5	1.6	1.6	1.5	.4	.3	.4	.4
270. *	2.0	2.2	.6	.4	1.5	1.7	2.4	2.2	2.1	1.6	1.5	1.8	1.8	1.9	1.9	1.9	.6	.4	.5	.6
275. *	2.3	2.5	.8	.5	1.6	1.9	2.8	2.3	2.1	1.6	1.6	2.1	2.0	2.1	2.2	2.1	.7	.5	.6	.8
280. *	2.3	2.7	.8	.6	1.6	1.8	2.8	2.4	2.3	1.8	1.7	2.2	2.2	2.3	2.2	2.0	.7	.5	.5	.7
285. *	2.3	2.6	.8	.6	1.6	1.8	2.6	2.2	2.1	1.7	1.5	1.9	2.2	2.3	2.2	2.0	.8	.4	.5	.8
290. *	2.3	2.5	.8	.5	1.5	1.9	2.3	1.9	2.0	1.5	1.5	1.9	2.0	1.9	2.0	1.8	.7	.5	.6	.8
295. *	2.2	2.4	.8	.5	1.6	2.0	2.0	1.8	1.8	1.3	1.4	1.7	1.8	1.8	1.8	1.6	.7	.5	.6	.8

300. *	2.1	2.3	.8	.4	1.5	1.9	2.0	1.7	1.6	1.2	1.2	1.7	1.9	1.9	1.8	1.4	.7	.5	.5	.7
305. *	2.0	2.2	.8	.4	1.5	2.0	1.9	1.6	1.6	1.2	1.2	1.6	1.7	1.8	1.8	1.3	.7	.4	.5	.7
310. *	2.1	2.1	.7	.4	1.6	1.9	1.9	1.5	1.6	1.2	1.3	1.6	1.7	1.7	1.7	1.1	.6	.4	.5	.6
315. *	2.0	2.1	.8	.4	1.7	1.8	1.8	1.5	1.5	1.2	1.2	1.5	1.6	1.6	1.7	1.0	.6	.4	.6	.7
320. *	1.9	1.8	.8	.5	1.7	1.8	1.7	1.5	1.5	1.0	1.1	1.8	1.6	1.6	1.6	.9	.6	.4	.5	.6
325. *	1.9	1.8	.8	.5	1.8	1.9	1.8	1.4	1.4	1.0	1.1	1.7	1.5	1.5	1.5	.8	.7	.5	.4	.5
330. *	1.9	1.7	.8	.5	1.8	1.8	1.9	1.4	1.3	1.1	1.0	1.6	1.5	1.5	1.4	.7	.6	.4	.3	.5
335. *	1.8	1.8	.8	.5	1.9	1.9	2.0	1.4	1.3	1.1	1.0	1.7	1.4	1.3	1.3	.6	.5	.4	.3	.4
340. *	1.8	1.7	.8	.6	1.9	1.9	1.9	1.4	1.3	1.0	1.0	1.7	1.3	1.3	1.3	.5	.4	.3	.3	.5
345. *	1.8	1.8	.9	.5	1.9	1.7	2.0	1.4	1.3	1.0	1.1	1.6	1.3	1.3	1.2	.5	.3	.2	.2	.5
350. *	1.9	2.0	1.0	.7	1.8	1.7	2.0	1.3	1.2	1.1	1.0	1.6	1.3	1.3	1.2	.5	.3	.2	.3	.5
355. *	1.9	2.0	1.1	.9	1.7	1.5	1.9	1.3	1.2	1.0	1.2	1.6	1.3	1.2	1.2	.6	.3	.3	.3	.3
360. *	2.0	2.0	1.2	1.0	1.3	1.3	1.8	1.2	1.1	1.0	1.3	1.5	1.3	1.2	1.2	.8	.3	.2	.1	.4
MAX *	2.4	2.7	1.3	1.2	1.9	2.0	2.8	2.4	2.3	1.8	1.7	2.2	2.2	2.3	2.2	2.1	.8	.5	.6	.8
DEGR. *	70	280	5	10	335	295	275	280	280	280	280	280	285	280	275	275	285	275	275	275

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JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0. *	.5	.4	.0	.1	.1	.1	.1	.2	.1	.0	.0	.1	.3	.3	.3	.4	.4	.5	.1	.0
5. *	.5	.4	.0	.1	.1	.0	.1	.2	.3	.0	.0	.0	.3	.2	.2	.6	.6	.6	.1	.1
10. *	.5	.4	.0	.1	.0	.0	.1	.2	.3	.0	.0	.0	.2	.2	.2	.6	.6	.6	.1	.1
15. *	.4	.4	.0	.0	.0	.0	.1	.2	.4	.0	.0	.0	.0	.0	.0	.6	.6	.6	.1	.1
20. *	.4	.4	.0	.0	.0	.0	.2	.2	.4	.0	.0	.0	.0	.0	.0	.6	.6	.6	.1	.1
25. *	.4	.4	.0	.0	.0	.0	.2	.3	.5	.0	.0	.0	.0	.0	.0	.5	.5	.5	.1	.1
30. *	.4	.4	.0	.0	.0	.0	.2	.3	.5	.0	.0	.0	.0	.0	.0	.5	.5	.5	.1	.1
35. *	.4	.4	.0	.0	.0	.0	.2	.3	.5	.0	.0	.0	.0	.0	.0	.5	.5	.5	.1	.1
40. *	.4	.4	.0	.0	.0	.0	.2	.3	.6	.1	.0	.0	.0	.0	.0	.5	.5	.4	.1	.1
45. *	.4	.3	.0	.0	.0	.0	.2	.3	.6	.2	.1	.1	.1	.0	.0	.5	.5	.4	.1	.1
50. *	.5	.3	.0	.0	.0	.0	.2	.2	.6	.2	.1	.1	.1	.0	.0	.5	.5	.4	.1	.1
55. *	.5	.3	.0	.0	.0	.0	.2	.2	.6	.2	.1	.1	.1	.0	.0	.5	.5	.4	.1	.1
60. *	.5	.3	.0	.0	.0	.0	.2	.2	.6	.2	.1	.1	.1	.0	.0	.5	.5	.3	.1	.1
65. *	.5	.3	.0	.0	.0	.0	.2	.2	.7	.2	.1	.1	.1	.0	.0	.5	.5	.4	.2	.3
70. *	.5	.2	.0	.0	.0	.0	.2	.2	.8	.3	.1	.3	.3	.0	.0	.5	.5	.5	.4	.3
75. *	.4	.2	.0	.0	.0	.0	.2	.2	.7	.5	.3	.3	.5	.0	.0	.5	.5	.7	.5	.5
80. *	.4	.2	.0	.1	.0	.0	.2	.2	.7	.5	.5	.6	.7	.0	.0	.5	.4	.9	.8	.8
85. *	.3	.1	.1	.1	.0	.0	.2	.2	.8	.6	.7	.9	.9	.0	.0	.5	.4	1.2	.9	1.1
90. *	.2	.1	.1	.2	.0	.0	.2	.2	.8	.7	1.0	1.2	1.3	.0	.0	.4	.5	1.4	1.3	1.4
95. *	.2	.1	.1	.3	.0	.0	.2	.2	.9	.9	1.2	1.5	1.6	.2	.0	.5	.6	1.7	1.5	1.6
100. *	.1	.0	.2	.3	.0	.0	.2	.2	.9	1.0	1.4	1.7	1.7	.2	.0	.5	.7	1.9	1.7	1.8
105. *	.1	.0	.2	.4	.0	.0	.2	.2	.9	1.0	1.5	1.7	1.8	.4	.0	.5	.9	2.0	1.7	1.8
110. *	.1	.0	.2	.4	.0	.0	.2	.3	.8	1.1	1.5	1.7	1.8	.4	.1	.7	1.0	2.0	1.7	1.7
115. *	.0	.0	.2	.4	.0	.0	.2	.3	.7	1.2	1.6	1.7	1.8	.5	.2	.7	1.0	1.9	1.6	1.8
120. *	.0	.0	.3	.4	.1	.0	.2	.3	.8	1.3	1.6	1.6	1.7	.5	.2	.7	1.0	1.7	1.6	1.6
125. *	.0	.0	.3	.4	.1	.0	.2	.3	.7	1.2	1.6	1.6	1.6	.5	.2	.8	1.1	1.6	1.5	1.6
130. *	.0	.0	.3	.4	.1	.0	.2	.4	.6	1.3	1.5	1.5	1.5	.5	.3	.8	1.0	1.6	1.4	1.4
135. *	.0	.0	.3	.4	.1	.0	.4	.4	.8	1.3	1.4	1.4	1.4	.5	.3	.9	1.0	1.5	1.2	1.4
140. *	.0	.0	.3	.4	.1	.0	.4	.4	.7	1.3	1.4	1.4	1.4	.5	.3	.8	1.0	1.4	1.2	1.2
145. *	.0	.0	.4	.4	.2	.1	.4	.5	.7	1.2	1.3	1.3	1.4	.5	.3	.8	1.0	1.4	1.2	1.2
150. *	.0	.0	.4	.4	.2	.1	.4	.4	.7	1.2	1.3	1.3	1.3	.5	.3	.8	1.0	1.3	1.2	1.2
155. *	.0	.0	.4	.4	.2	.1	.4	.5	.7	1.2	1.2	1.2	1.2	.5	.3	.8	.9	1.3	1.1	1.2
160. *	.0	.0	.4	.4	.2	.1	.3	.5	.7	1.2	1.2	1.2	1.2	.5	.3	.8	.9	1.2	1.1	1.2
165. *	.0	.0	.4	.4	.2	.2	.3	.5	.6	1.2	1.2	1.2	1.2	.5	.3	.8	.8	1.1	1.0	1.2
170. *	.0	.0	.4	.4	.2	.2	.4	.5	.6	1.2	1.2	1.2	1.2	.5	.4	.9	.7	1.1	1.0	1.1
175. *	.0	.0	.4	.4	.3	.2	.3	.5	.6	1.2	1.2	1.2	1.2	.6	.5	.7	.7	1.1	1.1	1.3
180. *	.1	.0	.4	.4	.2	.3	.3	.4	.7	1.2	1.2	1.2	1.2	.6	.5	.7	.7	1.2	1.2	1.3
185. *	.1	.0	.4	.7	.3	.4	.3	.4	.5	1.2	1.2	1.3	1.3	.8	.7	.6	.6	1.2	1.2	1.4
190. *	.2	.0	.4	.7	.4	.4	.3	.5	.5	1.3	1.3	1.3	1.4	.8	.8	.5	.6	1.2	1.3	1.4
195. *	.2	.0	.4	.8	.6	.4	.4	.6	.6	1.3	1.3	1.3	1.5	.8	.8	.4	.6	1.2	1.3	1.4
200. *	.3	.1	.5	.6	.6	.5	.4	.4	.6	1.3	1.3	1.3	1.5	.9	.8	.5	.6	1.2	1.2	1.4
205. *	.4	.1	.5	.7	.6	.5	.4	.5	.7	1.3	1.3	1.3	1.4	.8	.8	.5	.5	1.2	1.3	1.4

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JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
210. *	.4	.1	.5	.6	.7	.6	.5	.5	.7	1.4	1.4	1.4	1.5	.9	.8	.4	.6	1.3	1.4	1.5
215. *	.4	.1	.5	.7	.7	.7	.4	.6	.9	1.4	1.4	1.4	1.6	.9	.9	.4	.6	1.3	1.4	1.5
220. *	.4	.1	.5	.7	.8	.7	.5	.6	.9	1.5	1.5	1.5	1.6	.9	.8	.4	.6	1.3	1.4	1.6
225. *	.5	.1	.5	.7	.8	.6	.4	.6	1.0	1.5	1.5	1.6	1.6	1.0	.8	.4	.6	1.3	1.5	1.7
230. *	.5	.1	.5	.8	.8	.6	.4	.7	1.1	1.6	1.6	1.6	1.7	1.1	.8	.4	.6	1.5	1.6	1.7
235. *	.4	.1	.6	1.0	.8	.6	.4	.7	1.3	1.7	1.7	1.6	1.7	1.1	.8	.5	.7	1.6	1.7	1.7
240. *	.4	.1	.7	1.1	.8	.6	.5	.7	1.4	1.8	1.8	1.8	1.9	1.1	.8	.5	.7	1.7	1.8	1.8
245. *	.4	.1	.8	1.2	.9	.6	.4	.7	1.7	1.8	1.8	1.8	1.9	1.0	.8	.6	.8	1.7	1.7	2.0
250. *	.6	.2	.9	1.5	.9	.7	.4	.8	1.8	2.0	1.9	2.1	2.1	.9	.9	.6	.6	1.9	1.9	2.2

255.	*	.8	.6	1.2	1.6	.9	.6	.4	.7	2.0	2.2	2.3	2.2	2.2	1.1	.9	.6	.9	2.1	2.2	2.2
260.	*	.9	.8	1.2	1.7	.8	.7	.5	.8	2.0	2.2	2.3	2.1	2.2	1.1	.9	.6	1.0	2.1	2.1	2.1
265.	*	1.3	1.0	1.4	1.8	.9	.7	.5	.7	2.1	2.1	2.1	2.0	2.2	1.2	.9	.6	.8	2.1	2.0	2.2
270.	*	1.6	1.3	1.4	1.7	.7	.6	.4	.5	1.8	1.9	1.9	1.8	1.9	.9	.8	.5	.6	1.8	1.9	2.0
275.	*	1.7	1.3	1.0	1.3	.6	.5	.3	.4	1.3	1.3	1.6	1.5	1.5	.8	.6	.3	.5	1.4	1.5	1.6
280.	*	1.6	1.2	.8	1.1	.5	.3	.2	.3	1.1	1.0	1.0	1.2	1.2	.6	.5	.2	.3	1.0	1.0	1.1
285.	*	1.6	1.2	.4	.8	.3	.3	.1	.1	.6	.5	.6	.6	.9	.4	.4	.1	.1	.6	.6	.6
290.	*	1.2	.9	.3	.7	.3	.3	.1	.1	.4	.3	.4	.4	.4	.4	.4	.1	.1	.3	.3	.4
295.	*	1.1	.8	.2	.5	.3	.3	.1	.1	.2	.2	.3	.3	.3	.4	.4	.1	.1	.2	.2	.4
300.	*	.9	.8	.2	.4	.3	.3	.1	.1	.2	.3	.3	.3	.4	.5	.5	.1	.1	.1	.1	.3
305.	*	.8	.8	.2	.4	.3	.3	.1	.1	.2	.3	.3	.3	.5	.5	.5	.1	.1	.1	.1	.2
310.	*	1.0	.6	.2	.4	.3	.3	.1	.1	.2	.3	.3	.3	.5	.5	.5	.1	.1	.1	.1	.2
315.	*	.8	.6	.1	.3	.3	.2	.1	.1	.2	.2	.3	.3	.5	.5	.5	.1	.1	.1	.1	.2
320.	*	.8	.5	.1	.3	.2	.2	.0	.1	.1	.2	.2	.2	.5	.5	.5	.1	.1	.1	.1	.2
325.	*	.6	.5	.1	.3	.2	.2	.0	.0	.1	.2	.2	.2	.5	.5	.5	.1	.1	.1	.1	.2
330.	*	.6	.5	.1	.3	.2	.2	.0	.0	.1	.1	.2	.2	.6	.6	.5	.1	.1	.1	.1	.2
335.	*	.8	.5	.0	.2	.2	.1	.0	.0	.0	.1	.1	.2	.6	.6	.6	.1	.1	.1	.1	.2
340.	*	.7	.4	.0	.2	.2	.1	.0	.1	.0	.1	.1	.1	.6	.6	.5	.2	.2	.1	.1	.2
345.	*	.7	.4	.0	.2	.2	.1	.1	.1	.0	.0	.1	.1	.5	.5	.5	.1	.2	.2	.1	.2
350.	*	.6	.4	.0	.2	.2	.1	.1	.1	.0	.0	.1	.1	.5	.5	.4	.2	.2	.2	.1	.1
355.	*	.6	.4	.0	.2	.1	.1	.1	.1	.1	.0	.0	.1	.5	.4	.3	.4	.4	.3	.1	.1
360.	*	.5	.4	.0	.1	.1	.1	.1	.2	.1	.0	.0	.1	.3	.3	.3	.4	.4	.5	.1	.0
MAX	*	1.7	1.3	1.4	1.8	.9	.7	.5	.8	2.1	2.2	2.3	2.2	2.2	1.2	.9	.9	1.1	2.1	2.2	2.2
DEGR.	*	275	270	265	265	245	215	210	250	265	255	260	255	260	265	215	135	125	255	255	255

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
0.	*	.1	.6	.5	.5	1.0	1.1	1.1	.2
5.	*	.1	.4	.4	.4	1.2	1.3	1.3	.2
10.	*	.0	.3	.3	.3	1.4	1.4	1.3	.3
15.	*	.1	.1	.1	.1	1.4	1.4	1.3	.3
20.	*	.1	.0	.0	.0	1.3	1.3	1.2	.3
25.	*	.1	.1	.1	.0	1.3	1.3	1.2	.4
30.	*	.1	.1	.1	.1	1.2	1.2	1.1	.4
35.	*	.1	.1	.1	.1	1.1	1.1	1.0	.4
40.	*	.1	.0	.0	.0	1.0	1.0	.9	.4
45.	*	.1	.0	.0	.0	1.0	1.0	.8	.5
50.	*	.1	.0	.0	.0	.9	.9	.7	.5
55.	*	.1	.0	.0	.0	.9	.9	.7	.5
60.	*	.2	.1	.0	.0	.9	.9	.6	.4
65.	*	.2	.2	.0	.0	.9	.9	.7	.4
70.	*	.2	.2	.0	.0	.9	.9	.7	.5
75.	*	.5	.4	.0	.0	.8	.8	1.0	.8
80.	*	.7	.8	.0	.0	.8	.8	1.2	1.0
85.	*	1.1	1.1	.1	.0	.9	1.0	1.5	1.5
90.	*	1.4	1.5	.2	.0	.9	1.2	1.9	1.9
95.	*	1.7	1.7	.3	.1	1.0	1.2	1.9	2.3
100.	*	1.8	1.8	.4	.2	1.0	1.3	2.0	2.4
105.	*	1.9	1.9	.5	.2	1.1	1.4	2.0	2.7
110.	*	1.9	1.7	.6	.3	1.1	1.4	1.8	2.7
115.	*	1.7	1.7	.5	.3	1.2	1.5	2.0	2.7
120.	*	1.5	1.5	.6	.3	1.2	1.5	1.8	2.7
125.	*	1.5	1.5	.6	.3	1.2	1.5	1.8	2.6
130.	*	1.4	1.4	.6	.3	1.2	1.5	1.7	2.6
135.	*	1.4	1.4	.5	.3	1.3	1.4	1.8	2.5
140.	*	1.2	1.3	.5	.3	1.4	1.4	2.1	2.4
145.	*	1.2	1.2	.5	.3	1.4	1.6	1.9	2.5
150.	*	1.2	1.2	.5	.3	1.5	1.6	2.0	2.4
155.	*	1.2	1.3	.5	.3	1.6	1.8	2.1	2.4
160.	*	1.2	1.4	.6	.4	1.7	1.7	2.2	2.4
165.	*	1.2	1.5	.8	.4	1.7	1.6	2.3	2.4
170.	*	1.3	1.8	1.0	.7	1.7	1.7	2.4	2.3
175.	*	1.4	2.0	1.1	.9	1.6	1.6	2.4	2.3
180.	*	1.5	2.2	1.2	.9	1.5	1.5	2.2	2.2
185.	*	1.5	2.3	1.3	1.2	1.1	1.3	2.1	2.1
190.	*	1.7	2.2	1.2	1.4	.9	1.1	1.9	2.1
195.	*	1.7	2.1	1.2	1.3	.8	1.0	1.7	2.0
200.	*	1.6	2.0	1.3	1.1	.7	.7	1.7	2.0
205.	*	1.6	2.0	1.3	1.1	.5	.8	1.8	2.0

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WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
210.	*	1.6	1.9	1.1	1.2	.5	.8	1.8	2.0
215.	*	1.6	1.8	1.3	1.2	.5	.8	1.9	2.1

220. *	1.7	1.8	1.3	1.2	.4	.8	2.0	2.2
225. *	1.7	1.7	1.3	1.2	.4	.8	2.2	2.2
230. *	1.7	1.8	1.5	1.1	.4	.8	2.2	2.3
235. *	1.8	2.0	1.5	1.1	.4	.8	2.4	2.4
240. *	1.9	2.0	1.5	1.2	.5	.8	2.5	2.4
245. *	2.0	2.3	1.6	1.2	.5	.8	2.6	2.6
250. *	2.3	2.6	1.6	1.3	.6	.8	2.8	2.7
255. *	2.4	2.8	1.6	1.3	.6	.9	2.9	2.7
260. *	2.3	3.0	1.5	1.3	.6	.9	2.9	2.8
265. *	2.4	2.8	1.4	1.1	.5	.8	2.7	2.6
270. *	2.1	2.4	1.2	1.0	.4	.6	2.3	2.2
275. *	1.6	2.1	1.1	.8	.2	.4	1.7	1.7
280. *	1.2	1.6	.9	.8	.1	.2	1.1	1.1
285. *	.8	1.1	.7	.7	.0	.0	.6	.6
290. *	.5	.8	.7	.7	.0	.0	.3	.4
295. *	.4	.7	.7	.7	.0	.0	.2	.2
300. *	.2	.6	.7	.7	.0	.0	.1	.1
305. *	.2	.6	.7	.7	.0	.0	.1	.1
310. *	.2	.7	.7	.7	.0	.0	.0	.1
315. *	.2	.7	.7	.7	.0	.0	.0	.1
320. *	.3	.7	.7	.7	.0	.0	.0	.0
325. *	.3	.7	.7	.7	.0	.0	.0	.0
330. *	.3	.8	.8	.8	.0	.0	.0	.0
335. *	.3	.8	.8	.8	.1	.1	.1	.0
340. *	.3	.8	.8	.8	.2	.2	.2	.0
345. *	.3	.8	.8	.8	.4	.4	.4	.0
350. *	.2	.8	.8	.8	.6	.6	.6	.1
355. *	.2	.7	.7	.6	.8	.8	.9	.1
360. *	.1	.6	.5	.5	1.0	1.1	1.1	.2
MAX *	2.4	3.0	1.6	1.4	1.7	1.8	2.9	2.8
DEGR. *	255	260	245	190	160	155	255	260

THE HIGHEST CONCENTRATION IS 3.00 PPM AT 260 DEGREES FROM REC42.
THE 2ND HIGHEST CONCENTRATION IS 2.90 PPM AT 255 DEGREES FROM REC47.
THE 3RD HIGHEST CONCENTRATION IS 2.80 PPM AT 260 DEGREES FROM REC48.

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK # *	70	280	5	10	335	295	275	280	280	280	280	280	285	280	275	275	285	275	275	275
1 *	.6	.6	.2	.1	.1	.1	.4	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.5	1.0	.1	.0	.1	.4	.8	.5	.3	.3	.2	.2	.1	.1	.2	.2	.1	.2	.2	.2
3 *	.2	.0	.0	.1	.0	.0	.2	.5	.6	.4	.3	.2	.1	.1	.1	.0	.0	.0	.0	.0
4 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.1	.1	.0	.0	.0	.0	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.6	.7	.7	.8	.2	.0	.0	.1
7 *	1.0	1.1	.3	.2	.2	.4	1.0	1.1	1.2	.9	.9	1.2	1.2	1.2	1.2	1.1	.5	.3	.3	.4
8 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.1	.2	.4	.3	.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.3	.9	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.1	.0	.4	.2	.1	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
14 *	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
22 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
LINK # *	275	270	265	265	245	215	210	250	265	255	260	255	260	265	215	135	125	255	255	255
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
2 *	.2	.2	.2	.2	.0	.0	.0	.1	.2	.1	.2	.1	.2	.3	.0	.0	.0	.1	.2	.2
3 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.1	.1	.0	.0	.3	.6	.6
4 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.3	.0	.1	.0	.0	.4	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.5	.3	.3	.5	.2	.1	.2	.2	.8	.8	.7	.6	.2	.0	.0	.2	.3	.0	.0	.0

7 *	.8	.6	.6	.7	.4	.2	.2	.4	1.1	1.2	1.2	1.2	1.2	.4	.2	.2	.3	1.2	1.2	1.2
8 *	.1	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.0	.1	.0	.0	.1	.0	.0	.1	.1	.1
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
14 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.3	.3	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23 *	.0	.0	.1	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM) * ANGLE (DEGREES)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
LINK # *	255	260	245	190	160	155	255	260
1 *	.2	.4	.1	.1	.0	.1	.6	.3
2 *	.4	.8	.4	.1	.0	.0	1.0	1.1
3 *	.5	.2	.0	.1	.1	.1	.0	.0
4 *	.0	.0	.0	.0	.0	.0	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.0	.0	.0	.0	.0	.0	.0	.0
7 *	1.2	1.3	.4	.2	.2	.3	1.3	1.4
8 *	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.1	.0	.0	.1	.1	.1	.0	.0
10 *	.0	.0	.0	.3	.1	.2	.0	.0
11 *	.0	.1	.1	.1	.1	.1	.0	.0
12 *	.0	.1	.1	.1	.2	.2	.0	.0
13 *	.0	.1	.5	.3	.9	.7	.0	.0
14 *	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.0	.0	.0	.0	.0	.0	.0
23 *	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION *	X1	Y1	X2	Y2 *	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 1 EB 5th Phil Appr *	269695.0	284787.0	269838.0	284789.0 *	143.	89.	AG	7701.	1.5	.0	44.0		
2. 2 EB 5th EB Queue *	269805.0	284789.0	269247.3	284782.0 *	558.	269.	AG	288.	100.0	.0	24.0	1.11	28.3
3. 3 EB 5th Bake Appr *	269838.0	284789.0	270093.0	284793.0 *	255.	89.	AG	720.	11.5	.0	44.0		
4. 4 EB 5th Bake LT *	270093.0	284793.0	270194.0	284795.0 *	101.	89.	AG	710.	11.5	.0	44.0		
5. 5 EB 5th EB Rt *	270093.0	284776.0	270189.0	284778.0 *	96.	89.	AG	10.	11.5	.0	44.0		
6. 6 EB 5th Main Appr *	270194.0	284795.0	270550.0	284799.0 *	356.	89.	AG	960.	11.5	.0	44.0		
7. 7 EB 5th EB Queue *	270491.0	284798.0	270409.6	284797.2 *	81.	269.	AG	203.	100.0	.0	24.0	.66	4.1
8. 8 EB 5th Main Dep *	270550.0	284799.0	270695.0	284801.0 *	145.	89.	AG	720.	11.5	.0	44.0		
9. 9 NB Phil 5th Appr *	269851.0	284462.0	269847.0	284786.0 *	324.	359.	AG	410.	11.5	.0	44.0		
10. 10 NB PhilNB Queue *	269848.0	284750.0	269848.3	284724.2 *	26.	179.	AG	151.	100.0	.0	24.0	.22	1.3
11. 11 NB Phil5th Dep *	269847.0	284786.0	269841.0	285143.0 *	357.	359.	AG	320.	11.5	.0	44.0		
12. 12 SB Phil5th Appr *	269823.0	285126.0	269830.0	284793.0 *	333.	179.	AG	1390.	11.5	.0	44.0		
13. 13 SB PhilSB Queue *	269829.0	284819.0	269780.1	288686.3 *	3868.	359.	AG	151.	100.0	.0	24.0	2.11	196.5
14. 14 SB PhilPhil Dep *	269830.0	284793.0	269835.0	284461.0 *	332.	179.	AG	1120.	11.5	.0	44.0		
15. 15 NB Park5th Appr *	270203.0	284576.0	270200.0	284791.0 *	215.	359.	AG	70.	11.5	.0	32.0		
16. 16 NB ParkNB Queue *	270201.0	284761.0	270201.1	284753.3 *	8.	179.	AG	98.	100.0	.0	12.0	.22	.4
17. 17 NB Bake5th Dep *	270200.0	284791.0	270194.0	285216.0 *	425.	359.	AG	140.	11.5	.0	32.0		
18. 18 SB Bake5th Appr *	270180.0	285216.0	270189.0	284778.0 *	438.	179.	AG	140.	11.5	.0	32.0		
19. 19 SB BakeSB Queue *	270188.0	284828.0	270187.8	284843.3 *	15.	359.	AG	98.	100.0	.0	12.0	.44	.8
20. 20 SB BakeBake Dep *	270189.0	284778.0	270192.0	284577.0 *	201.	179.	AG	70.	11.5	.0	32.0		
21. 21 NB MainMain Appr *	270564.0	284513.0	270559.0	284795.0 *	282.	359.	AG	170.	11.5	.0	32.0		
22. 22 NB MainNB Queue *	270560.0	284768.0	270560.4	284734.6 *	33.	179.	AG	118.	100.0	.0	12.0	.27	1.7

23. 23 NB MainMain Dep	* 270559.0	284795.0	270556.0	285029.0 *	234.	359. AG	470.	11.5	.0	44.0		
24. 24 SB MainMain Appr	* 270535.0	285030.0	270539.0	284802.0 *	228.	179. AG	180.	11.5	.0	44.0		
25. 25 SB MainSB Queue	* 270538.0	284828.0	270537.8	284845.7 *	18.	359. AG	236.	100.0	.0	24.0	.18	.9
26. 26 SB MainMain Dep	* 270539.0	284802.0	270543.0	284513.0 *	289.	179. AG	120.	11.5	.0	44.0		

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JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell

DATE: 08/31/2010 TIME: 11:27:13.00

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
2. 2 EB 5th EB Queue	60	44	2.0	770	1743	73.30	1	3
7. 7 EB 5th EB Queue	60	31	2.0	960	1743	73.30	1	3
10. 10 NB PhilNB Queue	60	23	2.0	410	1731	73.30	1	3
13. 13 SB PhilSB Queue	60	23	2.0	1390	600	73.30	1	3
16. 16 NB ParkNB Queue	40	20	2.0	70	800	73.30	1	3
19. 19 SB BakeSB Queue	40	20	2.0	140	800	73.30	1	3
22. 22 NB MainNB Queue	60	36	2.0	170	1866	73.30	1	3
25. 25 SB MainSB Queue	60	36	2.0	180	1483	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. R1 EB 82	269739.0	284764.0	5.0
2. R2 SW Corner	269811.0	284765.0	5.0
3. R3 SB 82	269812.0	284693.0	5.0
4. R4 SB 164	269813.0	284611.0	5.0
5. R5 NB 164	269868.0	284612.0	5.0
6. R6 NB 82	269867.0	284694.0	5.0
7. R7 SE Corner	269866.0	284766.0	5.0
8. R8 EB 82	269938.0	284768.0	5.0
9. R9 EB 164	270018.0	284770.0	5.0
10. R10 EB 82	270099.0	284760.0	5.0
11. R10 SW Corner	270171.0	284761.0	5.0
12. R12 SE Corner	270217.0	284772.0	5.0
13. R13 EB 82r	270289.0	284773.0	5.0
14. R14 EB 164	270368.0	284774.0	5.0
15. R15 EB 82	270447.0	284775.0	5.0
16. R16 SW Corner	270519.0	284776.0	5.0
17. R17 SB 82	270520.0	284704.0	5.0
18. R18 SB 164	270521.0	284622.0	5.0
19. R19 NB 164	270583.0	284618.0	5.0
20. R20 NB 82	270581.0	284700.0	5.0
21. R21 SE Corner	270580.0	284773.0	5.0
22. R22 SB 82	270652.0	284773.0	5.0
23. R23 WB 82	270652.0	284829.0	5.0
24. R24 NE Corner	270580.0	284829.0	5.0
25. R25 NB 82	270579.0	284901.0	5.0
26. R26 NB 164	270577.0	284983.0	5.0
27. R27 SB 164	270525.0	284975.0	5.0
28. R28 SB 82	270527.0	284893.0	5.0
29. R29 NW Corner	270518.0	284821.0	5.0
30. R30 WB 82	270446.0	284821.0	5.0
31. R31 WB 164	270368.0	284820.0	5.0
32. R32 WB 82	270288.0	284819.0	5.0
33. R33 NE Corner	270216.0	284818.0	5.0
34. R34 NB 82	270215.0	284890.0	5.0
35. R35 NB 164	270214.0	284972.0	5.0
36. R36 SB 164	270168.0	284972.0	5.0
37. R37 SB 82	270169.0	284890.0	5.0

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JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell

DATE: 08/31/2010 TIME: 11:27:13.00

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
38. R38 NW Corner	270170.0	284818.0	5.0
39. R39 WB 82	270098.0	284817.0	5.0
40. R40 WB 164	270017.0	284815.0	5.0
41. R41 WB 82	269937.0	284814.0	5.0
42. R42 NE Corner	269865.0	284813.0	5.0
43. R43 NB 82	269864.0	284885.0	5.0
44. R44 NB 164	269863.0	284967.0	5.0
45. R45 SB 164	269809.0	284966.0	5.0
46. R46 SB 82	269810.0	284884.0	5.0
47. R47 NW Corner	269811.0	284812.0	5.0
48. R48 WB 82	269738.0	284810.0	5.0

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JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum

concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	CONCENTRATION (PPM)																			
0.	1.5	2.1	1.5	1.4	1.0	1.1	1.2	.5	.4	.4	.3	.5	.4	.4	1.0	.7	.2	.2	.3	.3
5.	1.6	2.1	1.5	1.4	.7	.8	1.0	.4	.4	.2	.3	.4	.4	.4	1.0	.7	.3	.3	.1	.2
10.	1.6	2.0	1.5	1.2	.5	.4	.8	.3	.3	.2	.4	.4	.4	.4	1.0	.7	.3	.3	.1	.1
15.	1.7	1.8	1.6	1.1	.3	.4	.6	.3	.3	.2	.5	.4	.4	.4	.9	.7	.4	.1	.1	.1
20.	1.7	1.6	1.4	1.1	.2	.2	.3	.3	.3	.2	.5	.4	.3	.3	.9	.8	.5	.2	.1	.1
25.	1.7	1.4	1.1	.9	.2	.1	.3	.3	.3	.2	.4	.4	.4	.4	1.1	.8	.5	.2	.1	.1
30.	1.8	1.4	1.0	.9	.1	.1	.3	.3	.3	.2	.3	.4	.4	.4	1.1	.7	.4	.2	.0	.1
35.	1.8	1.3	.9	.9	.1	.1	.3	.3	.3	.2	.3	.4	.4	.4	1.1	.6	.3	.3	.0	.1
40.	1.9	1.3	.8	.8	.1	.1	.3	.3	.3	.3	.3	.4	.4	.5	1.1	.6	.3	.3	.0	.1
45.	1.8	1.1	.8	.7	.1	.1	.3	.3	.3	.3	.3	.4	.4	.5	1.1	.5	.3	.1	.0	.1
50.	1.8	1.2	.8	.7	.0	.1	.3	.3	.3	.3	.4	.5	.5	.7	1.2	.5	.3	.1	.0	.1
55.	1.6	1.1	.8	.7	.0	.1	.4	.4	.3	.4	.4	.5	.5	.7	1.2	.6	.2	.1	.0	.0
60.	1.7	1.1	.7	.5	.0	.1	.4	.4	.4	.3	.4	.5	.6	.8	1.2	.6	.2	.0	.0	.0
65.	1.7	1.0	.7	.5	.1	.1	.4	.4	.4	.3	.4	.5	.6	.8	1.2	.5	.1	.0	.0	.0
70.	1.4	1.0	.6	.6	.1	.2	.4	.4	.5	.4	.4	.7	.7	.9	.9	.5	.0	.0	.0	.0
75.	1.2	1.0	.7	.6	.1	.1	.4	.5	.5	.4	.5	.7	.7	1.0	.7	.4	.0	.0	.0	.0
80.	1.1	1.1	.6	.5	.0	.1	.5	.6	.5	.3	.5	.7	.6	.9	.7	.4	.0	.0	.0	.0
85.	.9	1.0	.7	.6	.0	.1	.4	.5	.4	.3	.4	.6	.6	.8	.6	.4	.0	.0	.0	.0
90.	.8	1.0	.6	.6	.0	.0	.4	.5	.4	.3	.4	.5	.5	.7	.5	.3	.0	.0	.0	.0
95.	.7	1.0	.5	.6	.0	.0	.3	.3	.4	.1	.3	.4	.4	.4	.3	.3	.0	.0	.0	.0
100.	.6	.8	.5	.5	.0	.0	.2	.2	.3	.1	.2	.2	.3	.3	.3	.3	.0	.0	.0	.0
105.	.5	.7	.5	.5	.0	.0	.1	.1	.1	.0	.2	.2	.2	.1	.1	.3	.0	.0	.0	.0
110.	.5	.6	.5	.5	.0	.0	.1	.1	.1	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0
115.	.4	.7	.5	.5	.0	.0	.0	.1	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0
120.	.3	.8	.6	.6	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.1	.0	.0	.0	.0
125.	.3	.8	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0
130.	.3	.8	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0
135.	.3	.8	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2	.1	.0	.0
140.	.3	.9	.8	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2	.1	.0	.0
145.	.3	.9	.8	.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2	.1	.0	.0
150.	.3	.9	.8	.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.1	.0	.0
155.	.3	1.0	.9	.7	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0
160.	.2	.9	.9	.8	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0
165.	.1	.9	.8	.7	.1	.1	.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
170.	.1	.8	.8	.7	.2	.2	.3	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
175.	.0	.8	.8	.7	.3	.3	.5	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
180.	.0	.7	.7	.5	.4	.4	.6	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.1
185.	.0	.6	.5	.4	.4	.6	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
190.	.0	.4	.4	.3	.5	.7	.9	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
195.	.0	.3	.3	.2	.6	.7	1.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
200.	.0	.2	.2	.2	.6	.7	1.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
205.	.0	.1	.1	.1	.6	.7	1.1	.3	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1	.1

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WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	CONCENTRATION (PPM)																			
210.	.0	.1	.1	.1	.6	.6	1.0	.3	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1	.1
215.	.0	.1	.1	.1	.6	.6	.9	.3	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1	.1
220.	.0	.1	.1	.1	.6	.6	.9	.3	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1	.1
225.	.0	.1	.1	.1	.6	.6	.9	.3	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.1	.1
230.	.0	.1	.1	.1	.6	.6	.8	.3	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.1	.1
235.	.0	.0	.0	.0	.6	.6	.8	.3	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.1	.1
240.	.0	.0	.0	.0	.6	.6	.7	.4	.1	.1	.1	.2	.0	.1	.1	.1	.0	.0	.1	.1
245.	.0	.2	.0	.0	.6	.6	.7	.5	.2	.1	.1	.2	.2	.1	.1	.1	.0	.0	.1	.1
250.	.2	.2	.0	.0	.5	.5	.9	.6	.3	.1	.1	.1	.2	.1	.1	.1	.0	.0	.1	.1
255.	.3	.3	.0	.0	.5	.5	.8	.8	.3	.2	.2	.3	.3	.1	.2	.3	.0	.0	.1	.1
260.	.5	.6	.0	.0	.5	.5	1.0	.9	.6	.3	.3	.4	.4	.3	.4	.5	.0	.0	.1	.1
265.	.7	.8	.1	.0	.6	.7	1.4	1.0	.8	.4	.4	.5	.5	.4	.4	.7	.1	.0	.1	.2
270.	1.0	1.1	.1	.0	.6	.8	1.7	1.0	.8	.6	.5	.6	.6	.6	.5	.9	.1	.1	.2	.2
275.	1.2	1.4	.2	.1	.7	.8	1.7	1.2	1.0	.6	.5	.6	.6	.8	.7	.9	.2	.1	.2	.3
280.	1.3	1.5	.3	.1	.6	.8	1.7	1.1	.9	.7	.6	.6	.8	.7	.8	1.1	.2	.1	.2	.3
285.	1.4	1.7	.4	.1	.7	.9	1.8	.9	.9	.6	.7	.8	.8	.7	.9	1.1	.2	.1	.2	.3
290.	1.4	1.6	.4	.2	.7	1.0	1.5	.9	.7	.6	.6	.7	.7	.7	.9	1.1	.1	.1	.1	.3
295.	1.4	1.6	.4	.2	.8	1.1	1.4	.8	.7	.5	.5	.6	.7	.7	1.0	.9	.2	.1	.2	.4
300.	1.4	1.5	.5	.2	.9	1.1	1.3	.8	.6	.5	.5	.6	.7	.6	1.0	1.0	.3	.1	.2	.4
305.	1.3	1.4	.6	.4	.9	1.2	1.2	.7	.6	.5	.5	.6	.5	.6	1.1	.9	.4	.1	.2	.4
310.	1.4	1.4	.6	.4	.9	1.2	1.3	.8	.6	.5	.4	.6	.5	.6	1.1	.9	.4	.2	.3	.5
315.	1.3	1.2	.6	.4	.9	1.2	1.3	.8	.5	.4	.4	.4	.5	.5	1.1	.7	.5	.2	.4	.6
320.	1.3	1.2	.6	.3	.9	1.2	1.0	.8	.5	.4	.3	.6	.5	.5	1.1	.7	.5	.2	.4	.6
325.	1.3	1.2	.7	.4	.9	1.2	1.2	.8	.5	.4	.3	.6	.5	.5	1.1	.6	.5	.3	.4	.5
330.	1.2	1.1	.6	.4	.9	1.2	1.3	.8	.5	.3	.3	.7	.5	.5	1.1	.6	.5	.3	.4	.4
335.	1.2	1.2	.6	.4	1.1	1.2	1.4	.8	.6	.4	.3	.7	.5	.5	1.1	.5	.5	.3	.4	.5
340.	1.2	1.3	.9	.5	1.0	1.6	1.5	.8	.5	.4	.3	.6	.4	.5	1.1	.5	.4	.3	.3	.6
345.	1.2	1.3	.9	.8	1.2	1.5	1.5	.6	.5	.3	.3	.7	.4	.5	1.1	.5	.4	.3	.2	.5
350.	1.3	1.6	1.1	1.0	1.1	1.4	1.6	.6	.5	.3	.3	.7	.5	.5	1.0	.4	.3	.2	.2	.4
355.	1.3	1.9	1.4	1.1	.9	1.3	1.5	.6	.4	.3	.4	.6	.4	.4	1.0	.6	.2	.2	.3	.4
360.	1.5	2.1	1.5	1.4	1.0	1.1	1.2	.5	.4	.4	.3	.5	.4	.4	1.0	.7	.2	.2	.3	.3
MAX	1.9	2.1	1.6	1.4	1.2	1.6	1.8	1.2	1.0	.7	.7	.8	.8	1.0	1.2	1.1	.5	.3	.4	.6
DEGR.	40	0	15	0	345	340	285	275	275	280	285	285	280	75	50	280	20	5	315	315

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0. *	.5	.3	.0	.2	.2	.1	.1	.2	.2	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1
5. *	.4	.3	.0	.2	.1	.1	.1	.2	.3	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1
10. *	.4	.3	.0	.1	.1	.1	.2	.2	.3	.0	.0	.0	.0	.0	.0	.1	.2	.2	.0	.0
15. *	.4	.2	.0	.1	.1	.1	.2	.3	.4	.0	.0	.0	.0	.0	.0	.2	.2	.2	.0	.0
20. *	.3	.2	.0	.1	.1	.0	.2	.3	.5	.0	.0	.0	.0	.0	.0	.2	.2	.3	.0	.0
25. *	.3	.2	.0	.0	.0	.0	.2	.3	.6	.0	.0	.0	.0	.0	.0	.2	.2	.3	.0	.0
30. *	.3	.2	.0	.0	.0	.0	.2	.3	.6	.0	.0	.0	.0	.0	.0	.2	.2	.3	.0	.0
35. *	.3	.2	.0	.0	.0	.0	.2	.3	.6	.1	.0	.0	.0	.0	.0	.2	.2	.3	.0	.0
40. *	.3	.2	.0	.0	.0	.0	.2	.3	.7	.1	.0	.0	.0	.0	.0	.2	.2	.3	.0	.0
45. *	.3	.2	.0	.0	.0	.0	.3	.3	.7	.1	.0	.0	.0	.0	.0	.2	.2	.3	.0	.0
50. *	.3	.2	.0	.0	.0	.0	.3	.3	.6	.1	.0	.0	.0	.0	.0	.1	.1	.2	.0	.0
55. *	.3	.2	.0	.0	.0	.0	.3	.3	.6	.1	.0	.0	.0	.0	.0	.1	.1	.2	.0	.0
60. *	.3	.2	.0	.0	.0	.0	.3	.3	.6	.1	.1	.1	.1	.0	.0	.1	.1	.2	.0	.0
65. *	.3	.2	.0	.0	.0	.0	.3	.3	.6	.3	.1	.1	.1	.0	.0	.1	.1	.2	.0	.0
70. *	.3	.2	.0	.0	.0	.0	.2	.3	.5	.3	.1	.1	.1	.0	.0	.1	.1	.3	.1	.1
75. *	.3	.1	.0	.0	.0	.0	.3	.3	.7	.3	.2	.2	.2	.0	.0	.1	.1	.3	.2	.2
80. *	.3	.1	.0	.1	.0	.0	.3	.3	.6	.5	.3	.4	.3	.0	.0	.1	.1	.3	.2	.3
85. *	.2	.1	.0	.1	.0	.0	.3	.3	.7	.5	.5	.4	.5	.0	.0	.1	.1	.5	.4	.3
90. *	.2	.1	.1	.1	.0	.0	.3	.3	.7	.7	.7	.5	.6	.0	.0	.1	.1	.7	.4	.4
95. *	.1	.0	.1	.2	.0	.0	.3	.3	.7	.7	.9	.6	.6	.1	.0	.1	.2	.7	.4	.4
100. *	.1	.0	.1	.2	.0	.0	.3	.3	.6	.7	.9	.7	.7	.2	.0	.1	.2	.7	.5	.5
105. *	.0	.0	.1	.3	.0	.0	.3	.3	.6	.7	.9	.7	.7	.2	.0	.1	.3	.6	.5	.5
110. *	.0	.0	.1	.3	.0	.0	.3	.3	.6	.8	.9	.7	.6	.2	.0	.2	.4	.6	.4	.5
115. *	.0	.0	.2	.3	.0	.0	.3	.4	.6	1.0	.8	.6	.5	.3	.1	.2	.3	.6	.4	.4
120. *	.0	.0	.2	.3	.0	.0	.3	.4	.7	1.0	.8	.5	.5	.3	.2	.2	.3	.5	.4	.4
125. *	.0	.0	.2	.3	.0	.0	.3	.4	.7	1.0	.7	.5	.5	.2	.2	.2	.3	.6	.3	.3
130. *	.0	.0	.2	.3	.1	.0	.3	.4	.5	1.0	.7	.5	.5	.2	.2	.2	.3	.5	.3	.3
135. *	.0	.0	.2	.3	.1	.0	.3	.4	.5	1.0	.5	.4	.4	.2	.1	.3	.3	.5	.3	.3
140. *	.0	.0	.2	.3	.1	.0	.4	.4	.5	1.0	.5	.4	.4	.2	.1	.3	.3	.5	.3	.3
145. *	.0	.0	.2	.3	.1	.0	.4	.5	.5	1.0	.4	.4	.4	.2	.1	.3	.2	.4	.3	.3
150. *	.0	.0	.2	.3	.1	.0	.4	.5	.5	1.0	.4	.4	.4	.2	.1	.3	.2	.4	.3	.3
155. *	.0	.0	.2	.2	.1	.2	.4	.5	.6	1.0	.4	.4	.4	.2	.1	.3	.2	.3	.2	.3
160. *	.0	.0	.2	.2	.2	.2	.4	.6	.7	.9	.3	.4	.4	.2	.1	.3	.2	.3	.2	.3
165. *	.0	.0	.2	.2	.2	.2	.4	.6	.5	.9	.4	.4	.4	.2	.1	.2	.3	.3	.2	.3
170. *	.0	.0	.3	.3	.2	.2	.3	.5	.5	1.0	.4	.4	.4	.2	.1	.2	.3	.3	.2	.3
175. *	.1	.0	.3	.4	.2	.3	.3	.4	.5	1.0	.4	.4	.4	.1	.2	.1	.2	.3	.3	.3
180. *	.1	.0	.3	.6	.3	.3	.3	.4	.4	1.0	.4	.4	.4	.2	.2	.2	.1	.3	.3	.3
185. *	.1	.0	.3	.6	.3	.3	.4	.3	.4	1.0	.4	.4	.4	.2	.2	.1	.1	.3	.3	.3
190. *	.2	.0	.2	.5	.4	.4	.3	.5	.4	1.0	.4	.4	.4	.3	.1	.1	.1	.3	.2	.3
195. *	.2	.0	.2	.5	.5	.4	.3	.5	.4	1.0	.3	.3	.4	.3	.3	.1	.1	.3	.2	.3
200. *	.2	.0	.2	.5	.4	.6	.3	.4	.4	.9	.3	.3	.3	.3	.3	.0	.1	.3	.3	.3
205. *	.3	.0	.2	.5	.4	.6	.2	.3	.5	1.0	.4	.4	.4	.3	.3	.0	.1	.3	.3	.4

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WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
210. *	.3	.0	.3	.4	.5	.6	.2	.4	.5	1.0	.4	.4	.4	.3	.2	.1	.1	.3	.3	.4
215. *	.3	.0	.3	.5	.6	.5	.2	.4	.5	1.0	.4	.4	.4	.3	.2	.2	.2	.3	.3	.4
220. *	.3	.0	.3	.5	.7	.5	.1	.4	.6	.9	.4	.4	.5	.3	.3	.2	.3	.3	.4	.4
225. *	.3	.0	.3	.6	.7	.5	.1	.4	.7	.9	.4	.4	.5	.3	.4	.2	.2	.3	.5	.4
230. *	.3	.0	.3	.5	.7	.4	.1	.3	.8	1.0	.5	.4	.5	.4	.3	.2	.2	.4	.4	.4
235. *	.3	.0	.3	.7	.6	.4	.1	.3	.9	.9	.5	.5	.6	.4	.3	.3	.2	.5	.4	.5
240. *	.3	.0	.4	.7	.6	.4	.1	.3	.9	.9	.5	.6	.6	.3	.3	.2	.2	.5	.4	.5
245. *	.3	.0	.5	.8	.6	.4	.1	.2	1.1	.8	.5	.6	.7	.4	.2	.2	.3	.5	.5	.6
250. *	.4	.1	.6	1.0	.5	.4	.1	.1	1.1	.8	.5	.6	.8	.3	.3	.4	.2	.6	.6	.8
255. *	.3	.2	.6	1.0	.5	.4	.1	.2	1.0	.9	.6	.8	.8	.3	.5	.4	.4	.7	.7	.8
260. *	.6	.3	.7	1.1	.5	.4	.1	.2	1.1	.7	.7	.7	.6	.5	.4	.3	.4	.7	.8	1.0
265. *	.6	.5	.7	1.1	.4	.4	.1	.1	.9	.7	.6	.6	.7	.4	.4	.3	.4	.6	.7	.9
270. *	.9	.5	.7	1.0	.4	.3	.1	.1	.8	.5	.6	.6	.8	.4	.4	.3	.3	.6	.7	.9
275. *	.9	.6	.6	.9	.3	.3	.0	.1	.7	.4	.5	.6	.6	.4	.3	.2	.3	.6	.6	.7
280. *	.9	.6	.3	.6	.3	.3	.0	.0	.4	.4	.4	.4	.7	.3	.3	.2	.2	.5	.4	.5
285. *	.8	.6	.2	.6	.3	.2	.0	.0	.2	.2	.3	.3	.5	.3	.3	.2	.2	.4	.4	.4
290. *	.8	.6	.1	.5	.3	.2	.0	.0	.1	.2	.3	.3	.4	.3	.2	.2	.2	.2	.3	.3
295. *	.6	.5	.1	.5	.3	.2	.0	.0	.1	.2	.2	.3	.4	.3	.2	.1	.2	.2	.2	.2
300. *	.7	.5	.1	.4	.3	.2	.0	.0	.2	.2	.2	.2	.4	.2	.2	.1	.2	.2	.2	.2
305. *	.7	.4	.1	.4	.3	.2	.1	.1	.1	.1	.1	.1	.4	.2	.2	.1	.1	.2	.2	.2
310. *	.7	.4	.1	.5	.4	.3	.1	.1	.1	.1	.1	.1	.4	.3	.3	.1	.1	.2	.2	.2
315. *	.7	.4	.1	.4	.4	.3	.1	.1	.1	.1	.1	.1	.4	.3	.3	.1	.1	.1	.2	.2
320. *	.6	.4	.1	.4	.4	.3	.1	.1	.1	.1	.1	.1	.4	.3	.3	.1	.1	.1	.2	.2
325. *	.6	.5	.2	.4	.4	.3	.1	.1	.1	.1	.1	.1	.3	.3	.3	.1	.1	.1	.1	.2
330. *	.8	.5	.2	.5	.4	.3	.1	.1	.1	.1	.1	.1	.3	.3	.3	.1	.1	.1	.1	.2
335. *	.7	.4	.2	.5	.3	.3	.1	.2	.1	.1	.1	.1	.3	.3	.3	.1	.1	.1	.1	.3
340. *	.7	.3	.0	.5	.4	.3	.2	.2	.1	.1	.1	.1	.3	.3	.3	.1	.1	.1	.1	.2
345. *	.7	.2	.0	.3	.2	.1	.1	.1	.1	.1	.1	.1	.3	.3	.3	.1	.1	.1	.1	.2
350. *	.5	.3	.0	.3	.2	.1	.1	.1	.1	.0	.1	.1	.3	.3	.2	.1	.1	.1	.1	.2

355. *	.5	.3	.0	.2	.2	.1	.1	.2	.1	.0	.0	.0	.2	.2	.2	.2	.2	.2	.1	.1
360. *	.5	.3	.0	.2	.2	.1	.1	.2	.2	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1
MAX *	.9	.6	.7	1.1	.7	.6	.4	.6	1.1	1.0	.9	.8	.8	.5	.5	.4	.4	.7	.8	1.0
DEGR. *	270	275	260	260	220	200	140	160	245	115	95	255	250	260	255	250	110	90	260	260

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
0. *	.2	.9	.8	.8	1.6	1.6	1.7	.2
5. *	.1	.7	.5	.5	1.7	1.8	1.8	.3
10. *	.0	.4	.4	.4	1.7	1.8	1.8	.4
15. *	.0	.3	.2	.2	1.8	1.8	1.8	.5
20. *	.0	.1	.1	.1	1.7	1.8	1.7	.5
25. *	.0	.0	.0	.0	1.6	1.6	1.6	.4
30. *	.0	.0	.0	.0	1.6	1.6	1.5	.6
35. *	.0	.0	.0	.0	1.4	1.4	1.4	.6
40. *	.0	.0	.0	.0	1.4	1.4	1.3	.6
45. *	.0	.0	.0	.0	1.3	1.3	1.2	.6
50. *	.0	.0	.0	.0	1.2	1.2	1.1	.6
55. *	.0	.0	.0	.0	1.2	1.2	1.1	.5
60. *	.0	.0	.0	.0	1.2	1.2	1.0	.5
65. *	.0	.1	.0	.0	1.2	1.1	1.0	.5
70. *	.1	.1	.0	.0	1.1	1.1	.9	.4
75. *	.1	.1	.0	.0	1.1	1.1	1.0	.5
80. *	.3	.2	.0	.0	1.1	1.1	1.0	.7
85. *	.3	.3	.0	.0	1.1	1.1	1.2	.9
90. *	.5	.4	.0	.0	1.1	1.2	1.2	1.0
95. *	.5	.5	.1	.0	1.1	1.2	1.1	1.2
100. *	.6	.5	.1	.0	1.1	1.2	1.1	1.2
105. *	.5	.4	.2	.1	1.2	1.3	1.1	1.4
110. *	.4	.4	.2	.1	1.2	1.2	1.2	1.6
115. *	.4	.4	.1	.1	1.2	1.2	1.1	1.6
120. *	.4	.4	.1	.0	1.2	1.3	1.2	1.7
125. *	.3	.4	.1	.0	1.3	1.3	1.2	1.7
130. *	.3	.3	.1	.1	1.4	1.3	1.3	1.7
135. *	.3	.3	.1	.1	1.4	1.4	1.2	1.6
140. *	.3	.3	.1	.1	1.5	1.5	1.3	1.6
145. *	.3	.3	.1	.1	1.6	1.6	1.4	1.6
150. *	.3	.3	.1	.1	1.6	1.5	1.3	1.6
155. *	.3	.3	.1	.1	1.8	1.6	1.4	1.6
160. *	.3	.3	.2	.2	1.9	1.8	1.5	1.4
165. *	.3	.5	.3	.2	1.7	1.7	1.6	1.3
170. *	.3	.6	.4	.4	1.9	1.8	1.6	1.3
175. *	.3	.8	.6	.5	1.9	1.5	1.5	1.3
180. *	.3	1.0	.6	.8	1.4	1.4	1.5	1.3
185. *	.3	1.1	.7	1.0	1.1	1.2	1.4	1.2
190. *	.4	1.1	1.1	1.2	1.1	1.0	1.2	1.2
195. *	.5	1.1	1.1	1.2	.9	.9	1.1	1.3
200. *	.5	1.1	1.2	1.3	.7	.8	1.1	1.2
205. *	.6	1.1	1.2	1.5	.5	.7	1.2	1.3

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
210. *	.6	1.1	1.2	1.4	.5	.6	1.1	1.3
215. *	.6	.9	1.4	1.4	.4	.6	1.1	1.3
220. *	.6	1.0	1.5	1.4	.3	.6	1.2	1.4
225. *	.6	1.1	1.4	1.3	.4	.6	1.3	1.4
230. *	.7	1.2	1.4	1.3	.4	.6	1.4	1.4
235. *	.6	1.2	1.4	1.2	.4	.6	1.5	1.5
240. *	.8	1.3	1.3	1.1	.3	.6	1.6	1.4
245. *	.7	1.4	1.3	1.0	.3	.5	1.6	1.5
250. *	.9	1.6	1.3	1.0	.2	.4	1.7	1.6
255. *	1.0	1.8	1.2	.9	.1	.3	1.7	1.5
260. *	1.2	1.7	1.1	.9	.1	.3	1.5	1.4
265. *	1.1	1.8	1.0	.9	.0	.2	1.4	1.2
270. *	1.0	1.6	.9	.8	.0	.1	1.1	1.0
275. *	.9	1.4	.9	.8	.0	.1	.8	.7
280. *	.8	1.1	.8	.8	.0	.0	.6	.5
285. *	.6	1.0	.8	.8	.0	.0	.3	.3
290. *	.6	.8	.8	.8	.0	.0	.2	.2
295. *	.5	.8	.8	.8	.1	.1	.2	.1
300. *	.5	.9	.9	.8	.1	.1	.1	.0
305. *	.5	.9	.9	.9	.1	.1	.1	.0
310. *	.5	.9	1.0	1.0	.1	.1	.1	.0
315. *	.5	1.0	1.0	1.0	.1	.1	.1	.0

320. *	.5	1.1	1.1	1.1	.1	.1	.1	.0
325. *	.5	1.2	1.1	1.1	.1	.1	.1	.0
330. *	.5	1.2	1.2	1.1	.2	.2	.2	.0
335. *	.5	1.3	1.3	1.2	.3	.3	.3	.0
340. *	.3	1.3	1.2	1.2	.4	.4	.4	.0
345. *	.3	1.3	1.2	1.1	.6	.6	.6	.0
350. *	.3	1.2	1.1	1.0	.9	1.0	1.0	.1
355. *	.2	1.1	1.0	.9	1.3	1.3	1.4	.1
360. *	.2	.9	.8	.8	1.6	1.6	1.7	.2
MAX *	1.2	1.8	1.5	1.5	1.9	1.8	1.8	1.7
DEGR. *	260	255	220	205	170	160	5	120

THE HIGHEST CONCENTRATION IS 2.10 PPM AT 0 DEGREES FROM REC2 .
THE 2ND HIGHEST CONCENTRATION IS 1.90 PPM AT 40 DEGREES FROM REC1 .
THE 3RD HIGHEST CONCENTRATION IS 1.90 PPM AT 170 DEGREES FROM REC45.

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK # *	40	0	15	0	345	340	285	275	275	280	285	285	280	75	50	280	20	5	315	315
1 *	.4	.4	.1	.1	.1	.1	.4	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.9	.2	.0	.1	.1	.1	.7	.5	.3	.2	.1	.1	.1	.0	.0	.1	.0	.0	.0	.0
3 *	.0	.0	.1	.0	.0	.1	.1	.3	.4	.3	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0
4 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.1	.0	.0	.0	.0	.0	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.4	.5	.4	.6	.1	.1	.1	.2
7 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.6	.4	.0	.0	.1	.1
8 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0
9 *	.0	.0	.1	.1	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.1	.1	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.3	.6	.3	.2	.2	.3	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
13 *	.2	.5	.2	.3	.2	.2	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.1	.1
14 *	.0	.3	.6	.6	.4	.3	.3	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
22 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
LINK # *	270	275	260	260	220	200	140	160	245	115	95	255	250	260	255	250	110	90	260	260
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
2 *	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.2	.2	.0	.0	.2	.3
3 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.4	.4
4 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.0	.0	.0	.0	.1	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.3	.2	.2	.4	.2	.1	.0	.1	.6	.5	.5	.4	.2	.0	.0	.0	.2	.4	.0	.0
7 *	.2	.1	.1	.2	.1	.1	.0	.0	.5	.4	.3	.0	.0	.0	.0	.0	.1	.1	.0	.0
8 *	.1	.2	.2	.1	.0	.0	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.1
13 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0
14 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.1	.1
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23 *	.0	.0	.1	.2	.2	.3	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.0	.1	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
	260	255	220	205	170	160	5	120
1	.2	.4	.2	.1	.1	.1	.0	.5
2	.5	.7	.3	.2	.0	.0	.0	.9
3	.3	.1	.0	.0	.0	.1	.0	.0
4	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.0
7	.0	.0	.0	.0	.0	.0	.0	.0
8	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.0	.0	.0	.1	.1	.0	.1
10	.0	.0	.0	.0	.0	.0	.0	.0
11	.0	.1	.2	.2	.1	.1	.1	.0
12	.1	.4	.5	.5	.9	.7	.9	.0
13	.0	.0	.3	.4	.6	.5	.8	.0
14	.1	.1	.0	.1	.1	.2	.0	.2
15	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.0	.0	.0	.0	.0
17	.0	.0	.0	.0	.0	.0	.0	.0
18	.0	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.0	.0	.0	.0	.0
22	.0	.0	.0	.0	.0	.0	.0	.0
23	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.0	.0	.0	.0
25	.0	.0	.0	.0	.0	.0	.0	.0
26	.0	.0	.0	.0	.0	.0	.0	.0

1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000 PAGE 1

JOB: Brent Spence Bridge RUN: W 5th Street & Bakewell
DATE: 08/31/2010 TIME: 10:44:39.41

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 1 EB 5th Phil Appr	269695.0	284787.0	269838.0	284789.0	143.	89.	AG	1130.	11.5	.0	44.0		
2. 2 EB 5th EB Queue	269805.0	284789.0	269694.6	284787.6	110.	269.	AG	210.	100.0	.0	24.0	.81	5.6
3. 3 EB 5th Bake Appr	269838.0	284789.0	270093.0	284793.0	255.	89.	AG	1180.	11.5	.0	44.0		
4. 4 EB 5th Bake LT	270093.0	284793.0	270194.0	284795.0	101.	89.	AG	1160.	11.5	.0	44.0		
5. 5 EB 5th EB Rt	270093.0	284776.0	270189.0	284778.0	96.	89.	AG	20.	11.5	.0	44.0		
6. 6 EB 5th Main Appr	270194.0	284795.0	270550.0	284799.0	356.	89.	AG	1430.	11.5	.0	44.0		
7. 7 EB 5th EB Queue	270491.0	284798.0	270392.5	284797.1	99.	270.	AG	157.	100.0	.0	24.0	.79	5.0
8. 8 EB 5th Main Dep	270550.0	284799.0	270695.0	284801.0	145.	89.	AG	1180.	11.5	.0	44.0		
9. 9 NB Phil 5th Appr	269851.0	284462.0	269847.0	284786.0	324.	359.	AG	580.	11.5	.0	44.0		
10. 10 NB PhilNB Queue	269848.0	284750.0	269851.5	284474.4	276.	179.	AG	216.	100.0	.0	24.0	1.05	14.0
11. 11 NB Phil5th Dep	269847.0	284786.0	269841.0	285143.0	357.	359.	AG	850.	11.5	.0	44.0		
12. 12 SB Phil5th Appr	269823.0	285126.0	269830.0	284793.0	333.	179.	AG	170.	11.5	.0	44.0		
13. 13 SB PhilSB Queue	269829.0	284819.0	269828.8	284834.3	15.	359.	AG	216.	100.0	.0	24.0	.20	.8
14. 14 SB PhilPhil Dep	269830.0	284793.0	269835.0	284461.0	332.	179.	AG	90.	11.5	.0	44.0		
15. 15 NB Park5th Appr	270203.0	284576.0	270200.0	284791.0	215.	359.	AG	30.	11.5	.0	32.0		
16. 16 NB ParkNB Queue	270201.0	284761.0	270201.1	284757.7	3.	179.	AG	98.	100.0	.0	12.0	.09	.2
17. 17 NB Bake5th Dep	270200.0	284791.0	270194.0	285216.0	425.	359.	AG	50.	11.5	.0	32.0		
18. 18 SB Bake5th Appr	270180.0	285216.0	270189.0	284778.0	438.	179.	AG	100.	11.5	.0	32.0		
19. 19 SB BakeSB Queue	270188.0	284828.0	270187.8	284839.0	11.	359.	AG	98.	100.0	.0	12.0	.31	.6
20. 20 SB BakeBake Dep	270189.0	284778.0	270192.0	284577.0	201.	179.	AG	70.	11.5	.0	32.0		
21. 21 NB MainMain Appr	270564.0	284513.0	270559.0	284795.0	282.	359.	AG	210.	11.5	.0	32.0		
22. 22 NB MainNB Queue	270560.0	284768.0	270560.6	284722.1	46.	179.	AG	131.	100.0	.0	12.0	.43	2.3
23. 23 NB MainMain Dep	270559.0	284795.0	270556.0	285029.0	234.	359.	AG	490.	11.5	.0	32.0		
24. 24 SB MainMain Appr	270535.0	285030.0	270539.0	284802.0	228.	179.	AG	180.	11.5	.0	44.0		
25. 25 SB MainSB Queue	270538.0	284828.0	270537.8	284847.7	20.	359.	AG	262.	100.0	.0	24.0	.25	1.0
26. 26 SB MainMain Dep	270539.0	284802.0	270543.0	284513.0	289.	179.	AG	150.	11.5	.0	44.0		

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
2. 2 EB 5th EB Queue	60	32	2.0	1130	1754	73.30	1	3
7. 7 EB 5th EB Queue	60	24	2.0	1430	1706	73.30	1	3
10. 10 NB PhilNB Queue	60	33	2.0	580	721	73.30	1	3
13. 13 SB PhilSB Queue	60	33	2.0	170	1113	73.30	1	3
16. 16 NB ParkNB Queue	40	20	2.0	30	800	73.30	1	3

19. 19 SB BakeSB Queue	*	40	20	2.0	100	800	73.30	1	3
22. 22 NB MainNB Queue	*	60	40	2.0	210	1845	73.30	1	3
25. 25 SB MainSB Queue	*	60	40	2.0	180	1373	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. R1 EB 82	269739.0	284764.0	5.0
2. R2 SW Corner	269811.0	284765.0	5.0
3. R3 SB 82	269812.0	284693.0	5.0
4. R4 SB 164	269813.0	284611.0	5.0
5. R5 NB 164	269868.0	284612.0	5.0
6. R6 NB 82	269867.0	284694.0	5.0
7. R7 SE Corner	269866.0	284766.0	5.0
8. R8 EB 82	269938.0	284768.0	5.0
9. R9 EB 164	270018.0	284770.0	5.0
10. R10 EB 82	270099.0	284760.0	5.0
11. R10 SW Corner	270171.0	284761.0	5.0
12. R12 SE Corner	270217.0	284772.0	5.0
13. R13 EB 82r	270289.0	284773.0	5.0
14. R14 EB 164	270368.0	284774.0	5.0
15. R15 EB 82	270447.0	284775.0	5.0
16. R16 SW Corner	270519.0	284776.0	5.0
17. R17 SB 82	270520.0	284704.0	5.0
18. R18 SB 164	270521.0	284622.0	5.0
19. R19 NB 164	270583.0	284618.0	5.0
20. R20 NB 82	270581.0	284700.0	5.0
21. R21 SE Corner	270580.0	284773.0	5.0
22. R22 SB 82	270652.0	284773.0	5.0
23. R23 WB 82	270652.0	284829.0	5.0
24. R24 NE Corner	270580.0	284829.0	5.0
25. R25 NB 82	270579.0	284901.0	5.0
26. R26 NB 164	270577.0	284983.0	5.0
27. R27 SB 164	270525.0	284975.0	5.0
28. R28 SB 82	270527.0	284893.0	5.0
29. R29 NW Corner	270518.0	284821.0	5.0
30. R30 WB 82	270446.0	284821.0	5.0
31. R31 WB 164	270368.0	284820.0	5.0
32. R32 WB 82	270288.0	284819.0	5.0
33. R33 NE Corner	270216.0	284818.0	5.0
34. R34 NB 82	270215.0	284890.0	5.0
35. R35 NB 164	270214.0	284972.0	5.0
36. R36 SB 164	270168.0	284972.0	5.0
37. R37 SB 82	270169.0	284890.0	5.0

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
38. R38 NW Corner	270170.0	284818.0	5.0
39. R39 WB 82	270098.0	284817.0	5.0
40. R40 WB 164	270017.0	284815.0	5.0
41. R41 WB 82	269937.0	284814.0	5.0
42. R42 NE Corner	269865.0	284813.0	5.0
43. R43 NB 82	269864.0	284885.0	5.0
44. R44 NB 164	269863.0	284967.0	5.0
45. R45 SB 164	269809.0	284966.0	5.0
46. R46 SB 82	269810.0	284884.0	5.0
47. R47 NW Corner	269811.0	284812.0	5.0
48. R48 WB 82	269738.0	284810.0	5.0

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	1.1	1.0	.5	.5	1.0	.8	1.0	.5	.5	.4	.4	.6	.6	.6	1.1	.9	.4	.2	.2	.4
5. *	1.0	1.0	.6	.7	.7	.7	.9	.5	.5	.4	.5	.6	.6	.6	1.1	.9	.5	.3	.1	.3
10. *	1.1	1.0	.6	.9	.6	.5	.7	.4	.4	.3	.5	.5	.5	.5	.9	.8	.6	.4	.1	.2
15. *	1.1	.9	.6	.9	.3	.5	.7	.4	.4	.3	.5	.5	.5	.5	.9	.9	.5	.4	.1	.2
20. *	1.1	.9	.7	.9	.3	.3	.5	.4	.4	.3	.4	.5	.5	.5	.9	.9	.5	.4	.1	.2
25. *	1.1	1.0	.7	.9	.2	.3	.5	.4	.4	.4	.5	.5	.5	.6	1.0	.9	.5	.3	.1	.2
30. *	1.1	.9	.8	.8	.2	.2	.5	.5	.5	.4	.4	.6	.6	.7	1.2	.9	.5	.3	.1	.2
35. *	1.2	.9	.8	.8	.1	.2	.5	.5	.5	.4	.5	.6	.6	.7	1.2	.8	.5	.3	.1	.2
40. *	1.2	.7	.8	.8	.1	.2	.5	.5	.5	.4	.5	.6	.6	.8	1.2	.8	.6	.3	.0	.2
45. *	1.2	.8	.8	.8	.1	.2	.5	.5	.5	.4	.5	.6	.6	.8	1.3	.8	.6	.3	.0	.1
50. *	1.2	.9	.8	.8	.1	.2	.6	.6	.5	.5	.5	.7	.7	1.0	1.3	.8	.6	.2	.0	.1

55. *	1.3	.9	.9	.8	.2	.2	.6	.6	.7	.5	.5	.7	.7	1.0	1.3	.9	.5	.2	.0	.1
60. *	1.3	.9	.9	.9	.1	.2	.6	.6	.6	.5	.6	.8	.9	1.1	1.4	.9	.4	.2	.0	.1
65. *	1.2	.8	.9	.8	.1	.2	.6	.6	.7	.6	.6	.8	.9	1.2	1.3	1.0	.4	.2	.0	.0
70. *	1.2	.9	.9	.8	.1	.3	.7	.8	.8	.6	.7	1.0	.9	1.3	1.1	.9	.4	.2	.0	.0
75. *	1.1	1.0	.9	.8	.1	.3	.8	.8	.9	.6	.7	1.0	.9	1.3	1.0	.8	.3	.2	.0	.0
80. *	1.1	1.0	.9	.8	.1	.1	.8	.8	.8	.5	.6	.9	1.0	1.1	.9	.8	.2	.2	.0	.0
85. *	1.0	.9	.8	.7	.0	.1	.8	.7	.8	.5	.6	.9	.9	1.1	.8	.7	.2	.2	.0	.0
90. *	.9	.8	.8	.7	.0	.1	.7	.6	.7	.4	.5	.8	.8	.9	.7	.8	.2	.2	.0	.0
95. *	.8	.8	.7	.7	.0	.0	.5	.5	.6	.3	.2	.6	.7	.6	.5	.7	.2	.2	.0	.0
100. *	.5	.6	.7	.7	.0	.0	.4	.3	.4	.1	.1	.4	.4	.5	.4	.6	.2	.2	.0	.0
105. *	.5	.5	.7	.7	.0	.0	.2	.2	.3	.1	.1	.2	.2	.2	.4	.5	.2	.2	.0	.0
110. *	.4	.5	.7	.7	.0	.0	.1	.1	.1	.0	.0	.2	.2	.1	.2	.5	.2	.2	.0	.0
115. *	.4	.5	.7	.7	.0	.0	.1	.1	.1	.0	.0	.1	.1	.1	.1	.4	.2	.2	.0	.0
120. *	.3	.5	.7	.7	.0	.0	.1	.1	.1	.0	.0	.1	.1	.1	.1	.4	.2	.2	.0	.0
125. *	.3	.6	.7	.7	.0	.0	.0	.1	.1	.0	.0	.1	.1	.1	.1	.4	.2	.2	.0	.0
130. *	.4	.6	.7	.7	.0	.0	.0	.0	.1	.0	.0	.1	.1	.1	.1	.4	.2	.2	.0	.0
135. *	.4	.7	.7	.7	.0	.0	.0	.0	.1	.0	.0	.1	.1	.1	.1	.4	.2	.2	.0	.0
140. *	.4	.7	.7	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2	.2	.0	.0
145. *	.3	.7	.8	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2	.2	.0	.0
150. *	.3	.9	.9	.7	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2	.2	.0	.0
155. *	.3	.9	.9	.8	.1	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2	.1	.0	.0
160. *	.2	.9	.8	.7	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.1	.0	.0
165. *	.1	.8	.8	.6	.3	.4	.4	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0
170. *	.1	.8	.7	.4	.4	.5	.6	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
175. *	.0	.7	.5	.3	.6	.8	.8	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.1
180. *	.0	.5	.3	.2	.8	.9	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1
185. *	.0	.3	.2	.1	1.0	1.2	1.2	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.1
190. *	.0	.1	.1	.0	1.1	1.3	1.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
195. *	.0	.0	.0	.0	1.2	1.4	1.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
200. *	.0	.0	.0	.0	1.2	1.4	1.2	.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
205. *	.0	.0	.0	.0	1.2	1.3	1.2	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	.0	.0	.0	.0	1.2	1.2	1.0	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2
215. *	.0	.0	.0	.0	1.2	1.2	.9	.4	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2
220. *	.0	.0	.0	.0	1.1	1.2	.8	.4	.3	.1	.0	.0	.0	.0	.0	.1	.0	.0	.1	.2
225. *	.0	.0	.0	.0	1.1	1.1	.7	.4	.4	.1	.1	.0	.1	.1	.1	.1	.0	.0	.1	.1
230. *	.0	.0	.0	.0	1.1	1.1	.7	.5	.4	.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1
235. *	.0	.0	.0	.0	.9	.9	.6	.5	.4	.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1
240. *	.0	.1	.0	.0	.9	.9	.4	.4	.4	.1	.1	.1	.2	.1	.1	.1	.0	.0	.1	.1
245. *	.0	.1	.0	.0	.9	.9	.4	.4	.4	.1	.1	.1	.2	.2	.1	.1	.0	.0	.1	.1
250. *	.1	.1	.0	.0	.9	.9	.4	.4	.3	.1	.1	.2	.2	.2	.3	.2	.0	.0	.1	.1
255. *	.1	.2	.0	.0	.9	.9	.6	.7	.4	.2	.2	.3	.3	.3	.4	.4	.0	.0	.1	.1
260. *	.1	.3	.0	.0	.9	.9	.6	.6	.7	.2	.2	.5	.5	.5	.5	.5	.0	.0	.1	.1
265. *	.1	.5	.0	.0	.9	.9	.7	.7	.8	.3	.4	.6	.6	.6	.7	.8	.0	.0	.1	.1
270. *	.3	.7	.0	.0	.9	.9	1.0	.9	.8	.6	.4	.7	.6	.8	1.0	1.0	.0	.1	.1	.1
275. *	.3	.8	.0	.0	.9	.9	1.1	1.1	.8	.6	.4	.7	.8	.9	1.1	1.2	.1	.0	.1	.2
280. *	.5	1.0	.0	.0	.9	.9	1.1	1.1	.9	.6	.5	.8	.9	.9	1.1	1.2	.2	.0	.1	.2
285. *	.5	1.1	.0	.0	.9	1.0	1.1	.9	1.0	.6	.5	.8	.8	1.0	1.1	1.3	.2	.0	.1	.3
290. *	.6	1.1	.0	.0	.9	1.1	1.1	.9	.9	.6	.6	.8	.9	.8	1.1	1.2	.2	.1	.2	.4
295. *	.7	1.2	.1	.0	.9	1.1	1.2	.9	.7	.6	.6	.9	.8	.8	1.2	1.2	.3	.1	.2	.4
300. *	.8	1.2	.2	.0	.9	1.2	1.1	.8	.7	.6	.6	.7	.8	.7	1.2	1.1	.4	.1	.2	.6
305. *	.9	1.2	.2	.0	1.1	1.3	1.0	.7	.7	.5	.6	.6	.7	.7	1.2	1.0	.4	.1	.2	.6
310. *	1.0	1.1	.3	.0	1.2	1.5	1.1	.7	.7	.5	.6	.6	.7	.7	1.2	.9	.4	.1	.4	.6
315. *	1.0	1.1	.3	.0	1.3	1.5	1.0	.7	.6	.5	.4	.6	.6	.6	1.1	.8	.4	.2	.4	.6
320. *	1.0	1.0	.4	.1	1.4	1.5	1.1	.7	.6	.5	.4	.6	.6	.6	1.1	.7	.5	.3	.5	.6
325. *	1.0	1.0	.4	.2	1.4	1.4	1.1	.7	.6	.4	.4	.6	.6	.6	1.1	.7	.4	.3	.5	.6
330. *	1.0	.9	.4	.2	1.4	1.3	1.1	.7	.6	.4	.4	.5	.5	.6	1.1	.7	.3	.3	.4	.5
335. *	1.0	.8	.4	.2	1.4	1.4	1.2	.6	.5	.4	.4	.6	.5	.5	1.0	.5	.3	.3	.2	.6
340. *	1.0	.8	.4	.2	1.6	1.2	1.1	.5	.4	.4	.4	.6	.5	.5	1.0	.5	.3	.2	.2	.7
345. *	1.0	.7	.4	.2	1.6	1.3	1.1	.5	.4	.4	.4	.5	.5	.5	.9	.5	.3	.2	.3	.7
350. *	1.0	.7	.5	.3	1.4	1.1	1.1	.5	.5	.4	.4	.5	.5	.5	.9	.6	.3	.2	.5	.5
355. *	1.0	.9	.4	.5	1.1	1.0	1.0	.6	.5	.3	.4	.6	.6	.6	1.1	.8	.2	.2	.5	.5
360. *	1.1	1.0	.5	.5	1.0	.8	1.0	.5	.5	.4	.4	.6	.6	.6	1.1	.9	.4	.2	.2	.4
MAX *	1.3	1.2	.9	.9	1.6	1.5	1.3	1.1	1.0	.6	.7	1.0	1.0	1.3	1.4	1.3	.6	.4	.5	.7
DEGR. *	55	295	150	10	340	310	190	275	285	65	70	70	80	70	60	285	10	10	320	340

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MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0. *	.6	.4	.0	.2	.1	.1	.1	.2	.3	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
5. *	.5	.4	.0	.1	.1	.0	.1	.2	.3	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
10. *	.5	.4	.0	.1	.1	.0	.1	.2	.4	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
15. *	.4	.4	.0	.0	.0	.0	.2	.2	.4	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0

20. *	.4	.4	.0	.0	.0	.0	.2	.3	.5	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
25. *	.4	.4	.0	.0	.0	.0	.2	.3	.5	.0	.0	.0	.0	.0	.0	.1	.1	.2	.0	.0
30. *	.4	.4	.0	.0	.0	.0	.2	.3	.6	.0	.0	.0	.0	.0	.0	.1	.1	.2	.0	.0
35. *	.5	.4	.0	.0	.0	.0	.2	.3	.6	.1	.0	.0	.0	.0	.0	.1	.1	.2	.0	.0
40. *	.5	.4	.0	.0	.0	.0	.2	.3	.7	.1	.0	.0	.1	.0	.0	.1	.0	.1	.0	.0
45. *	.5	.4	.0	.0	.0	.0	.2	.3	.7	.2	.1	.1	.1	.0	.0	.0	.0	.1	.0	.0
50. *	.5	.4	.0	.0	.0	.0	.2	.3	.7	.2	.1	.1	.1	.0	.0	.0	.0	.1	.0	.0
55. *	.5	.3	.0	.0	.0	.0	.3	.3	.7	.2	.1	.1	.1	.0	.0	.0	.0	.1	.0	.0
60. *	.5	.3	.0	.0	.0	.0	.3	.3	.7	.2	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1
65. *	.5	.3	.0	.0	.0	.0	.2	.3	.7	.3	.1	.1	.1	.0	.0	.0	.0	.2	.1	.1
70. *	.5	.3	.0	.0	.0	.0	.2	.3	.8	.3	.1	.2	.2	.0	.0	.0	.0	.2	.2	.1
75. *	.5	.2	.0	.1	.0	.0	.2	.3	.7	.5	.2	.3	.3	.0	.0	.0	.0	.3	.2	.3
80. *	.4	.2	.0	.1	.0	.0	.2	.3	.8	.5	.5	.5	.4	.0	.0	.0	.0	.4	.4	.4
85. *	.4	.1	.1	.1	.0	.0	.2	.3	.8	.6	.7	.7	.7	.0	.0	.0	.0	.5	.6	.5
90. *	.3	.1	.1	.2	.0	.0	.2	.3	.8	.9	.9	.9	.8	.0	.0	.0	.1	.8	.6	.7
95. *	.2	.1	.1	.3	.0	.0	.2	.3	1.0	.9	1.1	1.0	.9	.1	.0	.0	.1	.9	.7	.8
100. *	.1	.0	.2	.4	.0	.0	.2	.2	.9	.9	1.1	1.0	1.0	.1	.0	.0	.1	1.0	.8	.8
105. *	.1	.0	.2	.4	.0	.0	.2	.2	.9	1.0	1.3	1.0	1.0	.3	.0	.0	.3	.9	.8	.8
110. *	.1	.0	.2	.4	.0	.0	.2	.4	.9	1.0	1.3	.9	.8	.3	.1	.1	.3	.8	.7	.8
115. *	.0	.0	.3	.5	.0	.0	.3	.4	.9	1.1	1.2	.9	.8	.3	.1	.1	.3	.7	.7	.7
120. *	.0	.0	.3	.5	.1	.0	.3	.4	.9	1.2	1.1	.9	.8	.4	.1	.1	.3	.7	.6	.6
125. *	.0	.0	.3	.5	.1	.0	.3	.5	.9	1.1	1.0	.7	.7	.3	.2	.1	.3	.7	.6	.6
130. *	.0	.0	.3	.5	.1	.0	.3	.5	.8	1.1	1.0	.7	.7	.3	.3	.2	.3	.7	.5	.5
135. *	.0	.0	.4	.5	.1	.0	.4	.5	.8	1.0	.8	.6	.6	.3	.2	.2	.3	.6	.5	.5
140. *	.0	.0	.4	.4	.2	.0	.4	.6	.8	1.1	.8	.6	.6	.3	.2	.3	.2	.5	.5	.5
145. *	.0	.0	.4	.4	.2	.1	.4	.6	.8	1.1	.7	.6	.6	.2	.2	.3	.3	.5	.4	.5
150. *	.0	.0	.4	.4	.2	.1	.4	.6	.9	1.0	.7	.6	.6	.2	.2	.3	.3	.5	.4	.4
155. *	.0	.0	.4	.4	.2	.1	.4	.6	.8	.9	.6	.5	.5	.2	.2	.2	.3	.5	.4	.4
160. *	.0	.0	.4	.4	.2	.1	.4	.6	.8	.9	.5	.5	.5	.2	.1	.2	.3	.5	.4	.4
165. *	.0	.0	.4	.4	.2	.2	.4	.6	.8	.9	.5	.5	.5	.2	.1	.2	.3	.4	.4	.4
170. *	.0	.0	.4	.4	.3	.2	.5	.6	.8	.9	.5	.5	.5	.2	.1	.3	.2	.4	.5	.4
175. *	.1	.0	.4	.6	.3	.2	.5	.7	.7	1.0	.6	.6	.6	.2	.1	.3	.2	.5	.5	.5
180. *	.2	.0	.4	.6	.3	.3	.4	.5	.7	1.0	.6	.6	.6	.2	.1	.1	.2	.5	.4	.5
185. *	.2	.0	.4	.7	.4	.4	.2	.4	.6	1.0	.6	.6	.6	.3	.2	.1	.2	.5	.5	.5
190. *	.2	.0	.4	.7	.5	.4	.3	.4	.5	.9	.5	.5	.5	.2	.2	.1	.2	.4	.4	.4
195. *	.3	.0	.4	.7	.5	.4	.3	.5	.5	.9	.5	.5	.5	.2	.1	.1	.2	.4	.4	.4
200. *	.4	.0	.4	.8	.5	.5	.4	.4	.5	.9	.5	.5	.6	.2	.1	.2	.2	.4	.5	.5
205. *	.4	.0	.4	.8	.6	.6	.3	.3	.5	1.0	.5	.5	.6	.2	.1	.2	.2	.4	.4	.5

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WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
210. *	.5	.0	.4	.6	.5	.5	.3	.3	.7	1.1	.6	.6	.5	.2	.1	.2	.2	.5	.5	.7
215. *	.5	.0	.4	.6	.7	.6	.3	.3	.7	1.1	.6	.6	.6	.2	.3	.2	.3	.5	.6	.8
220. *	.5	.0	.6	.7	.7	.6	.3	.5	.7	1.1	.6	.6	.6	.3	.2	.2	.3	.6	.6	.8
225. *	.4	.0	.6	.8	.7	.6	.2	.4	.9	1.1	.6	.6	.8	.3	.2	.2	.3	.6	.6	.8
230. *	.4	.0	.6	.7	.8	.5	.1	.4	.9	1.2	.7	.7	.7	.3	.2	.2	.3	.7	.7	.9
235. *	.4	.0	.7	.9	.8	.4	.1	.4	1.0	1.1	.7	.8	.7	.3	.2	.2	.3	.7	.7	.9
240. *	.3	.1	.6	.9	.6	.4	.1	.4	1.1	1.2	.8	.9	.9	.3	.1	.1	.3	.7	.8	.8
245. *	.3	.1	.7	1.0	.6	.4	.1	.3	1.2	1.1	.9	.9	.9	.3	.1	.1	.3	.8	.7	.8
250. *	.4	.1	.7	1.2	.6	.4	.0	.2	1.3	1.2	1.0	.9	.8	.2	.1	.0	.2	.8	.7	1.0
255. *	.5	.3	.8	1.2	.5	.3	.0	.2	1.3	1.1	1.1	1.0	.9	.1	.0	.1	.1	.8	.7	.9
260. *	.6	.4	.8	1.3	.4	.3	.0	.2	1.2	1.1	.9	.9	.9	.1	.1	.1	.1	.8	.8	.8
265. *	.8	.6	.9	1.2	.4	.3	.0	.1	1.2	1.0	.9	.7	.7	.1	.1	.1	.2	.6	.7	.8
270. *	.9	.6	.8	1.0	.3	.3	.0	.0	1.0	.8	.7	.6	.7	.1	.1	.1	.1	.5	.8	.7
275. *	1.0	.7	.6	1.0	.3	.3	.0	.0	.6	.6	.6	.5	.4	.1	.1	.1	.1	.4	.4	.6
280. *	1.0	.8	.4	.8	.3	.3	.0	.0	.5	.3	.3	.4	.3	.1	.0	.1	.1	.3	.3	.3
285. *	1.1	.8	.4	.7	.3	.2	.0	.0	.3	.2	.2	.2	.4	.1	.0	.1	.1	.3	.2	.3
290. *	.9	.9	.1	.7	.3	.2	.0	.0	.2	.1	.1	.1	.3	.1	.0	.0	.1	.2	.2	.2
295. *	.9	.9	.1	.5	.3	.2	.0	.0	.1	.1	.1	.1	.2	.0	.0	.0	.1	.2	.2	.2
300. *	.8	.8	.1	.5	.3	.2	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.2
305. *	1.0	.8	.1	.4	.3	.2	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.2
310. *	.9	.6	.1	.4	.3	.2	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1
315. *	.8	.6	.1	.4	.3	.2	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1
320. *	.7	.6	.1	.3	.3	.2	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
325. *	.7	.5	.1	.3	.3	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
330. *	.9	.5	.1	.3	.3	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
335. *	.9	.5	.0	.4	.2	.2	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
340. *	.8	.4	.0	.4	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
345. *	.8	.4	.0	.3	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
350. *	.7	.4	.0	.2	.2	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
355. *	.6	.4	.0	.2	.2	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
360. *	.6	.4	.0	.2	.1	.1	.1	.2	.3	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
MAX *	1.1	.9	.9	1.3	.8	.6	.5	.7	1.3	1.2	1.3	1.0	1.0	.4	.3	.3	.3	1.0	.8	1.0
DEGR. *	285	290	265	260	230	205	170	175	250	120	105	95	100	120	130	140	105	100	240	250

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
0. *	.0	.5	.5	.4	.2	.3	.4	.0
5. *	.0	.4	.4	.3	.3	.3	.5	.0
10. *	.0	.3	.3	.3	.3	.4	.5	.1
15. *	.0	.2	.2	.2	.4	.4	.7	.1
20. *	.0	.2	.2	.1	.4	.4	.7	.1
25. *	.0	.1	.1	.1	.4	.4	.7	.1
30. *	.0	.1	.1	.1	.4	.4	.7	.1
35. *	.0	.1	.1	.1	.4	.4	.7	.1
40. *	.0	.1	.1	.1	.4	.4	.7	.1
45. *	.0	.1	.1	.0	.4	.4	.8	.1
50. *	.0	.0	.0	.0	.4	.4	.8	.1
55. *	.1	.1	.0	.0	.4	.4	.8	.2
60. *	.1	.1	.0	.0	.4	.4	.8	.2
65. *	.1	.1	.0	.0	.4	.4	.7	.2
70. *	.1	.1	.0	.0	.4	.4	.8	.3
75. *	.3	.2	.0	.0	.4	.4	.8	.5
80. *	.4	.4	.0	.0	.4	.4	1.0	.6
85. *	.5	.5	.0	.0	.4	.4	1.0	.9
90. *	.6	.7	.1	.0	.4	.5	1.1	1.1
95. *	.7	.8	.1	.0	.4	.5	1.3	1.1
100. *	.8	.8	.2	.1	.5	.6	1.2	1.3
105. *	.8	.8	.3	.1	.5	.6	1.1	1.3
110. *	.8	.7	.3	.1	.5	.7	1.0	1.4
115. *	.6	.6	.3	.1	.5	.6	1.0	1.4
120. *	.6	.6	.2	.1	.5	.6	1.1	1.5
125. *	.6	.6	.2	.1	.5	.6	1.0	1.5
130. *	.5	.5	.2	.1	.5	.6	1.0	1.5
135. *	.5	.5	.3	.2	.5	.6	.8	1.5
140. *	.5	.5	.3	.2	.5	.7	.9	1.5
145. *	.5	.5	.3	.2	.5	.8	1.0	1.5
150. *	.5	.6	.3	.2	.5	.9	1.1	1.3
155. *	.4	.5	.3	.2	.6	.9	1.1	1.3
160. *	.4	.7	.4	.3	.7	.9	1.0	1.3
165. *	.4	.8	.6	.4	.7	.9	1.0	1.2
170. *	.4	1.1	.7	.5	.8	.9	1.1	1.1
175. *	.5	1.3	.8	.7	.8	.8	1.2	1.1
180. *	.6	1.4	1.0	.8	.6	.9	1.0	1.1
185. *	.6	1.5	.9	1.0	.5	.7	.9	1.0
190. *	.6	1.4	.9	.9	.4	.5	.9	1.0
195. *	.7	1.3	1.0	1.0	.2	.4	.7	1.0
200. *	.7	1.1	1.0	.9	.2	.4	.8	1.0
205. *	.8	1.1	1.1	.8	.2	.4	.8	1.0

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WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
210. *	.9	1.2	.9	.8	.2	.4	.9	1.0
215. *	.9	1.0	.9	.8	.2	.4	1.0	1.0
220. *	.8	1.1	1.0	.7	.1	.4	1.1	1.0
225. *	.8	1.0	1.0	.7	.0	.3	1.1	1.0
230. *	.8	1.1	1.0	.6	.0	.2	1.1	1.0
235. *	.8	1.1	.8	.5	.0	.2	1.2	1.0
240. *	1.0	1.1	.6	.4	.0	.2	1.2	.9
245. *	.9	1.2	.6	.4	.0	.0	1.2	.8
250. *	.9	1.2	.6	.4	.0	.0	1.2	.7
255. *	.9	1.2	.4	.4	.0	.0	1.1	.6
260. *	1.0	1.3	.4	.4	.0	.0	1.0	.5
265. *	.9	1.3	.4	.4	.0	.0	.8	.4
270. *	.6	1.1	.4	.4	.0	.0	.6	.3
275. *	.6	1.1	.4	.4	.0	.0	.5	.2
280. *	.5	.9	.4	.4	.0	.0	.3	.1
285. *	.2	.8	.4	.4	.0	.0	.2	.1
290. *	.2	.6	.4	.4	.0	.0	.1	.1
295. *	.2	.6	.4	.4	.0	.0	.1	.1
300. *	.2	.7	.5	.4	.0	.0	.1	.1
305. *	.2	.7	.5	.5	.0	.0	.0	.0
310. *	.2	.6	.5	.5	.0	.0	.0	.0
315. *	.2	.6	.5	.5	.0	.0	.0	.0
320. *	.2	.6	.5	.5	.0	.0	.0	.0
325. *	.2	.7	.6	.6	.0	.0	.0	.0
330. *	.2	.6	.6	.6	.0	.0	.0	.0
335. *	.1	.6	.6	.6	.0	.0	.0	.0
340. *	.1	.7	.7	.6	.0	.0	.0	.0
345. *	.1	.7	.7	.5	.0	.1	.1	.0
350. *	.1	.7	.7	.5	.2	.2	.2	.0
355. *	.0	.6	.5	.5	.2	.2	.2	.0
360. *	.0	.5	.5	.4	.2	.3	.4	.0
MAX *	1.0	1.5	1.1	1.0	.8	.9	1.3	1.5
DEGR. *	240	185	205	185	170	150	95	120

THE HIGHEST CONCENTRATION IS 1.60 PPM AT 340 DEGREES FROM REC5 .
THE 2ND HIGHEST CONCENTRATION IS 1.50 PPM AT 120 DEGREES FROM REC48.
THE 3RD HIGHEST CONCENTRATION IS 1.50 PPM AT 310 DEGREES FROM REC6 .

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	55	295	150	10	340	310	190	275	285	65	70	70	80	70	60	285	10	10	320	340
1	.5	.5	.0	.1	.1	.2	.0	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.6	.7	.0	.0	.1	.2	.0	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	.1	.0	.0	.1	.0	.0	.0	.5	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.6	.9	.8	.8	.7	.9	.2	.1	.2	.1
7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.4	.4	.4	.0	.0	.1	.0
8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.1	.1	.0	.1
9	.0	.0	.2	.2	.4	.3	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.0	.0	.6	.3	.9	.8	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	.1	.0	.0	.1	.1	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
22	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.0	.1
24	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.0	.0	.1
26	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
LINK #	285	290	265	260	230	205	170	175	250	120	105	95	100	120	130	140	105	100	240	250
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.7
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.0
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	.6	.2	.3	.6	.3	.1	.1	.2	.9	.7	.8	.8	.9	.3	.2	.2	.2	.7	.0	.0
7	.2	.1	.1	.2	.1	.1	.0	.0	.4	.4	.4	.1	.1	.1	.1	.0	.1	.1	.0	.0
8	.2	.5	.3	.1	.0	.0	.1	.1	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	.0	.1	.1	.2	.2	.3	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	.0	.0	.1	.2	.1	.0	.1	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
LINK #	240	185	205	185	170	150	95	120
1	.1	.0	.1	.1	.1	.0	.2	.5
2	.1	.0	.1	.0	.0	.0	.0	.7
3	.6	.5	.1	.1	.1	.2	.5	.1
4	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.1	.0

```
   7  *    .0    .0    .0    .0    .0    .0    .0    .0
   8  *    .0    .0    .0    .0    .0    .0    .0    .0
   9  *    .1    .3    .1    .1    .1    .1    .0    .1
  10  *    .1    .5    .1    .2    .2    .1    .0    .1
  11  *    .0    .2    .5    .5    .2    .3    .3    .0
  12  *    .0    .0    .0    .0    .1    .1    .1    .0
  13  *    .0    .0    .1    .0    .0    .1    .1    .0
  14  *    .0    .0    .0    .0    .0    .0    .0    .0
  15  *    .0    .0    .0    .0    .0    .0    .0    .0
  16  *    .0    .0    .0    .0    .0    .0    .0    .0
  17  *    .0    .0    .0    .0    .0    .0    .0    .0
  18  *    .0    .0    .0    .0    .0    .0    .0    .0
  19  *    .0    .0    .0    .0    .0    .0    .0    .0
  20  *    .0    .0    .0    .0    .0    .0    .0    .0
  21  *    .0    .0    .0    .0    .0    .0    .0    .0
  22  *    .0    .0    .0    .0    .0    .0    .0    .0
  23  *    .0    .0    .0    .0    .0    .0    .0    .0
  24  *    .0    .0    .0    .0    .0    .0    .0    .0
  25  *    .0    .0    .0    .0    .0    .0    .0    .0
  26  *    .0    .0    .0    .0    .0    .0    .0    .0
1                CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000              PAGE  1

  JOB: Brent Spence Bridge                      RUN: W 5th Street & Bakewell
  DATE: 08/31/2010   TIME: 10:46:56.72


  SITE & METEOROLOGICAL VARIABLES
  -------------------------------
  VS =    .0 CM/S      VD =    .0 CM/S      Z0 = 175. CM
   U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

  LINK VARIABLES
  --------------
    LINK DESCRIPTION     *        LINK COORDINATES (FT)         *   LENGTH  BRG TYPE  VPH    EF     H   W    V/C QUEUE
                         *   X1       Y1       X2       Y2    *    (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
  ------------------------*----------------------------------------*---------------------------------------------------------
   1. 1 EB 5th  Phil Appr * 269695.0  284787.0  269838.0  284789.0 *    143.    89. AG  8901.   1.5    .0 44.0
   2. 2 EB 5th  EB Queue  * 269805.0  284789.0  266020.0  284741.1 *   3785.   269. AG   163. 100.0    .0 24.0 4.94 192.3
   3. 3 EB 5th  Bake Appr * 269838.0  284789.0  270093.0  284793.0 *    255.    89. AG   850.  11.5    .0 44.0
   4. 4 EB 5th  Bake Appr * 270093.0  284793.0  270194.0  284795.0 *    101.    89. AG   840.  11.5    .0 44.0
   5. 5 EB 5th  EB Rt     * 270093.0  284776.0  270189.0  284778.0 *     96.    89. AG    10.  11.5    .0 44.0
   6. 6 EB 5th  Main Appr * 270194.0  284795.0  270550.0  284799.0 *    356.    89. AG  1080.  11.5    .0 44.0
   7. 7 EB 5th  EB Queue  * 270491.0  284798.0  265483.8  284750.8 *   5007.   269. AG   196. 100.0    .0 24.0 7.50 254.4
   8. 8 EB 5th  Main Dep  * 270550.0  284799.0  270695.0  284801.0 *    145.    89. AG   850.  11.5    .0 44.0
   9. 9 NB Phil 5th Appr  * 269851.0  284462.0  269847.0  284786.0 *    324.   359. AG   310.  11.5    .0 44.0
  10. 10 NB PhilNB Queue  * 269848.0  284750.0  269859.7  283838.9 *    911.   179. AG   196. 100.0    .0 24.0 2.09  46.3
  11. 11 NB Phil5th Dep   * 269847.0  284786.0  269841.0  285143.0 *    357.   359. AG   400.  11.5    .0 44.0
  12. 12 SB Phil5th Appr  * 269823.0  285126.0  269830.0  284793.0 *    333.   179. AG   850.  11.5    .0 44.0
  13. 13 SB PhilSB Queue  * 269829.0  284819.0  269779.6  288726.3 *   3908.   359. AG   196. 100.0    .0 24.0 6.85 198.5
  14. 14 SB PhilPhil Dep  * 269830.0  284793.0  269835.0  284461.0 *    332.   179. AG   580.  11.5    .0   .4
  15. 15 NB Park5th Appr  * 270203.0  284576.0  270200.0  284791.0 *    215.   359. AG    70.  11.5    .0 32.0
  16. 16 NB ParkNB Queue  * 270201.0  284761.0  270207.8  284318.6 *    442.   179. AG    98. 100.0    .0 12.0 2.19  22.5
  17. 17 NB Bake5th Dep   * 270200.0  284791.0  270194.0  285216.0 *    425.   359. AG    70.  11.5    .0 32.0
  18. 18 SB Bake5th Appr  * 270180.0  285216.0  270189.0  284778.0 *    438.   179. AG    80.  11.5    .0 32.0
  19. 19 SB BakeSB Queue  * 270188.0  284828.0  270178.4  285378.6 *    551.   359. AG    98. 100.0    .0 12.0 2.50  28.0
  20. 20 SB BakeBake Dep  * 270189.0  284778.0  270192.0  284577.0 *    201.   179. AG    40.  11.5    .0   .3
  21. 21 NB MainMain Appr * 270564.0  284513.0  270559.0  284795.0 *    282.   359. AG   210.  11.5    .0   .3
  22. 22 NB MainNB Queue  * 270560.0  284768.0  270581.3  283128.3 *   1640.   179. AG   117. 100.0    .0 12.0 3.44  83.3
  23. 23 NB MainMain Dep  * 270559.0  284795.0  270556.0  285029.0 *    234.   359. AG   540.  11.5    .0   .3
  24. 24 SB MainMain Appr * 270535.0  285030.0  270539.0  284802.0 *    228.   179. AG   250.  11.5    .0   .4
  25. 25 SB MainSB Queue  * 270538.0  284828.0  270531.8  285312.8 *    485.   359. AG   141. 100.0    .0 24.0 1.47  24.6
  26. 26 SB MainMain Dep  * 270539.0  284802.0  270543.0  284513.0 *    289.   179. AG   150.  11.5    .0   .4
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                                                                  PAGE  2
  JOB: Brent Spence Bridge                      RUN: W 5th Street & Bakewell
  DATE: 08/31/2010   TIME: 10:46:56.72

  ADDITIONAL QUEUE LINK PARAMETERS
  --------------------------------
    LINK DESCRIPTION     *   CYCLE    RED    CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                         *   LENGTH   TIME   LOST TIME    VOL     FLOW RATE   EM FAC   TYPE     RATE
                         *   (SEC)   (SEC)    (SEC)      (VPH)     (VPH)    (gm/hr)
  ------------------------*--------------------------------------------------------------------------
   2. 2 EB 5th  EB Queue  *     60      25      2.0       890       175     73.00     1       3
   7. 7 EB 5th  EB Queue  *     60      30      2.0      1080       168     73.00     1       3
  10. 10 NB PhilNB Queue  *     60      30      2.0       310       173     73.00     1       3
  13. 13 SB PhilSB Queue  *     60      30      2.0       850       144     73.00     1       3
  16. 16 NB ParkNB Queue  *     40      20      2.0        70        80     73.00     1       3
  19. 19 SB BakeSB Queue  *     40      20      2.0        80        80     73.00     1       3
  22. 22 NB MainNB Queue  *     60      36      2.0       210       186     73.00     1       3
  25. 25 SB MainSB Queue  *    100      36      2.0       250       142     73.00     1       3

  RECEPTOR LOCATIONS
  ------------------
                         *        COORDINATES (FT)        *
    RECEPTOR             *      X          Y          Z    *
  ------------------------*--------------------------------*
   1. R1 EB 82           *    269739.0   284764.0      5.0   *
   2. R2 SW Corner       *    269811.0   284765.0      5.0   *
   3. R3 SB 82           *    269812.0   284693.0      5.0   *
   4. R4 SB 164          *    269813.0   284611.0      5.0   *
   5. R5 NB 164          *    269868.0   284612.0      5.0   *
   6. R6 NB 82           *    269867.0   284694.0      5.0   *
   7. R7 SE Corner       *    269866.0   284766.0      5.0   *
   8. R8 EB 82           *    269938.0   284768.0      5.0   *
   9. R9 EB 164          *    270018.0   284770.0      5.0   *
  10. R10 EB 82          *    270099.0   284760.0      5.0   *
  11. R10 SW Corner      *    270171.0   284761.0      5.0   *
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12. R12 SE Corner	*	270217.0	284772.0	5.0 *
13. R13 EB 82r	*	270289.0	284773.0	5.0 *
14. R14 EB 164	*	270368.0	284774.0	5.0 *
15. R15 EB 82	*	270447.0	284775.0	5.0 *
16. R16 SW Corner	*	270519.0	284776.0	5.0 *
17. R17 SB 82	*	270520.0	284704.0	5.0 *
18. R18 SB 164	*	270521.0	284622.0	5.0 *
19. R19 NB 164	*	270583.0	284618.0	5.0 *
20. R20 NB 82	*	270581.0	284700.0	5.0 *
21. R21 SE Corner	*	270580.0	284773.0	5.0 *
22. R22 SB 82	*	270652.0	284773.0	5.0 *
23. R23 WB 82	*	270652.0	284829.0	5.0 *
24. R24 NE Corner	*	270580.0	284829.0	5.0 *
25. R25 NB 82	*	270579.0	284901.0	5.0 *
26. R26 NB 164	*	270577.0	284983.0	5.0 *
27. R27 SB 164	*	270525.0	284975.0	5.0 *
28. R28 SB 82	*	270527.0	284893.0	5.0 *
29. R29 NW Corner	*	270518.0	284821.0	5.0 *
30. R30 WB 82	*	270446.0	284821.0	5.0 *
31. R31 WB 164	*	270368.0	284820.0	5.0 *
32. R32 WB 82	*	270288.0	284819.0	5.0 *
33. R33 NE Corner	*	270216.0	284818.0	5.0 *
34. R34 NB 82	*	270215.0	284890.0	5.0 *
35. R35 NB 164	*	270214.0	284972.0	5.0 *
36. R36 SB 164	*	270168.0	284972.0	5.0 *
37. R37 SB 82	*	270169.0	284890.0	5.0 *

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RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z *
38. R38 NW Corner	*	270170.0	284818.0	5.0 *
39. R39 WB 82	*	270098.0	284817.0	5.0 *
40. R40 WB 164	*	270017.0	284815.0	5.0 *
41. R41 WB 82	*	269937.0	284814.0	5.0 *
42. R42 NE Corner	*	269865.0	284813.0	5.0 *
43. R43 NB 82	*	269864.0	284885.0	5.0 *
44. R44 NB 164	*	269863.0	284967.0	5.0 *
45. R45 SB 164	*	269809.0	284966.0	5.0 *
46. R46 SB 82	*	269810.0	284884.0	5.0 *
47. R47 NW Corner	*	269811.0	284812.0	5.0 *
48. R48 WB 82	*	269738.0	284810.0	5.0 *

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	1.8	2.3	1.3	1.1	1.4	1.2	1.8	1.0	1.1	.8	1.0	1.2	1.0	1.0	1.1	.8	.4	.3	.3	.4
5. *	1.9	2.3	1.2	1.2	1.1	1.0	1.5	.9	1.0	.8	.9	1.1	1.0	1.0	1.1	.8	.3	.4	.3	.2
10. *	1.9	2.1	1.2	1.4	.8	.9	1.2	.9	.9	.8	1.0	1.1	1.0	1.0	1.1	.8	.3	.3	.3	.2
15. *	1.9	2.1	1.3	1.1	.6	.5	1.0	.8	.9	.8	1.0	1.0	1.0	1.1	1.2	.8	.4	.3	.1	.1
20. *	1.9	1.8	1.1	1.1	.5	.3	.8	.8	1.0	.9	.9	1.0	1.0	1.1	1.2	.7	.4	.4	.1	.1
25. *	2.0	1.6	1.1	.9	.3	.3	.8	.9	1.0	.9	.9	1.0	1.1	1.1	1.2	.6	.4	.3	.1	.1
30. *	2.0	1.5	.8	1.0	.3	.3	.8	.9	1.0	.9	1.0	1.0	1.1	1.1	1.2	.7	.2	.3	.1	.1
35. *	2.1	1.4	.8	1.0	.3	.3	1.0	1.1	1.0	.9	.9	1.1	1.1	1.1	1.2	.6	.2	.3	.0	.1
40. *	2.1	1.5	.8	1.0	.3	.3	1.0	1.1	1.1	.9	.9	1.2	1.2	1.2	1.3	.6	.2	.3	.0	.1
45. *	2.1	1.3	1.0	1.0	.3	.4	1.0	1.1	1.1	.9	1.0	1.2	1.3	1.3	1.3	.5	.3	.2	.0	.1
50. *	2.0	1.3	1.1	.9	.3	.4	1.0	1.2	1.2	1.0	1.0	1.3	1.3	1.3	1.1	.5	.3	.2	.0	.1
55. *	1.9	1.3	1.1	.9	.2	.4	1.1	1.2	1.3	1.0	1.0	1.3	1.3	1.3	1.1	.5	.3	.2	.0	.1
60. *	2.0	1.5	1.0	.8	.3	.4	1.1	1.1	1.4	1.1	1.2	1.4	1.4	1.4	1.1	.5	.3	.2	.0	.0
65. *	1.9	1.4	1.0	.9	.3	.4	1.2	1.2	1.5	1.2	1.1	1.4	1.4	1.4	1.1	.6	.3	.2	.0	.0
70. *	1.8	1.3	1.0	.7	.2	.5	1.3	1.4	1.4	1.0	1.1	1.6	1.4	1.3	.9	.5	.2	.2	.0	.0
75. *	1.8	1.4	.9	.7	.2	.4	1.3	1.4	1.3	1.0	.9	1.4	1.4	1.4	.8	.5	.2	.2	.0	.0
80. *	1.6	1.4	.8	.6	.1	.3	1.3	1.3	1.2	1.0	1.0	1.2	1.2	1.2	.7	.5	.2	.2	.0	.0
85. *	1.4	1.3	.7	.5	.0	.2	1.1	1.2	1.2	.7	.8	1.1	1.1	1.0	.6	.5	.2	.2	.0	.0
90. *	1.3	1.1	.6	.5	.0	.1	.9	1.0	.9	.6	.7	.9	.9	.8	.5	.4	.2	.2	.0	.0
95. *	.9	1.0	.5	.5	.0	.0	.8	.7	.8	.4	.5	.7	.7	.6	.4	.4	.2	.2	.0	.0
100. *	.6	.6	.5	.5	.0	.0	.4	.5	.5	.3	.3	.5	.5	.4	.4	.3	.2	.2	.0	.0
105. *	.3	.5	.5	.5	.0	.0	.2	.2	.2	.2	.3	.3	.3	.4	.2	.3	.2	.2	.0	.0
110. *	.4	.5	.6	.6	.0	.0	.2	.2	.3	.1	.2	.2	.2	.2	.2	.1	.2	.2	.0	.0
115. *	.3	.4	.6	.6	.0	.0	.1	.1	.2	.1	.2	.2	.2	.2	.2	.1	.2	.2	.0	.0
120. *	.3	.5	.6	.6	.0	.0	.0	.0	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.0	.0
125. *	.2	.5	.6	.6	.0	.0	.0	.1	.1	.1	.2	.1	.1	.1	.1	.2	.2	.2	.0	.0
130. *	.3	.6	.7	.7	.0	.0	.0	.1	.1	.1	.3	.1	.1	.1	.1	.2	.2	.2	.0	.0
135. *	.3	.6	.7	.7	.0	.0	.0	.0	.1	.1	.3	.1	.1	.1	.1	.2	.2	.2	.0	.0
140. *	.3	.7	.7	.7	.0	.0	.0	.0	.1	.1	.3	.1	.1	.1	.1	.2	.2	.2	.0	.0
145. *	.3	.7	.7	.7	.0	.0	.0	.0	.1	.1	.3	.1	.1	.1	.1	.2	.2	.2	.0	.0
150. *	.3	.7	.7	.7	.0	.0	.0	.0	.1	.1	.3	.1	.1	.1	.1	.2	.2	.2	.0	.0

155. *	.3	.8	.8	.8	.1	.1	.1	.0	.0	.1	.3	.1	.1	.1	.1	.3	.3	.3	.0	.0
160. *	.3	.8	.8	.8	.2	.2	.2	.0	.0	.1	.3	.1	.1	.1	.1	.3	.3	.3	.0	.1
165. *	.2	.8	.8	.8	.4	.4	.4	.0	.0	.1	.2	.1	.1	.1	.1	.3	.3	.3	.1	.1
170. *	.2	.8	.8	.7	.5	.5	.5	.0	.0	.1	.2	.2	.0	.1	.1	.3	.3	.3	.2	.2
175. *	.2	.7	.7	.6	.7	.7	.8	.1	.0	.0	.2	.2	.0	.1	.1	.2	.2	.2	.3	.3
180. *	.1	.6	.5	.4	1.0	1.0	1.0	.2	.1	.0	.1	.3	.0	.0	.1	.2	.2	.2	.3	.4
185. *	.1	.3	.3	.3	1.1	1.1	1.1	.2	.1	.0	.1	.3	.1	.0	.0	.1	.1	.1	.4	.4
190. *	.0	.2	.2	.1	1.2	1.2	1.1	.3	.1	.1	.1	.4	.1	.0	.0	.1	.1	.1	.4	.4
195. *	.0	.1	.1	.1	1.2	1.2	1.2	.3	.2	.1	.1	.4	.1	.0	.0	.0	.0	.0	.4	.4
200. *	.0	.0	.0	.0	1.2	1.3	1.1	.3	.2	.1	.1	.5	.1	.0	.0	.0	.0	.0	.4	.4
205. *	.0	.0	.0	.0	1.1	1.2	1.0	.4	.2	.1	.1	.4	.2	.1	.0	.0	.0	.0	.4	.4

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	.0	.0	.0	.0	1.1	1.2	.9	.4	.2	.1	.1	.4	.2	.2	.0	.0	.0	.0	.4	.4
215. *	.0	.0	.0	.0	1.0	1.0	.8	.4	.2	.1	.1	.4	.2	.2	.1	.0	.0	.0	.3	.3
220. *	.0	.0	.0	.0	1.0	1.0	.7	.4	.2	.1	.1	.3	.2	.2	.2	.1	.0	.0	.3	.3
225. *	.0	.0	.0	.0	.8	.8	.5	.4	.2	.1	.1	.3	.2	.2	.2	.1	.1	.0	.3	.3
230. *	.0	.0	.0	.0	.8	.8	.4	.4	.2	.1	.1	.3	.2	.2	.2	.1	.1	.1	.3	.4
235. *	.0	.0	.0	.0	.8	.8	.4	.3	.2	.1	.1	.2	.2	.3	.3	.2	.1	.1	.4	.4
240. *	.0	.1	.0	.0	.8	.8	.3	.3	.3	.1	.1	.2	.3	.3	.3	.2	.1	.1	.4	.4
245. *	.1	.1	.0	.0	.7	.7	.3	.4	.2	.1	.1	.2	.3	.3	.2	.2	.1	.1	.4	.4
250. *	.3	.3	.0	.0	.7	.7	.5	.6	.3	.2	.2	.3	.4	.4	.3	.3	.1	.1	.4	.4
255. *	.5	.5	.0	.0	.7	.7	.7	.7	.6	.3	.3	.6	.6	.5	.5	.5	.1	.1	.4	.4
260. *	.7	.8	.2	.0	.7	.9	1.0	1.0	1.0	.6	.6	.9	1.1	.8	.9	.8	.3	.1	.4	.5
265. *	1.2	1.3	.3	.2	.9	1.0	1.3	1.3	1.4	.8	.8	1.3	1.2	1.1	1.1	1.1	.4	.3	.6	.6
270. *	1.5	1.7	.4	.2	.9	1.1	1.7	1.7	1.5	1.2	1.1	1.4	1.5	1.6	1.4	1.4	.4	.4	.6	.7
275. *	1.7	1.9	.6	.4	1.1	1.3	2.0	1.7	1.7	1.3	1.2	1.5	1.7	1.7	1.6	1.5	.5	.3	.6	.8
280. *	1.8	2.0	.6	.4	1.1	1.3	1.9	1.9	1.9	1.4	1.2	1.7	1.7	1.8	1.6	1.6	.6	.3	.6	.8
285. *	1.8	2.0	.6	.4	1.1	1.3	1.9	1.8	1.8	1.3	1.3	1.7	1.8	1.7	1.6	1.6	.5	.3	.6	.8
290. *	1.7	1.9	.6	.4	1.1	1.4	1.9	1.6	1.7	1.3	1.2	1.5	1.5	1.5	1.5	1.4	.6	.2	.6	.9
295. *	1.7	1.9	.6	.4	1.1	1.4	1.7	1.6	1.5	1.2	1.1	1.5	1.5	1.5	1.5	1.3	.6	.4	.7	.9
300. *	1.7	1.9	.6	.4	1.2	1.4	1.6	1.5	1.3	1.1	1.2	1.2	1.4	1.5	1.5	1.2	.6	.4	.7	.9
305. *	1.6	1.6	.6	.4	1.2	1.5	1.6	1.5	1.3	1.0	1.1	1.2	1.4	1.4	1.4	1.0	.6	.4	.7	.8
310. *	1.5	1.6	.6	.3	1.1	1.5	1.6	1.4	1.4	1.0	.9	1.3	1.4	1.4	1.4	.9	.6	.4	.7	.8
315. *	1.5	1.6	.6	.3	1.2	1.5	1.6	1.4	1.3	1.0	.9	1.2	1.3	1.4	1.4	.8	.6	.4	.7	.7
320. *	1.5	1.5	.6	.3	1.4	1.4	1.7	1.4	1.3	.9	.9	1.2	1.3	1.3	1.3	.8	.5	.4	.6	.7
325. *	1.4	1.4	.6	.4	1.4	1.6	1.7	1.4	1.2	.9	.9	1.2	1.2	1.2	1.2	.6	.5	.4	.6	.7
330. *	1.4	1.3	.6	.4	1.4	1.5	1.7	1.4	1.2	.9	.9	1.2	1.2	1.2	1.1	.6	.5	.4	.6	.6
335. *	1.4	1.4	.6	.4	1.6	1.5	1.9	1.3	1.1	1.0	.9	1.3	1.2	1.2	1.1	.5	.5	.3	.7	.6
340. *	1.4	1.4	.7	.5	1.7	1.8	1.9	1.3	1.1	1.0	.9	1.3	1.2	1.2	1.1	.6	.4	.3	.6	.7
345. *	1.4	1.5	.8	.5	1.7	1.8	2.0	1.3	1.1	1.0	1.0	1.3	1.2	1.1	1.1	.6	.5	.4	.6	.7
350. *	1.5	1.7	.9	.7	1.7	1.6	2.0	1.2	1.1	.9	1.0	1.3	1.2	1.1	1.1	.6	.4	.4	.5	.5
355. *	1.7	2.1	1.2	.9	1.7	1.5	1.9	1.1	1.1	.8	1.0	1.3	1.2	1.0	1.0	.7	.4	.3	.4	.4
360. *	1.8	2.3	1.3	1.1	1.4	1.2	1.8	1.0	1.1	.8	1.0	1.2	1.0	1.0	1.1	.8	.4	.3	.3	.4
MAX *	2.1	2.3	1.3	1.4	1.7	1.8	2.0	1.9	1.9	1.4	1.3	1.7	1.8	1.8	1.6	1.6	.6	.4	.7	.9
DEGR. *	35	0	15	10	340	340	275	280	280	280	285	280	285	280	275	280	280	5	295	290

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MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0. *	.5	.3	.0	.2	.2	.2	.9	1.0	.5	.1	.0	.0	.2	.2	.1	.4	.4	.4	.1	.1
5. *	.4	.3	.0	.1	.1	.1	.9	1.0	.6	.1	.0	.0	.1	.1	.1	.3	.3	.3	.1	.1
10. *	.4	.3	.0	.1	.1	.1	1.0	1.0	.6	.1	.0	.0	.1	.1	.1	.4	.4	.5	.1	.0
15. *	.3	.3	.0	.0	.0	.0	1.0	1.0	.6	.2	.1	.0	.0	.0	.0	.5	.5	.5	.1	.0
20. *	.3	.3	.0	.0	.0	.0	.9	.9	.6	.2	.1	.0	.0	.0	.0	.4	.3	.3	.1	.1
25. *	.3	.3	.0	.0	.0	.0	.8	.9	.6	.2	.1	.1	.0	.0	.0	.3	.3	.3	.1	.1
30. *	.3	.3	.0	.0	.0	.0	.8	.8	.5	.2	.1	.1	.0	.0	.0	.3	.3	.3	.1	.1
35. *	.3	.3	.0	.0	.0	.0	.7	.8	.5	.2	.1	.1	.1	.0	.0	.3	.3	.3	.1	.1
40. *	.3	.3	.0	.0	.0	.0	.7	.7	.5	.2	.1	.1	.1	.1	.0	.3	.3	.2	.1	.1
45. *	.4	.3	.0	.0	.0	.0	.6	.6	.4	.2	.1	.1	.1	.1	.0	.3	.3	.3	.1	.1
50. *	.4	.3	.0	.0	.0	.0	.6	.6	.4	.2	.1	.1	.1	.1	.1	.3	.4	.3	.2	.1
55. *	.4	.2	.0	.0	.0	.0	.6	.6	.3	.2	.1	.2	.2	.1	.1	.4	.4	.3	.2	.1
60. *	.4	.2	.0	.0	.0	.0	.5	.6	.3	.3	.2	.2	.2	.1	.1	.4	.4	.2	.2	.2
65. *	.4	.2	.0	.0	.0	.0	.5	.5	.3	.3	.2	.2	.2	.1	.1	.4	.4	.2	.2	.2
70. *	.4	.2	.0	.0	.0	.0	.5	.5	.3	.2	.2	.2	.3	.1	.1	.4	.4	.4	.4	.3
75. *	.3	.2	.0	.0	.0	.0	.5	.5	.4	.2	.4	.4	.4	.1	.1	.4	.4	.5	.5	.4
80. *	.3	.1	.0	.1	.0	.0	.5	.5	.3	.4	.4	.6	.6	.1	.1	.4	.3	.5	.6	.6
85. *	.3	.1	.0	.1	.0	.0	.5	.5	.4	.5	.7	.8	.7	.1	.1	.4	.3	.8	.8	.8
90. *	.2	.1	.1	.2	.0	.0	.5	.5	.5	.6	.8	.9	1.0	.1	.1	.3	.3	1.0	.9	1.1
95. *	.1	.0	.1	.2	.0	.0	.5	.5	.5	.6	1.0	1.1	1.2	.3	.1	.4	.4	1.2	1.3	1.3
100. *	.1	.0	.1	.3	.0	.0	.5	.5	.5	.8	1.2	1.2	1.4	.2	.1	.4	.5	1.3	1.3	1.3
105. *	.1	.0	.1	.3	.0	.0	.5	.5	.5	.8	1.3	1.3	1.5	.2	.1	.3	.6	1.4	1.4	1.4
110. *	.0	.0	.2	.3	.0	.0	.5	.6	.6	.9	1.2	1.3	1.4	.4	.0	.5	.6	1.4	1.4	1.4
115. *	.0	.0	.2	.3	.0	.0	.5	.6	.5	1.1	1.4	1.4	1.4	.4	.2	.5	.7	1.4	1.3	1.3

120.	*	.0	.0	.2	.3	.0	.0	.6	.7	.5	1.0	1.4	1.4	1.4	.4	.2	.5	.8	1.3	1.2	1.4
125.	*	.0	.0	.2	.3	.1	.0	.6	.7	.5	1.1	1.3	1.3	1.3	.5	.2	.5	.8	1.2	1.2	1.2
130.	*	.0	.0	.2	.3	.1	.0	.6	.7	.6	1.1	1.3	1.3	1.3	.6	.2	.5	.8	1.3	1.2	1.2
135.	*	.0	.0	.3	.3	.1	.0	.6	.7	.6	1.2	1.2	1.2	1.3	.6	.3	.6	.9	1.1	1.2	1.2
140.	*	.0	.0	.3	.3	.1	.0	.8	.8	.6	1.2	1.2	1.2	1.2	.5	.4	.7	.8	1.2	1.0	1.1
145.	*	.0	.0	.3	.3	.1	.0	.8	.8	.6	1.1	1.1	1.1	1.1	.5	.4	.7	.8	1.2	1.0	1.0
150.	*	.0	.0	.3	.3	.1	.1	.9	.8	.6	1.1	1.1	1.1	1.1	.5	.4	.7	.8	1.2	1.0	1.0
155.	*	.0	.0	.3	.3	.1	.1	.9	.9	.6	1.1	1.1	1.1	1.1	.5	.4	.7	.7	1.2	1.0	1.0
160.	*	.1	.0	.3	.3	.1	.1	1.1	1.1	.6	1.0	1.1	1.1	1.1	.5	.4	.8	.8	1.1	1.0	.9
165.	*	.1	.0	.3	.4	.2	.2	1.1	1.1	.7	1.0	1.1	1.1	1.1	.5	.4	.8	.7	1.1	1.0	.9
170.	*	.2	.0	.3	.5	.2	.2	1.1	1.1	.7	1.0	1.1	1.0	1.1	.5	.4	.6	.6	1.1	1.0	.9
175.	*	.3	.1	.4	.5	.3	.2	1.1	1.0	.6	1.1	1.1	1.0	1.2	.5	.5	.6	.5	1.1	1.0	.9
180.	*	.4	.1	.4	.6	.3	.4	.9	.9	.6	1.1	1.0	1.0	1.2	.4	.5	.6	.5	1.0	.9	1.0
185.	*	.4	.1	.4	.6	.3	.3	.9	.8	.5	1.0	1.0	1.1	1.2	.4	.5	.5	.4	1.0	.9	1.0
190.	*	.4	.2	.5	.6	.4	.5	.7	.8	.5	1.0	1.0	1.1	1.2	.6	.6	.4	.3	1.0	1.0	1.0
195.	*	.4	.2	.5	.6	.4	.5	.5	.6	.4	1.0	1.0	1.1	1.2	.6	.6	.4	.4	1.0	1.0	1.1
200.	*	.4	.2	.5	.5	.4	.6	.4	.5	.4	1.0	1.1	1.1	1.2	.7	.6	.4	.4	1.0	1.0	1.1
205.	*	.4	.2	.4	.5	.3	.6	.4	.5	.5	1.0	1.1	1.2	1.3	.5	.6	.4	.4	1.0	1.0	1.1

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WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
210.	*	.4	.1	.4	.4	.5	.6	.3	.5	.5	1.0	1.2	1.2	1.2	.6	.6	.4	.4	1.0	1.0	1.1
215.	*	.3	.1	.4	.4	.6	.6	.5	.5	.6	1.1	1.2	1.2	1.1	.6	.5	.4	.5	1.0	1.1	1.1
220.	*	.3	.1	.4	.4	.7	.7	.5	.6	.8	1.3	1.3	1.3	1.2	.7	.6	.4	.6	1.1	1.1	1.3
225.	*	.4	.1	.4	.5	.8	.8	.5	.6	.9	1.3	1.4	1.4	1.3	.8	.6	.4	.6	1.2	1.2	1.3
230.	*	.4	.2	.5	.6	.8	.7	.5	.7	.9	1.4	1.4	1.4	1.3	.8	.6	.4	.5	1.2	1.2	1.3
235.	*	.3	.2	.6	.7	.8	.7	.4	.7	1.1	1.4	1.4	1.4	1.2	.8	.6	.4	.5	1.3	1.2	1.2
240.	*	.3	.2	.6	.7	.9	.7	.4	.7	1.2	1.4	1.6	1.5	1.4	.8	.6	.4	.5	1.4	1.3	1.3
245.	*	.3	.2	.6	.8	.9	.6	.3	.6	1.3	1.5	1.5	1.5	1.5	.7	.6	.3	.6	1.4	1.3	1.5
250.	*	.5	.3	.8	.9	.8	.6	.3	.5	1.5	1.6	1.6	1.7	1.6	.7	.6	.4	.5	1.6	1.6	1.7
255.	*	.5	.5	.8	1.1	.8	.6	.3	.5	1.6	1.7	1.8	1.8	1.7	.7	.6	.6	.5	1.6	1.6	1.8
260.	*	.7	.6	.9	1.2	.8	.6	.3	.5	1.6	1.6	1.7	1.6	1.6	.8	.7	.6	.7	1.6	1.6	1.7
265.	*	.9	.8	1.0	1.2	.8	.6	.3	.5	1.5	1.4	1.6	1.7	1.5	.8	.7	.5	.6	1.4	1.6	1.7
270.	*	1.2	.9	.9	1.1	.6	.6	.3	.3	1.3	1.3	1.4	1.4	1.3	.7	.6	.4	.6	1.3	1.4	1.7
275.	*	1.2	.9	.8	.9	.6	.6	.3	.4	1.1	1.0	1.0	1.2	1.2	.7	.5	.4	.5	1.0	1.2	1.3
280.	*	1.2	1.0	.6	.6	.5	.4	.1	.2	.9	.7	.8	.9	1.0	.6	.3	.2	.4	.9	.9	1.0
285.	*	1.1	.8	.4	.5	.4	.4	.1	.1	.5	.5	.4	.5	.6	.3	.3	.1	.2	.7	.6	.6
290.	*	.9	.9	.2	.5	.4	.4	.1	.1	.3	.3	.4	.4	.4	.3	.3	.1	.2	.4	.4	.4
295.	*	.9	.7	.2	.4	.4	.4	.1	.1	.2	.2	.3	.3	.2	.3	.3	.1	.1	.2	.2	.3
300.	*	.7	.7	.3	.4	.4	.4	.1	.2	.2	.3	.3	.3	.2	.3	.3	.1	.1	.2	.2	.3
305.	*	.7	.6	.3	.4	.4	.4	.2	.2	.2	.2	.2	.2	.3	.3	.3	.1	.1	.1	.2	.3
310.	*	.6	.6	.3	.4	.4	.4	.2	.2	.1	.2	.2	.2	.3	.3	.3	.1	.1	.1	.2	.3
315.	*	.6	.6	.3	.4	.4	.4	.2	.2	.1	.2	.2	.2	.3	.3	.3	.1	.1	.1	.1	.3
320.	*	.5	.6	.3	.5	.5	.4	.2	.2	.1	.2	.2	.2	.3	.3	.3	.1	.1	.1	.1	.3
325.	*	.7	.6	.3	.5	.5	.4	.2	.2	.1	.1	.2	.2	.3	.3	.3	.1	.1	.1	.1	.3
330.	*	.7	.6	.3	.6	.6	.5	.2	.3	.1	.1	.2	.2	.4	.3	.3	.1	.1	.1	.1	.2
335.	*	.9	.6	.3	.6	.6	.5	.3	.3	.1	.1	.2	.2	.4	.4	.4	.1	.1	.1	.2	.2
340.	*	.8	.6	.2	.6	.6	.5	.4	.4	.2	.1	.1	.2	.4	.4	.4	.1	.1	.1	.2	.2
345.	*	.8	.5	.2	.6	.4	.4	.5	.6	.2	.1	.1	.2	.4	.4	.4	.2	.2	.2	.2	.2
350.	*	.7	.4	.1	.4	.3	.3	.6	.7	.2	.1	.1	.2	.4	.3	.3	.2	.2	.2	.1	.2
355.	*	.6	.4	.1	.3	.2	.2	.7	.8	.4	.0	.0	.1	.3	.3	.3	.3	.3	.3	.1	.2
360.	*	.5	.3	.0	.2	.2	.2	.9	1.0	.5	.1	.0	.0	.2	.2	.1	.4	.4	.4	.1	.1
MAX	*	1.2	1.0	1.0	1.2	.9	.8	1.1	1.1	1.6	1.7	1.8	1.8	1.7	.8	.7	.8	.9	1.6	1.6	1.8
DEGR.	*	270	280	265	260	240	225	160	160	255	255	255	255	255	225	260	160	135	250	250	255

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
0.	*	.2	.9	.8	.8	1.5	1.5	1.5	.3
5.	*	.1	.7	.7	.7	1.7	1.7	1.7	.3
10.	*	.1	.4	.4	.3	1.7	1.8	1.8	.5
15.	*	.0	.2	.2	.2	1.7	1.9	1.8	.5
20.	*	.0	.1	.1	.1	1.7	1.7	1.6	.4
25.	*	.0	.1	.1	.0	1.6	1.6	1.5	.5
30.	*	.0	.0	.0	.0	1.6	1.6	1.5	.6
35.	*	.1	.0	.0	.0	1.5	1.5	1.4	.6
40.	*	.1	.0	.0	.0	1.3	1.3	1.1	.6
45.	*	.1	.0	.0	.0	1.2	1.2	1.1	.6
50.	*	.1	.0	.0	.0	1.2	1.2	1.0	.7
55.	*	.1	.0	.0	.0	1.2	1.2	1.0	.5
60.	*	.1	.0	.0	.0	1.1	1.1	.9	.5
65.	*	.1	.1	.0	.0	1.0	1.0	.9	.6
70.	*	.2	.2	.0	.0	1.0	1.0	.9	.6
75.	*	.3	.3	.0	.0	1.0	1.0	1.0	.9

80.	*	.6	.6	.0	.0	1.0	1.0	1.3	1.1
85.	*	.9	.9	.1	.0	1.0	1.1	1.4	1.5
90.	*	1.1	1.1	.2	.0	1.0	1.2	1.7	1.7
95.	*	1.4	1.3	.3	.0	1.1	1.3	1.8	2.0
100.	*	1.4	1.5	.3	.2	1.2	1.4	2.0	2.1
105.	*	1.5	1.4	.5	.2	1.2	1.5	1.9	2.1
110.	*	1.3	1.4	.5	.2	1.3	1.4	1.8	2.1
115.	*	1.2	1.3	.4	.3	1.3	1.4	1.8	2.2
120.	*	1.2	1.2	.4	.2	1.5	1.5	1.8	2.1
125.	*	1.1	1.2	.4	.2	1.5	1.7	1.7	2.0
130.	*	1.2	1.1	.4	.3	1.5	1.7	1.8	2.0
135.	*	1.2	1.1	.4	.3	1.5	1.6	1.7	2.0
140.	*	1.0	1.1	.4	.3	1.7	1.6	1.6	2.0
145.	*	.9	.9	.3	.3	1.8	1.6	1.7	2.0
150.	*	.9	.9	.3	.3	1.8	1.7	1.8	1.8
155.	*	.9	1.0	.3	.4	2.0	1.8	1.8	1.8
160.	*	.9	1.0	.5	.4	1.9	1.8	1.9	1.8
165.	*	.9	1.3	.5	.5	1.9	1.9	1.9	1.8
170.	*	.9	1.4	.6	.6	1.8	1.7	1.9	1.7
175.	*	1.0	1.6	.8	.9	1.8	1.7	2.1	1.8
180.	*	1.1	1.7	1.1	1.0	1.6	1.4	2.0	1.7
185.	*	1.1	1.7	1.2	1.2	1.3	1.2	1.6	1.7
190.	*	1.2	1.8	1.2	1.2	1.0	.9	1.5	1.5
195.	*	1.2	1.7	1.2	1.4	.8	.9	1.4	1.5
200.	*	1.3	1.5	1.2	1.4	.7	.7	1.4	1.5
205.	*	1.3	1.5	1.2	1.4	.5	.7	1.3	1.5

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WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
210.	*	1.3	1.5	1.3	1.4	.5	.7	1.5	1.5
215.	*	1.3	1.4	1.4	1.4	.5	.7	1.5	1.6
220.	*	1.4	1.6	1.6	1.4	.4	.8	1.6	1.6
225.	*	1.4	1.4	1.6	1.4	.4	.7	1.7	1.7
230.	*	1.4	1.5	1.6	1.3	.4	.6	1.7	1.8
235.	*	1.3	1.6	1.6	1.3	.4	.6	1.9	1.8
240.	*	1.5	1.7	1.5	1.3	.4	.6	2.0	2.0
245.	*	1.5	2.2	1.6	1.3	.4	.6	2.1	2.0
250.	*	1.6	2.3	1.6	1.3	.4	.6	2.2	2.1
255.	*	2.0	2.4	1.6	1.3	.4	.7	2.2	2.1
260.	*	1.9	2.5	1.5	1.3	.4	.6	2.3	2.1
265.	*	2.1	2.5	1.4	1.2	.3	.5	2.0	2.0
270.	*	1.9	2.3	1.3	1.1	.2	.4	1.8	1.6
275.	*	1.5	2.0	1.2	1.1	.2	.3	1.3	1.3
280.	*	1.1	1.5	1.1	.9	.0	.2	.9	.8
285.	*	.8	1.2	.9	.9	.0	.0	.5	.5
290.	*	.6	1.1	.9	.9	.0	.0	.3	.3
295.	*	.4	.8	.9	.9	.0	.0	.1	.2
300.	*	.4	.9	.9	.9	.0	.0	.1	.1
305.	*	.4	.9	1.0	1.0	.0	.0	.0	.0
310.	*	.4	.9	1.0	1.0	.1	.1	.0	.0
315.	*	.4	1.0	1.0	1.0	.1	.1	.1	.0
320.	*	.4	1.0	1.0	1.0	.1	.1	.1	.0
325.	*	.5	1.0	1.0	1.0	.1	.1	.1	.0
330.	*	.5	1.2	1.1	1.1	.1	.1	.1	.0
335.	*	.5	1.2	1.1	1.1	.2	.2	.2	.0
340.	*	.5	1.3	1.2	1.1	.4	.4	.4	.0
345.	*	.4	1.3	1.3	1.1	.5	.6	.6	.0
350.	*	.3	1.3	1.3	1.1	.8	.8	.8	.1
355.	*	.3	1.1	1.0	.9	1.1	1.2	1.2	.2
360.	*	.2	.9	.8	.8	1.5	1.5	1.5	.3
MAX	*	2.1	2.5	1.6	1.4	2.0	1.9	2.3	2.2
DEGR.	*	265	260	220	205	155	15	260	115

THE HIGHEST CONCENTRATION IS 2.50 PPM AT 260 DEGREES FROM REC42.
THE 2ND HIGHEST CONCENTRATION IS 2.30 PPM AT 0 DEGREES FROM REC2 .
THE 3RD HIGHEST CONCENTRATION IS 2.30 PPM AT 260 DEGREES FROM REC47.

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DATE: 08/31/2010 TIME: 10:46:56.72

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	*	35	0	15	10	340	340	275	280	280	280	285	280	285	280	275	280	280	5	295	290
1	*	.5	.5	.1	.1	.1	.1	.4	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	*	.5	.1	.0	.0	.1	.0	.6	.3	.2	.2	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0
3	*	.0	.0	.1	.1	.0	.1	.1	.4	.5	.3	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0
4	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.1	.1	.0	.0	.0	.0	.0	.0
5	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.5	.6	.6	.7	.1	.1	.1	.2
7	*	.5	.5	.2	.2	.2	.2	.8	.9	.9	.7	.7	.9	.9	.9	.9	.8	.4	.0	.2	.3
8	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	*	.0	.0	.1	.1	.2	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

LINK #																				
10 *	.0	.0	.1	.3	.8	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11 *	.1	.1	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.2	.4	.2	.1	.1	.2	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.3	.7	.3	.3	.2	.3	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1
14 *	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3	.3
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK # *	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
	270	280	265	260	240	225	160	160	255	255	255	255	255	225	260	160	135	250	250	255
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
2 *	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.2	.0	.0	.1	.1	.2
3 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.2	.5	.5
4 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.3	.1	.0	.0	.0	.3	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.4	.2	.2	.4	.2	.1	.0	.1	.7	.6	.6	.5	.2	.0	.0	.1	.2	.0	.0	.0
7 *	.5	.4	.4	.5	.3	.2	.0	.0	.8	.9	.9	.9	.9	.3	.2	.2	.3	.9	.9	.9
8 *	.1	.3	.2	.1	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.0	.1	.1	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.1	.1	.1
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
14 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.3	.3	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.1	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0
23 *	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.1	.1	.3	.3	.9	.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

1

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK # *	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48
	265	260	220	205	155	15	260	115
1 *	.2	.4	.2	.1	.0	.0	.5	.6
2 *	.4	.5	.2	.1	.0	.0	.8	.5
3 *	.3	.1	.0	.0	.1	.0	.0	.1
4 *	.0	.0	.0	.0	.0	.0	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.0	.0	.0	.0	.0	.0	.0	.0
7 *	.9	1.0	.3	.2	.2	.0	1.0	.9
8 *	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.0	.0	.0	.0	.1	.0	.0	.1
11 *	.1	.2	.2	.2	.2	.2	.0	.0
12 *	.1	.2	.3	.3	.5	.6	.0	.0
13 *	.1	.1	.4	.5	.9	1.1	.0	.0
14 *	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.0	.0	.0	.0	.0	.0
17 *	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.0	.0	.0	.0	.0	.0	.0
23 *	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.0	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0

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1                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000                    PAGE  1

     JOB: Brent Spence Bridge                              RUN: W 4th & Central Alt E AM
     DATE: 08/31/2010   TIME: 13:52:55.55


      SITE & METEOROLOGICAL VARIABLES
      -------------------------------
      VS =    .0 CM/S      VD =    .0 CM/S      Z0 = 175. CM
       U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

      LINK VARIABLES
      --------------
        LINK DESCRIPTION     *        LINK COORDINATES (FT)          *   LENGTH  BRG TYPE  VPH    EF      H  W    V/C QUEUE
                             *   X1       Y1        X2       Y2     *    (FT)  (DEG)          (G/MI)  (FT) (FT)        (VEH)
     ------------------------*----------------------------------------*----------------------------------------------------------
      1. 1 NB Cent McF Appr  * 270186.0  289164.0  270108.0  289529.0 *    373.   348. AG    310.  12.6    .0 44.0
      2. 2 NB Thr  W 4th Appr* 270117.0  289531.0  270060.0  289759.0 *    235.   346. AG    240.  12.6    .0 44.0
      3. 3 NB Cent NB Queue  * 270067.0  289730.0  270072.7  289707.8 *     23.   166. AG    229. 100.0    .0 24.0  .23   1.2
      4. 4 NB Cen  W 4th Depr* 270060.0  289759.0  270043.0  289808.0 *     52.   341. AG    500.  12.6    .0 44.0
      5. 5 NB Cen  W 4th Dept* 270043.0  289808.0  269933.0  290337.0 *    540.   348. AG    500.  12.6    .0 44.0
      6. 6 NB Lt   W 4th Appr* 270099.0  289527.0  270042.0  289755.0 *    235.   346. AG     70.  12.6    .0 44.0
      7. 7 NB LefttNB Queue  * 270049.0  289728.0  270085.1  289578.4 *    154.   166. AG    360. 100.0    .0 24.0 1.46   7.8
      8. 10 SB CentSB Appr   * 269902.0  290330.0  270023.0  289751.0 *    591.   168. AG    220.  12.6    .0 44.0
      9. 11 SB CentSB Queue  * 270007.0  289828.0  270002.1  289851.6 *     24.   348. AG    262. 100.0    .0 24.0  .28   1.2
     10. 12 SB CentSB Dep    * 270023.0  289751.0  270080.0  289522.0 *    236.   166. AG    230.  12.6    .0 44.0
     11. 13 SB CentSB Dep    * 270080.0  289522.0  270159.0  289159.0 *    371.   168. AG    230.  12.6    .0 44.0
     12. 14 WB W 4tTo Plum   * 270636.0  289880.0  270490.0  289851.0 *    149.   259. AG    560.  12.6    .0 44.0
     13. 15 WB W 4tFr Plum   * 270490.0  289851.0  270352.0  289819.0 *    142.   257. AG    560.  12.6    .0 44.0
     14. 16 WB W 4tTo Cent   * 270352.0  289819.0  270042.0  289755.0 *    317.   258. AG    560.  12.6    .0 56.0
     15. 17 WB W 4tWB Queue  * 270089.0  289764.0  270126.8  289772.2 *     39.    78. AG    374. 100.0    .0 36.0  .41   2.0
     16. 16 WB W 4tFrom Cent * 270040.0  289746.0  269741.0  289687.0 *    305.   259. AG    360.  12.6    .0 56.0
     17. 16 WB W 4tTo CD     * 269740.0  289694.0  269544.0  289656.0 *    200.   259. AG    250.  12.6    .0 44.0
     18. 18 WB W 4tRt Queue  * 269564.0  289660.0  269586.8  289664.3 *     23.    79. AG    223. 100.0    .0 24.0  .25   1.2
     19. 19 WB W 4tRt to CD  * 269544.0  289656.0  269495.0  289688.0 *     59.   303. AG    250.  12.6    .0 44.0
     20. 20 WB W 4tLt to CD  * 269743.0  289676.0  269548.0  289635.0 *    199.   258. AG    110.  12.6    .0 32.0
     21. 21 WB W 4tLt Queue  * 269568.0  289639.0  269587.4  289643.1 *     20.    78. AG    108. 100.0    .0 12.0  .19   1.0
     22. 22 WB W 4tLt to CD  * 269548.0  289635.0  269512.0  289576.0 *     69.   211. AG    110.  12.6    .0 32.0
     23. 23 NB CD  To W 4th  * 269358.0  289340.0  269495.0  289688.0 *    374.    21. AG   1070.  12.6    .0 44.0
     24. 24 NB CD  NB Queue  * 269451.0  289575.0  269410.2  289471.6 *    111.   202. AG    216. 100.0    .0 24.0  .82   5.6
     25. 25 NB CD  Fr W 4th  * 269495.0  289688.0  269471.0  289839.0 *    153.   351. AG   1320.  12.6    .0 56.0
     26. 26 NB CD  Fr W 4th  * 269471.0  289839.0  269432.0  290034.0 *    199.   349. AG   1320.  12.6    .0 68.0
     27. 27 SB CD  To W 4th  * 269353.0  290020.0  269416.0  289697.0 *    329.   169. AG   1470.  12.6    .0 56.0
     28. 27 SB CD  SB Queue  * 269408.0  289737.0  269387.5  289842.1 *    107.   349. AG    334. 100.0    .0 36.0  .82   5.4
     29. 28 SB CD  @ W 4th   * 269416.0  289697.0  269512.0  289576.0 *    154.   142. AG   1470.  12.6    .0 56.0
     30. 29 SB CD  @ W 4th   * 269512.0  289576.0  269537.0  289433.0 *    145.   170. AG   1580.  12.6    .0 56.0
     31. 30 WB Off 3rd-SB 75 * 270480.0  289330.0  270388.0  289332.0 *     92.   271. BR    280.  12.1    .0 32.0
     32. 31 WB Off 3rd-SB 75 * 270388.0  289332.0  270294.0  289352.0 *     96.   282. BR    280.  12.1    .0 32.0
     33. 32 WB Off 3rd-SB 75 * 270294.0  289352.0  270197.0  289396.0 *    106.   294. BR    280.  12.1    .0 32.0
     34. 33 WB Off 3rd-SB 75 * 270197.0  289396.0  270134.0  289442.0 *     78.   306. BR    280.  12.1    .0 32.0
     35. 34 WB Off 3rd-SB 75 * 270134.0  289442.0  269989.0  289567.0 *    191.   311. BR    280.  12.1    .0 32.0
     36. 35 WB Off 3rd-SB 75 * 269989.0  289567.0  269874.0  289640.0 *    136.   302. BR    280.  12.1    .0 32.0
     37. 36 WB Off 3rd-SB 75 * 269874.0  289640.0  269770.0  289675.0 *    110.   289. AG    280.  12.1    .0 32.0
     38. 37 WB Off 71-SB 75  * 270428.0  289285.0  270297.0  289305.0 *    133.   279. BR   2500.  12.1    .0 44.0
     39. 38 WB Off 71-SB 75  * 270297.0  289305.0  270202.0  289342.0 *    102.   291. BR   2500.  12.1    .0 44.0
     40. 39 WB Off 71-SB 75  * 270202.0  289342.0  270133.0  289389.0 *     83.   304. BR   2500.  12.1    .0 44.0
     41. 40 WB Off 71-SB 75  * 270133.0  289389.0  270002.0  289505.0 *    175.   312. BR   2500.  12.1    .0 44.0
     42. 41 WB Off 71-SB 75  * 270002.0  289505.0  269880.0  289607.0 *    159.   310. BR   2500.  12.1    .0 44.0
     43. 42 WB Off 71-SB 75  * 269880.0  289607.0  269770.0  289675.0 *    129.   302. BR   2500.  12.1    .0 44.0
     44. 43 WB Off 71-SB 75  * 269770.0  289675.0  269688.0  289703.0 *     87.   289. BR   2780.  12.1    .0 56.0
1
                                                                              PAGE  2
     JOB: Brent Spence Bridge                              RUN: W 4th & Central Alt E AM
     DATE: 08/31/2010   TIME: 13:52:55.55

      LINK VARIABLES
      --------------
        LINK DESCRIPTION     *        LINK COORDINATES (FT)          *   LENGTH  BRG TYPE  VPH    EF      H  W    V/C QUEUE
                             *   X1       Y1        X2       Y2     *    (FT)  (DEG)          (G/MI)  (FT) (FT)        (VEH)
     ------------------------*----------------------------------------*----------------------------------------------------------
     45. 44 WB Off 71-SB 75  * 269688.0  289703.0  269608.0  289715.0 *     81.   279. BR   2780.  12.1    .0 56.0
     46. 45 WB Off 71-SB 75  * 269608.0  289715.0  269523.0  289714.0 *     85.   269. BR   2780.  12.1    .0 56.0
     47. 46 WB Off 71-SB 75  * 269523.0  289714.0  269442.0  289700.0 *     82.   260. BR   2780.  12.1    .0 56.0
     48. 47 WB Off 71-SB 75  * 269442.0  289700.0  269379.0  289680.0 *     66.   252. BR   2780.  12.1    .0 56.0
     49. 48 WB Off 71-SB 75  * 269379.0  289680.0  269317.0  289651.0 *     68.   245. BR   2780.  12.1    .0 56.0
     50. 49 WB Off 71-SB 75  * 269317.0  289651.0  269246.0  289603.0 *     86.   236. BR   2780.  12.1    .0 56.0
1
                                                                              PAGE  3
     JOB: Brent Spence Bridge                              RUN: W 4th & Central Alt E AM
     DATE: 08/31/2010   TIME: 13:52:55.55

      ADDITIONAL QUEUE LINK PARAMETERS
      --------------------------------
        LINK DESCRIPTION     *  CYCLE    RED    CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                             *  LENGTH   TIME   LOST TIME    VOL     FLOW RATE   EM FAC   TYPE     RATE
                             *  (SEC)   (SEC)    (SEC)     (VPH)      (VPH)     (gm/hr)
     ------------------------*--------------------------------------------------------------------------
      3. 3 NB Cent NB Queue  *    60      35      2.0       240       1522      73.30      1        3
      7. 7 NB LefttNB Queue  *    60      55      2.0        70       1474      73.30      1        3
      9. 11 SB CentSB Queue  *    60      40      2.0       220       1501      73.30      1        3
     15. 17 WB W 4tWB Queue  *    60      38      2.0       560       1504      73.30      1        3
     18. 18 WB W 4tRt Queue  *    60      34      2.0       250       1349      73.30      1        3
     21. 21 WB W 4tLt Queue  *    60      33      2.0       110       1550      73.30      1        3
     24. 24 NB CD  NB Queue  *    60      33      2.0      1070       1707      73.30      1        3
     28. 27 SB CD  SB Queue  *    60      34      2.0      1470       1628      73.30      1        3

      RECEPTOR LOCATIONS
      ------------------
```

RECEPTOR	X	Y	Z
1. R1 SE Mid	270140.0	289517.0	5.0
2. R2 SE 164	270124.0	289585.0	5.0
3. R3 SE 82	270105.0	289664.0	5.0
4. R4 SE Corner	270088.0	289735.0	5.0
5. R5 SE 82	270158.0	289749.0	5.0
6. R6 SE 164	270239.0	289766.0	5.0
7. R7 SE Mid	270274.0	289773.0	5.0
8. R8 NE Mid	270256.0	289830.0	5.0
9. R9 NE 164	270223.0	289823.0	5.0
10. R10 NE 82	270142.0	289806.0	5.0
11. R11 NE Corner	270072.0	289791.0	5.0
12. R12 NE 82	270057.0	289862.0	5.0
13. R13 NE 164	270040.0	289942.0	5.0
14. R14 NE Mid	270034.0	289968.0	5.0
15. R15 NW 164	269944.0	290010.0	5.0
16. R16 NW 82	269961.0	289930.0	5.0
17. R17 NW Corner	269976.0	289859.0	5.0
18. R18 SW Corner	270010.0	289716.0	5.0
19. R19 SW 82	270028.0	289646.0	5.0
20. R20 SW 164	270046.0	289566.0	5.0
21. R21 SW Mid	270055.0	289525.0	5.0
22. R22 Near CD	269775.0	289723.0	5.0

(COORDINATES (FT))

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	.4	.3	.3	.8	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.3	.5	.5	.7
5.	.1	.2	.3	.8	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.4	.5	.5	.9
10.	.1	.2	.3	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.1	.2	.3	.3	.5	.8	1.1
15.	.1	.1	.3	1.0	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.5	.9	1.2
20.	.1	.1	.2	1.0	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.5	1.0	1.2
25.	.0	.1	.2	1.1	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.5	1.2	1.2
30.	.0	.1	.2	1.2	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.3	.3	.4	1.3	1.2
35.	.0	.1	.1	1.1	.3	.3	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.5	1.3	1.1
40.	.0	.1	.1	1.1	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.5	1.2	1.0
45.	.0	.0	.1	1.0	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.5	1.2	1.0
50.	.0	.0	.1	1.0	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	1.2	.9
55.	.0	.0	.1	.9	.3	.4	.3	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.7	1.2	.8
60.	.0	.0	.1	.8	.3	.4	.3	.0	.0	.1	.1	.0	.0	.0	.2	.2	.2	.9	1.1	.8
65.	.0	.0	.0	.7	.3	.3	.3	.1	.1	.1	.1	.0	.0	.0	.2	.2	.2	1.0	1.1	.7
70.	.0	.0	.0	.6	.3	.3	.3	.1	.1	.1	.1	.0	.0	.0	.2	.2	.2	1.1	1.0	.6
75.	.0	.0	.0	.5	.2	.3	.3	.2	.2	.2	.3	.0	.0	.0	.2	.2	.2	1.2	.9	.5
80.	.0	.0	.0	.3	.2	.3	.2	.2	.3	.2	.4	.0	.0	.0	.2	.2	.3	1.3	.9	.4
85.	.0	.0	.0	.2	.1	.1	.2	.3	.3	.3	.5	.0	.0	.0	.2	.2	.3	1.3	1.0	.4
90.	.0	.0	.0	.1	.1	.1	.1	.3	.3	.3	.6	.0	.0	.0	.2	.2	.3	1.2	1.0	.3
95.	.0	.0	.0	.1	.1	.1	.0	.3	.4	.3	.7	.1	.0	.0	.2	.2	.5	1.1	1.0	.3
100.	.0	.0	.0	.1	.0	.0	.0	.3	.4	.3	.8	.1	.0	.0	.2	.2	.6	1.0	1.0	.2
105.	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	.1	.0	.0	.2	.2	.7	1.0	.9	.1
110.	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.1	.0	.0	.2	.3	.8	1.1	.9	.1
115.	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.1	.1	.0	.2	.3	.8	1.1	.9	.1
120.	.1	.0	.0	.0	.0	.0	.0	.2	.3	.3	1.1	.1	.1	.0	.2	.3	.8	1.0	1.0	.2
125.	.1	.1	.0	.0	.0	.0	.0	.2	.2	.3	1.1	.2	.1	.1	.2	.4	.8	1.0	.9	.4
130.	.2	.1	.0	.0	.0	.0	.0	.2	.2	.2	1.0	.2	.1	.1	.2	.4	1.0	1.0	1.0	.5
135.	.2	.1	.1	.0	.0	.0	.0	.2	.2	.2	.9	.2	.1	.1	.3	.5	1.0	1.1	1.0	.6
140.	.2	.2	.1	.1	.0	.0	.0	.2	.2	.2	.9	.3	.1	.1	.3	.6	.9	1.1	.9	.8
145.	.4	.2	.2	.1	.0	.0	.0	.2	.2	.2	.9	.3	.2	.2	.4	.6	.8	1.1	.9	.9
150.	.4	.3	.2	.2	.1	.0	.0	.2	.2	.3	.8	.3	.2	.3	.4	.6	.6	1.1	.8	.9
155.	.5	.3	.4	.3	.1	.1	.0	.2	.2	.3	1.1	.4	.4	.4	.3	.6	.7	.9	.8	1.0
160.	.4	.4	.3	.4	.2	.1	.1	.2	.3	.3	1.1	.5	.4	.4	.4	.5	.6	.7	.7	.9
165.	.5	.5	.5	.6	.2	.1	.1	.3	.3	.3	1.2	.8	.6	.6	.3	.5	.6	.6	.6	1.0
170.	.5	.5	.6	.6	.2	.2	.1	.3	.3	.3	1.2	.9	.7	.6	.4	.5	.6	.5	.4	.7
175.	.5	.5	.6	.9	.3	.2	.2	.3	.3	.4	1.2	1.0	.6	.5	.4	.4	.4	.5	.6	.7
180.	.7	.6	.7	1.0	.2	.1	.2	.3	.3	.6	1.3	.8	.6	.8	.1	.3	.4	.4	.4	.6
185.	.8	.7	.6	1.3	.2	.2	.1	.2	.3	.6	1.4	.8	.8	.7	.2	.1	.4	.3	.3	.6
190.	.7	.7	.7	1.5	.2	.2	.2	.3	.3	.7	1.4	.7	.8	.7	.2	.2	.3	.3	.4	.6
195.	.7	.6	.8	1.6	.3	.2	.2	.3	.3	.9	1.3	.7	.7	.6	.2	.2	.3	.4	.3	.6
200.	.8	.6	1.0	1.5	.4	.1	.2	.3	.4	1.1	1.3	.5	.7	.7	.1	.2	.3	.3	.4	.6
205.	.7	.4	1.2	1.7	.5	.1	.1	.4	.4	1.2	1.2	.5	.7	.7	.2	.1	.3	.3	.4	.6

1

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210.	.7	.4	1.2	1.7	.5	.2	.1	.4	.6	1.5	1.0	.6	.6	.5	.2	.2	.4	.3	.3	.6
215.	.7	.4	1.3	1.7	.5	.2	.2	.6	.7	1.4	.9	.7	.5	.4	.1	.2	.3	.3	.4	.6
220.	.7	.4	1.2	1.7	.6	.4	.3	.7	.8	1.4	.8	.7	.5	.5	.2	.2	.3	.3	.4	.6

225.	*	.7	.5	1.2	1.7	.6	.4	.3	.6	.7	1.3	.8	.6	.5	.5	.2	.2	.3	.3	.4	.6
230.	*	.7	.5	1.2	1.7	.6	.3	.4	.7	.7	1.4	.6	.8	.5	.5	.2	.3	.2	.3	.4	.6
235.	*	.7	.5	1.2	1.6	.7	.3	.3	.8	.9	1.2	.6	.8	.5	.5	.1	.4	.4	.4	.3	.7
240.	*	.7	.6	1.2	1.6	.6	.5	.4	.7	.8	1.1	.6	.7	.5	.4	.0	.2	.3	.4	.4	.6
245.	*	.7	.6	1.3	1.6	.7	.5	.5	.7	.7	1.1	.6	.8	.4	.3	.1	.2	.3	.3	.4	.6
250.	*	.8	.8	1.3	1.6	.9	.6	.6	.6	.7	.9	.7	.7	.3	.3	.1	.0	.3	.5	.3	.6
255.	*	.7	.8	1.3	1.5	.8	.6	.5	.4	.6	.8	.8	.8	.4	.4	.2	.1	.2	.6	.4	.6
260.	*	.7	.9	1.3	1.4	1.0	.6	.5	.3	.3	.6	.8	.5	.4	.4	.2	.1	.2	.6	.4	.6
265.	*	.6	1.1	1.4	1.2	1.0	.7	.5	.2	.2	.3	.7	.5	.4	.4	.2	.2	.1	.6	.5	.7
270.	*	.7	1.1	1.3	1.0	1.0	.6	.4	.1	.1	.1	.4	.5	.4	.3	.0	.2	.1	.6	.6	.7
275.	*	.7	1.2	1.4	.7	.9	.5	.4	.1	.1	.4	.4	.5	.3	.3	.0	.2	.2	.6	.5	.7
280.	*	.7	1.3	1.4	.6	.8	.5	.4	.0	.1	.2	.4	.3	.3	.3	.0	.0	.2	.5	.7	.8
285.	*	.6	1.3	1.4	.7	1.0	.4	.4	.1	.1	.2	.5	.3	.3	.3	.0	.0	.0	.3	.6	.9
290.	*	.6	1.2	1.0	.4	1.0	.4	.3	.1	.1	.2	.5	.3	.3	.3	.0	.0	.0	.3	.5	.9
295.	*	.8	1.2	1.0	.5	.9	.4	.3	.1	.1	.1	.5	.3	.3	.3	.0	.0	.0	.2	.3	.8
300.	*	.7	1.0	1.0	.4	1.0	.4	.4	.1	.1	.1	.5	.3	.3	.3	.0	.0	.0	.2	.1	.4
305.	*	.6	1.0	1.1	.5	.8	.4	.4	.1	.1	.1	.4	.3	.3	.3	.0	.0	.0	.2	.1	.3
310.	*	.5	1.0	.9	.6	.8	.3	.3	.1	.1	.1	.5	.4	.4	.4	.0	.0	.0	.2	.1	.1
315.	*	.6	1.0	.8	.7	.7	.3	.3	.1	.1	.1	.5	.4	.4	.4	.0	.0	.0	.2	.1	.0
320.	*	.6	1.1	.8	.7	.6	.3	.3	.0	.1	.1	.5	.4	.4	.4	.0	.0	.0	.2	.1	.0
325.	*	.7	.9	.8	.7	.5	.3	.2	.0	.1	.1	.5	.4	.4	.4	.0	.0	.0	.1	.1	.0
330.	*	.7	.8	.9	.7	.4	.2	.2	.0	.0	.1	.5	.4	.4	.4	.0	.0	.0	.1	.1	.0
335.	*	.6	.9	.8	.8	.4	.2	.2	.0	.0	.1	.5	.4	.4	.4	.0	.0	.0	.1	.2	.1
340.	*	.6	.8	.6	.8	.3	.2	.2	.0	.0	.1	.5	.4	.4	.3	.1	.1	.1	.2	.2	.2
345.	*	.6	.6	.7	.7	.2	.2	.2	.0	.0	.0	.3	.3	.3	.3	.1	.1	.2	.4	.4	.4
350.	*	.5	.5	.6	.7	.2	.2	.2	.0	.0	.0	.2	.2	.2	.2	.2	.2	.2	.5	.5	.5
355.	*	.4	.4	.5	.7	.2	.2	.2	.0	.0	.0	.2	.2	.2	.2	.2	.2	.2	.5	.5	.6
360.	*	.4	.3	.3	.8	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.3	.5	.5	.7
MAX	*	.8	1.3	1.4	1.7	1.0	.7	.6	.8	.9	1.5	1.4	1.0	.8	.8	.4	.6	1.0	1.3	1.3	1.2
DEGR.	*	250	280	265	215	265	265	250	235	235	210	185	175	185	180	145	140	130	80	30	15

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22
0.	*	.8	.0
5.	*	1.0	.0
10.	*	1.1	.0
15.	*	1.0	.0
20.	*	1.0	.0
25.	*	.8	.0
30.	*	.7	.0
35.	*	.6	.0
40.	*	.4	.0
45.	*	.3	.0
50.	*	.3	.0
55.	*	.2	.0
60.	*	.2	.0
65.	*	.2	.1
70.	*	.1	.1
75.	*	.1	.2
80.	*	.1	.4
85.	*	.1	.4
90.	*	.2	.3
95.	*	.2	.3
100.	*	.2	.4
105.	*	.3	.4
110.	*	.3	.4
115.	*	.4	.5
120.	*	.5	.8
125.	*	.8	.9
130.	*	.8	1.0
135.	*	.9	1.2
140.	*	1.1	1.2
145.	*	1.1	1.2
150.	*	1.2	1.3
155.	*	1.2	1.1
160.	*	1.2	1.1
165.	*	1.2	.9
170.	*	1.0	1.1
175.	*	.9	.9
180.	*	.8	.9
185.	*	.8	.9
190.	*	.8	.9
195.	*	.8	.9
200.	*	.8	1.0
205.	*	.8	.9

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22
210.	.8	.9
215.	.8	1.0
220.	.8	1.0
225.	.7	1.1
230.	.8	1.3
235.	.8	1.3
240.	.8	1.6
245.	.8	1.6
250.	.8	1.6
255.	.8	1.8
260.	.8	2.0
265.	.9	1.8
270.	.9	1.6
275.	1.1	1.2
280.	1.0	.9
285.	1.1	.7
290.	1.2	.6
295.	1.2	.3
300.	1.2	.2
305.	.9	.2
310.	.6	.1
315.	.3	.1
320.	.2	.0
325.	.1	.0
330.	.1	.0
335.	.3	.0
340.	.2	.0
345.	.3	.0
350.	.5	.0
355.	.7	.0
360.	.8	.0
MAX	1.2	2.0
DEGR.	150	260

THE HIGHEST CONCENTRATION IS 2.00 PPM AT 260 DEGREES FROM REC22.
THE 2ND HIGHEST CONCENTRATION IS 1.70 PPM AT 215 DEGREES FROM REC4 .
THE 3RD HIGHEST CONCENTRATION IS 1.50 PPM AT 210 DEGREES FROM REC10.

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JOB: Brent Spence Bridge RUN: W 4th & Central Alt E AM
DATE: 08/31/2010 TIME: 13:52:55.55

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	250	280	265	215	265	265	250	235	235	210	185	175	185	180	145	140	130	80	30	15
1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.1	.1	.1
3	.0	.0	.0	.5	.1	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.2	.1	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.1	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3	.3	.1	.1	.1	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.0	.7	.8	.8	.1	.1	.2	.2	.2	.4	.6	.3	.2	.2	.1	.1	.1	.5	.7	.8
8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.4	.0	.0	.0
10	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1	.1	.1
11	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.0	.0	.0	.0	.2	.3	.1	.3	.3	.2	.2	.1	.0	.0	.0	.1	.1	.2	.1	.1
15	.0	.0	.0	.0	.3	.2	.1	.1	.2	.6	.0	.1	.0	.0	.1	.1	.1	.1	.2	.1
16	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
17	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
35	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
36	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
38	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
39	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
41	.4	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0

LINK #																				
42 *	.1	.2	.1	.2	.0	.0	.1	.1	.1	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0
43 *	.0	.1	.2	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
44 *	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK # *	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	250	280	265	215	265	265	250	235	235	210	185	175	185	180	145	140	130	80	30	15
46 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
47 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
48 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
49 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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DATE: 08/31/2010 TIME: 13:52:55.55

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK # *	REC21	REC22
	150	260
1 *	.1	.0
2 *	.0	.0
3 *	.0	.0
4 *	.0	.0
5 *	.0	.0
6 *	.0	.0
7 *	.0	.0
8 *	.0	.0
9 *	.0	.0
10 *	.0	.0
11 *	.1	.0
12 *	.0	.0
13 *	.0	.0
14 *	.0	.0
15 *	.0	.0
16 *	.0	.1
17 *	.0	.1
18 *	.0	.0
19 *	.0	.0
20 *	.0	.0
21 *	.0	.0
22 *	.0	.0
23 *	.0	.1
24 *	.0	.0
25 *	.0	.0
26 *	.0	.0
27 *	.0	.0
28 *	.0	.0
29 *	.0	.1
30 *	.0	.0
31 *	.0	.0
32 *	.0	.0
33 *	.0	.0
34 *	.0	.0
35 *	.2	.0
36 *	.0	.0
37 *	.0	.0
38 *	.0	.0
39 *	.1	.0
40 *	.2	.0
41 *	.5	.0
42 *	.0	.0
43 *	.0	.0
44 *	.0	.6
45 *	.0	.4

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* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK # *	REC21	REC22
	150	260
46 *	.0	.2
47 *	.0	.1
48 *	.0	.1
49 *	.0	.1
50 *	.0	.1

1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000

JOB: Brent Spence Bridge RUN: W 4th & Central Alt E PM
DATE: 08/31/2010 TIME: 13:56:27.45

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 1 NB Cent McF Appr	270186.0	289164.0	270108.0	289529.0	373.	348.	AG	1310.	12.6	.0	44.0		
2. 2 NB Thr W 4th Appr	270117.0	289531.0	270060.0	289759.0	235.	346.	AG	540.	12.6	.0	44.0		
3. 3 NB Cent NB Queue	270067.0	289730.0	270090.8	289637.0	96.	166.	AG	213.	100.0	.0	24.0	.42	4.9
4. 4 NB Cen W 4th Depr	270060.0	289759.0	270043.0	289808.0	52.	341.	AG	950.	12.6	.0	44.0		
5. 5 NB Cen W 4th Dept	270043.0	289808.0	269933.0	290337.0	540.	348.	AG	950.	12.6	.0	44.0		
6. 6 NB Lt W 4th Appr	270099.0	289527.0	270042.0	289755.0	235.	346.	AG	770.	12.6	.0	44.0		
7. 7 NB LefttNB Queue	270049.0	289728.0	270125.1	289412.8	324.	166.	AG	279.	100.0	.0	24.0	1.01	16.5
8. 10 SB CentSB Appr	269902.0	290330.0	270023.0	289751.0	591.	168.	AG	280.	12.6	.0	44.0		
9. 11 SB CentSB Queue	270007.0	289828.0	269982.8	289943.5	118.	348.	AG	338.	100.0	.0	24.0	.94	6.0
10. 12 SB CentSB Dep	270023.0	289751.0	270080.0	289522.0	236.	166.	AG	220.	12.6	.0	44.0		
11. 13 SB CentSB Dep	270080.0	289522.0	270159.0	289159.0	371.	168.	AG	220.	12.6	.0	44.0		
12. 14 WB W 4tTo Plum	270636.0	289880.0	270490.0	289851.0	149.	259.	AG	1660.	12.6	.0	44.0		
13. 15 WB W 4tFr Plum	270490.0	289851.0	270352.0	289819.0	142.	257.	AG	1660.	12.6	.0	44.0		
14. 16 WB W 4tTo Cent	270352.0	289819.0	270042.0	289755.0	317.	258.	AG	1660.	12.6	.0	56.0		
15. 17 WB W 4tWB Queue	270089.0	289764.0	270315.8	289812.9	232.	78.	AG	329.	100.0	.0	36.0	.88	11.8
16. 16 WB W 4tFrom Cent	270040.0	289746.0	269741.0	289687.0	305.	259.	AG	2080.	12.6	.0	56.0		
17. 16 WB W 4tTo CD	269740.0	289694.0	269544.0	289656.0	200.	259.	AG	1790.	12.6	.0	44.0		
18. 18 WB W 4tRt Queue	269564.0	289660.0	270075.6	289756.6	521.	79.	AG	125.	100.0	.0	24.0	1.02	26.4
19. 19 WB W 4tRt to CD	269544.0	289656.0	269495.0	289688.0	59.	303.	AG	1790.	12.6	.0	44.0		
20. 20 WB W 4tLt to CD	269743.0	289676.0	269548.0	289635.0	199.	258.	AG	290.	12.6	.0	32.0		
21. 21 WB W 4tLt Queue	269568.0	289639.0	269723.4	289671.9	159.	78.	AG	146.	100.0	.0	12.0	.83	8.1
22. 22 WB W 4tLt to CD	269548.0	289635.0	269512.0	289576.0	69.	211.	AG	290.	12.6	.0	32.0		
23. 23 NB CD To W 4th	269358.0	289340.0	269495.0	289688.0	374.	21.	AG	740.	12.6	.0	44.0		
24. 24 NB CD NB Queue	269451.0	289575.0	269359.9	289343.8	248.	202.	AG	292.	100.0	.0	24.0	.96	12.6
25. 25 NB CD Fr W 4th	269495.0	289688.0	269471.0	289839.0	153.	351.	AG	2540.	12.6	.0	56.0		
26. 26 NB CD Fr W 4th	269471.0	289839.0	269432.0	290034.0	199.	349.	AG	2540.	12.6	.0	68.0		
27. 27 SB CD To W 4th	269353.0	290020.0	269416.0	289697.0	329.	169.	AG	1720.	12.6	.0	56.0		
28. 27 SB CD SB Queue	269408.0	289737.0	269385.2	289853.9	119.	349.	AG	187.	100.0	.0	36.0	.54	6.0
29. 28 SB CD @ W 4th	269416.0	289697.0	269512.0	289576.0	154.	142.	AG	1720.	12.6	.0	56.0		
30. 29 SB CD @ W 4th	269512.0	289576.0	269537.0	289433.0	145.	170.	AG	2010.	12.6	.0	56.0		
31. 30 WB Off 3rd-SB 75	270480.0	289330.0	270388.0	289332.0	92.	271.	BR	1450.	12.6	.0	32.0		
32. 31 WB Off 3rd-SB 75	270388.0	289332.0	270294.0	289352.0	96.	282.	BR	1450.	12.6	.0	32.0		
33. 32 WB Off 3rd-SB 75	270294.0	289352.0	270197.0	289396.0	106.	294.	BR	1450.	12.6	.0	32.0		
34. 33 WB Off 3rd-SB 75	270197.0	289396.0	270134.0	289442.0	78.	306.	BR	1450.	12.6	.0	32.0		
35. 34 WB Off 3rd-SB 75	270134.0	289442.0	269989.0	289567.0	191.	311.	BR	1450.	12.6	.0	32.0		
36. 35 WB Off 3rd-SB 75	269989.0	289567.0	269874.0	289640.0	136.	302.	BR	1450.	12.6	.0	32.0		
37. 36 WB Off 3rd-SB 75	269874.0	289640.0	269770.0	289675.0	110.	289.	AG	1450.	12.6	.0	32.0		
38. 37 WB Off 71-SB 75	270428.0	289285.0	270297.0	289305.0	133.	279.	BR	3490.	12.6	.0	44.0		
39. 38 WB Off 71-SB 75	270297.0	289305.0	270202.0	289342.0	102.	291.	BR	3490.	12.6	.0	44.0		
40. 39 WB Off 71-SB 75	270202.0	289342.0	270133.0	289389.0	83.	304.	BR	3490.	12.6	.0	44.0		
41. 40 WB Off 71-SB 75	270133.0	289389.0	270002.0	289505.0	175.	312.	BR	3490.	12.6	.0	44.0		
42. 41 WB Off 71-SB 75	270002.0	289505.0	269880.0	289607.0	159.	310.	BR	3490.	12.6	.0	44.0		
43. 42 WB Off 71-SB 75	269880.0	289607.0	269770.0	289675.0	129.	302.	BR	3490.	12.6	.0	44.0		
44. 43 WB Off 71-SB 75	269770.0	289675.0	269688.0	289703.0	87.	289.	BR	4940.	12.6	.0	56.0		

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LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. 44 WB Off 71-SB 75	269688.0	289703.0	269608.0	289715.0	81.	279.	BR	4940.	12.6	.0	56.0		
46. 45 WB Off 71-SB 75	269608.0	289715.0	269523.0	289714.0	85.	269.	BR	4940.	12.6	.0	56.0		
47. 46 WB Off 71-SB 75	269523.0	289714.0	269442.0	289700.0	82.	260.	BR	4940.	12.6	.0	56.0		
48. 47 WB Off 71-SB 75	269442.0	289700.0	269379.0	289680.0	66.	252.	BR	4910.	12.6	.0	56.0		
49. 48 WB Off 71-SB 75	269379.0	289680.0	269317.0	289651.0	68.	245.	BR	4940.	12.6	.0	56.0		
50. 49 WB Off 71-SB 75	269317.0	289651.0	269246.0	289603.0	86.	236.	BR	4940.	12.6	.0	56.0		

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. 3 NB Cent NB Queue	120	65	2.0	540	1522	73.30	1	3
7. 7 NB LefttNB Queue	120	85	2.0	770	1474	73.30	1	3
9. 11 SB CentSB Queue	120	103	2.0	280	1376	73.30	1	3
15. 17 WB W 4tWB Queue	120	67	2.0	1660	1534	73.30	1	3
18. 18 WB W 4tRt Queue	120	38	2.0	1790	1349	73.30	1	3
21. 21 WB W 4tLt Queue	120	89	2.0	290	1550	73.30	1	3
24. 24 NB CD NB Queue	120	89	2.0	740	1707	73.30	1	3
28. 27 SB CD SB Queue	120	38	2.0	1720	1628	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
1. R1 SE Mid	270140.0	289517.0	5.0
2. R2 SE 164	270124.0	289585.0	5.0
3. R3 SE 82	270105.0	289664.0	5.0

4. R4 SE Corner * 270088.0 289735.0 5.0 *
5. R5 SE 82 * 270158.0 289749.0 5.0 *
6. R6 SE 164 * 270239.0 289766.0 5.0 *
7. R7 SE Mid * 270274.0 289773.0 5.0 *
8. R8 NE Mid * 270256.0 289830.0 5.0 *
9. R9 NE 164 * 270223.0 289823.0 5.0 *
10. R10 NE 82 * 270142.0 289806.0 5.0 *
11. R11 NE Corner * 270072.0 289791.0 5.0 *
12. R12 NE 82 * 270057.0 289862.0 5.0 *
13. R13 NE 164 * 270040.0 289942.0 5.0 *
14. R14 NE Mid * 270034.0 289968.0 5.0 *
15. R15 NW 164 * 269944.0 290010.0 5.0 *
16. R16 NW 82 * 269961.0 289930.0 5.0 *
17. R17 NW Corner * 269976.0 289859.0 5.0 *
18. R18 SW Corner * 270010.0 289716.0 5.0 *
19. R19 SW 82 * 270028.0 289646.0 5.0 *
20. R20 SW 164 * 270046.0 289566.0 5.0 *
21. R21 SW Mid * 270055.0 289525.0 5.0 *
22. R22 Near CD * 269775.0 289723.0 5.0 *

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.6	.7	.9	1.2	1.5	1.5	1.5	.0	.0	.0	.2	.2	.2	.2	.4	.4	1.1	1.9	1.5	1.5
5. *	.5	.5	.7	1.2	1.5	1.5	1.5	.0	.0	.0	.1	.1	.1	.2	.5	.5	1.3	2.0	1.4	1.7
10. *	.4	.6	.8	1.2	1.5	1.5	1.5	.0	.0	.0	.1	.1	.1	.1	.5	.5	1.4	1.8	1.7	1.8
15. *	.4	.6	.7	1.4	1.6	1.6	1.5	.0	.0	.0	.0	.1	.1	.1	.5	.5	1.5	1.8	1.6	1.7
20. *	.4	.5	.7	1.5	1.7	1.7	1.6	.0	.0	.0	.0	.0	.0	.0	.5	.5	1.5	1.9	1.9	1.7
25. *	.3	.5	.7	1.6	1.7	1.7	1.6	.0	.0	.1	.1	.0	.0	.0	.4	.5	1.5	1.8	1.9	1.7
30. *	.2	.5	.8	1.6	1.8	1.7	1.6	.1	.1	.1	.1	.0	.0	.0	.4	.5	1.5	1.9	2.0	1.8
35. *	.3	.4	.8	1.8	1.9	1.8	1.7	.1	.1	.1	.1	.0	.0	.0	.4	.5	1.4	2.0	2.0	1.7
40. *	.3	.5	.7	1.9	1.9	1.8	1.7	.1	.1	.1	.1	.0	.0	.0	.4	.6	1.4	1.8	2.1	1.6
45. *	.1	.3	.7	2.0	2.1	1.9	1.5	.1	.1	.1	.1	.0	.0	.0	.4	.7	1.4	2.1	2.1	1.6
50. *	.1	.3	.8	2.1	2.1	1.8	1.5	.1	.1	.1	.1	.0	.0	.0	.4	.7	1.4	2.4	2.1	1.4
55. *	.0	.3	.6	2.1	2.2	1.8	1.5	.1	.1	.1	.1	.0	.0	.0	.4	.8	1.4	2.5	2.0	1.3
60. *	.0	.2	.5	2.3	2.1	1.9	1.4	.1	.1	.3	.3	.0	.0	.0	.4	.9	1.3	2.7	1.9	1.3
65. *	.0	.0	.4	2.3	2.1	1.6	1.3	.3	.4	.4	.5	.0	.0	.0	.4	1.0	1.3	2.9	1.8	1.0
70. *	.0	.0	.4	2.1	1.8	1.5	1.1	.4	.6	.7	.8	.0	.0	.0	.3	1.1	1.3	2.6	1.6	1.0
75. *	.0	.0	.1	1.8	1.5	1.2	1.0	.7	.9	1.1	1.2	.0	.0	.0	.3	1.1	1.3	2.7	1.5	1.0
80. *	.0	.0	.0	1.5	1.2	1.0	.8	1.0	1.1	1.5	1.7	.0	.0	.0	.3	1.1	1.2	2.6	1.3	1.0
85. *	.0	.0	.0	1.0	.8	.6	.6	1.2	1.4	1.8	2.0	.4	.0	.0	.3	1.2	1.5	2.0	1.3	1.0
90. *	.0	.0	.0	.5	.6	.4	.3	1.4	1.6	2.0	2.2	.4	.0	.0	.4	1.2	1.5	2.0	1.2	1.0
95. *	.0	.0	.0	.3	.3	.2	.2	1.5	1.9	2.1	2.3	.6	.1	.0	.4	1.5	1.7	1.7	1.2	1.0
100. *	.0	.0	.0	.3	.1	.1	.1	1.6	1.9	2.1	2.1	.6	.2	.1	.4	1.7	1.8	1.6	1.2	1.0
105. *	.0	.0	.0	.1	.1	.1	.1	1.6	1.9	2.1	2.0	.7	.3	.2	.4	1.7	1.8	1.6	1.2	1.1
110. *	.0	.0	.0	.1	.1	.1	.1	1.6	1.9	2.1	2.0	.7	.3	.3	.7	1.8	1.9	1.5	1.2	1.1
115. *	.1	.0	.0	.1	.1	.1	.1	1.8	1.8	1.9	1.8	.7	.4	.3	.6	1.8	1.9	1.5	1.2	1.2
120. *	.2	.0	.0	.1	.1	.1	.1	1.7	1.8	1.9	1.7	.8	.4	.4	.6	2.0	1.9	1.5	1.1	1.3
125. *	.4	.1	.0	.1	.1	.1	.1	1.7	1.8	1.8	1.6	.8	.4	.4	.8	2.0	1.8	1.7	1.3	1.7
130. *	.5	.1	.1	.1	.1	.1	.1	1.7	1.7	1.7	1.5	.7	.5	.4	.8	1.9	1.7	1.7	1.5	1.7
135. *	.5	.4	.1	.1	.0	.0	.0	1.7	1.7	1.7	1.4	.7	.5	.4	1.1	1.9	1.9	1.6	1.5	1.9
140. *	.8	.5	.3	.2	.0	.0	.0	1.5	1.6	1.6	1.4	.7	.5	.5	1.1	2.0	2.0	1.8	1.9	2.5
145. *	.8	.5	.3	.3	.1	.0	.0	1.5	1.5	1.6	1.3	.8	.6	.5	1.1	2.2	1.8	2.0	2.0	2.6
150. *	.9	.8	.6	.4	.1	.0	.0	1.5	1.5	1.6	1.6	.8	.6	.6	1.1	2.5	1.9	1.9	1.9	2.3
155. *	1.0	.9	.7	.8	.2	.1	.1	1.5	1.6	1.6	1.7	1.4	.7	.8	1.7	2.3	1.9	1.7	1.9	2.4
160. *	1.1	1.2	1.1	1.2	.2	.1	.1	1.6	1.6	1.7	2.4	1.7	1.2	.9	1.7	1.9	1.8	1.8	1.6	2.2
165. *	1.4	1.4	1.2	1.6	.4	.2	.1	1.7	1.7	2.0	2.7	1.8	1.4	1.3	1.6	1.7	1.8	1.4	1.5	1.9
170. *	1.5	1.5	1.7	1.9	.4	.2	.2	1.8	1.8	2.1	2.9	1.8	1.7	1.6	1.3	1.4	1.3	1.2	1.3	1.8
175. *	1.8	1.7	1.8	2.1	.5	.2	.2	1.8	1.9	2.1	3.0	2.3	1.9	1.9	.9	1.1	1.3	.9	1.1	1.5
180. *	2.0	2.2	1.9	2.4	.6	.4	.2	1.8	1.8	2.2	2.9	2.2	1.9	1.8	1.0	1.0	1.0	.8	.9	1.3
185. *	2.1	2.2	2.2	2.6	.8	.4	.3	1.8	2.0	2.5	3.0	2.1	2.0	1.6	.7	.9	.8	.8	.8	1.2
190. *	2.1	2.1	2.2	2.7	1.0	.5	.4	2.0	1.9	2.5	2.9	1.8	1.8	1.7	.5	.7	.8	.7	.8	1.2
195. *	2.3	1.9	2.3	2.5	.9	.4	.5	2.0	2.1	2.6	3.0	1.6	1.7	1.7	.6	.7	.8	.8	.8	1.3
200. *	2.5	2.2	2.4	2.7	1.0	.6	.4	2.2	2.3	2.8	2.8	1.7	1.6	1.7	.5	.8	.8	.7	.8	1.1
205. *	2.2	2.1	2.4	2.6	1.1	.7	.7	2.3	2.5	2.7	2.6	1.4	1.8	1.7	.5	.8	1.0	.7	.8	1.2

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	2.2	1.9	2.4	2.7	1.1	.7	.7	2.5	2.6	2.8	2.6	1.5	1.7	1.8	.6	.7	.9	.7	.8	1.2
215. *	2.2	1.8	2.4	2.5	1.2	1.0	.7	2.6	2.7	3.0	2.4	1.5	1.8	1.7	.6	.7	.9	.8	.8	1.2
220. *	2.1	1.8	2.3	2.4	1.3	.8	.8	2.7	2.7	2.8	2.4	1.7	1.7	1.5	.7	.8	.8	.8	.7	1.2
225. *	2.1	1.7	2.4	2.4	1.2	.9	.8	2.7	2.7	2.9	2.1	1.8	1.8	1.6	.7	.8	1.0	.9	.7	1.1
230. *	2.1	1.7	2.4	2.5	1.1	1.0	.9	2.9	3.0	2.8	2.4	1.7	1.9	1.8	.7	.8	1.2	.7	.7	1.1
235. *	2.1	1.8	2.3	2.1	1.3	.9	.9	3.0	2.9	2.8	2.6	1.9	1.9	1.7	.6	.7	1.1	1.0	.7	1.2
240. *	2.1	1.8	2.3	2.3	1.3	1.3	1.3	2.9	2.8	2.8	2.6	1.9	1.7	1.4	.7	.7	1.0	1.2	.8	1.1
245. *	2.2	1.7	2.2	2.7	1.4	1.4	1.4	2.8	2.8	2.6	2.7	1.9	1.6	1.4	.5	.8	.9	1.7	.8	1.1
250. *	2.1	1.9	2.4	3.0	2.1	1.8	1.8	2.4	2.5	2.4	2.7	1.7	1.4	1.2	.3	.7	1.1	1.9	1.0	1.2

255. *	2.2	2.1	2.6	3.1	2.3	2.0	1.9	2.1	2.3	2.0	2.4	1.8	1.4	.9	.2	.5	1.0	2.2	1.1	1.3
260. *	2.1	2.0	2.9	3.5	2.5	2.5	2.4	1.8	1.9	1.8	2.1	1.6	1.2	.8	.2	.3	.6	2.7	1.3	1.6
265. *	2.1	2.0	3.0	3.2	2.7	2.8	2.5	1.5	1.4	1.6	1.8	1.7	1.1	.8	.2	.2	.5	3.0	1.6	1.6
270. *	2.3	2.2	3.1	3.3	3.1	2.6	2.5	.9	.9	1.2	1.5	1.4	1.0	.7	.2	.2	.3	3.0	1.9	1.6
275. *	2.2	2.8	3.1	3.0	2.7	2.5	2.3	.6	.8	.7	1.2	1.3	.8	.6	.1	.2	.2	2.7	1.7	2.0
280. *	2.7	2.7	3.4	2.8	2.3	2.5	2.5	.4	.5	.7	1.1	1.3	.8	.6	.0	.1	.2	2.5	1.7	2.5
285. *	2.8	2.7	3.2	2.2	2.2	2.4	2.4	.3	.5	.5	.9	1.2	.6	.5	.0	.1	.1	2.3	1.8	2.4
290. *	3.1	2.7	2.9	1.9	2.3	2.2	2.3	.3	.4	.6	.8	1.1	.6	.5	.0	.0	.1	1.8	1.5	2.2
295. *	2.7	2.3	2.7	1.8	2.3	2.1	2.1	.3	.3	.6	.9	1.1	.5	.5	.0	.0	.0	1.7	1.1	2.1
300. *	2.5	2.0	2.7	2.0	2.2	2.1	2.1	.3	.3	.6	.9	1.1	.5	.5	.0	.0	.0	1.6	.8	1.6
305. *	2.3	2.0	2.5	1.8	2.1	2.1	2.0	.2	.3	.5	1.1	1.1	.6	.6	.0	.0	.0	1.4	.7	1.2
310. *	2.1	1.9	2.4	1.9	2.1	1.9	1.9	.1	.2	.5	1.1	1.1	.6	.6	.0	.0	.0	1.3	.6	.8
315. *	1.7	1.9	2.3	1.9	2.1	1.9	1.8	.1	.1	.3	1.1	1.0	.6	.6	.0	.0	.0	1.2	.6	.5
320. *	1.8	1.9	2.3	1.7	2.0	1.8	1.8	.1	.1	.3	1.2	1.0	.7	.7	.0	.0	.0	1.2	.5	.4
325. *	1.9	2.0	2.3	1.7	1.8	1.6	1.6	.1	.1	.3	1.1	.9	.7	.7	.0	.0	.0	1.2	.5	.4
330. *	1.9	2.0	2.2	1.8	1.8	1.6	1.6	.1	.1	.2	1.2	.9	.7	.7	.0	.0	.0	1.2	.5	.3
335. *	1.8	1.7	2.1	1.8	1.7	1.6	1.5	.0	.1	.2	1.1	.8	.7	.7	.1	.1	.2	1.4	.7	.6
340. *	1.7	1.7	2.0	1.8	1.7	1.6	1.6	.0	.0	.1	1.0	.8	.7	.7	.1	.2	.3	1.6	.9	.7
345. *	1.3	1.4	1.5	1.7	1.8	1.6	1.6	.0	.0	.1	.8	.7	.5	.6	.2	.2	.4	1.7	1.0	.8
350. *	1.0	1.2	1.3	1.4	1.8	1.6	1.6	.0	.0	.1	.6	.5	.4	.5	.2	.3	.7	1.9	1.3	1.2
355. *	1.0	.9	.9	1.4	1.6	1.6	1.6	.0	.0	.0	.4	.3	.3	.3	.4	.4	.9	1.9	1.3	1.4
360. *	.6	.7	.9	1.2	1.5	1.5	1.5	.0	.0	.0	.2	.2	.2	.2	.4	.4	1.1	1.9	1.5	1.5
MAX *	3.1	2.8	3.4	3.5	3.1	2.8	2.5	3.0	3.0	3.0	3.0	2.3	2.0	1.9	1.7	2.5	2.0	3.0	2.1	2.6
DEGR. *	290	275	280	260	270	265	280	235	230	215	185	175	185	175	155	150	140	265	40	145

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	CONCENTRATION (PPM) REC21	REC22
0. *	1.7	.0
5. *	1.9	.0
10. *	1.7	.0
15. *	1.8	.1
20. *	1.7	.2
25. *	1.7	.2
30. *	1.6	.2
35. *	1.5	.3
40. *	1.4	.3
45. *	1.3	.3
50. *	1.3	.3
55. *	1.2	.4
60. *	1.1	.4
65. *	1.1	.9
70. *	1.2	.9
75. *	1.2	1.2
80. *	1.2	1.7
85. *	1.2	2.0
90. *	1.2	2.1
95. *	1.3	2.2
100. *	1.2	2.2
105. *	1.3	2.1
110. *	1.5	2.3
115. *	1.9	2.5
120. *	2.4	2.7
125. *	2.7	3.1
130. *	3.0	3.6
135. *	3.1	3.6
140. *	3.2	3.4
145. *	3.3	3.3
150. *	3.2	3.1
155. *	3.1	2.9
160. *	2.8	2.8
165. *	2.4	2.8
170. *	2.5	2.8
175. *	2.1	2.7
180. *	1.8	2.7
185. *	1.7	2.8
190. *	1.7	2.8
195. *	1.7	2.7
200. *	1.7	2.8
205. *	1.6	2.7

1

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	CONCENTRATION (PPM) REC21	REC22
210. *	1.6	2.7
215. *	1.6	2.9

220. *	1.5	3.3
225. *	1.6	3.4
230. *	1.6	3.7
235. *	1.6	3.8
240. *	1.6	4.2
245. *	1.7	4.4
250. *	1.7	4.7
255. *	1.8	4.3
260. *	1.8	4.0
265. *	1.9	3.7
270. *	2.1	3.3
275. *	2.2	2.5
280. *	2.7	1.9
285. *	3.0	1.5
290. *	3.3	.8
295. *	3.5	.6
300. *	3.3	.6
305. *	2.6	.4
310. *	2.4	.3
315. *	1.7	.2
320. *	1.3	.1
325. *	.9	.0
330. *	.8	.0
335. *	.7	.0
340. *	1.0	.0
345. *	1.1	.0
350. *	1.4	.0
355. *	1.5	.0
360. *	1.7	.0
MAX *	3.5	4.7
DEGR. *	295	250

THE HIGHEST CONCENTRATION IS 4.70 PPM AT 250 DEGREES FROM REC22.
THE 2ND HIGHEST CONCENTRATION IS 3.50 PPM AT 260 DEGREES FROM REC4 .
THE 3RD HIGHEST CONCENTRATION IS 3.50 PPM AT 295 DEGREES FROM REC21.

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JOB: Brent Spence Bridge RUN: W 4th & Central Alt E PM
DATE: 08/31/2010 TIME: 13:56:27.45

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK # *	290	275	280	260	270	265	280	235	230	215	185	175	185	175	155	150	140	265	40	145
1 *	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.1	.1	.0	.0	.0	.4
2 *	.1	.2	.2	.2	.1	.0	.0	.1	.1	.1	.2	.1	.0	.1	.0	.1	.1	.0	.1	.0
3 *	.0	.0	.7	.3	.1	.1	.0	.1	.1	.2	.3	.2	.1	.1	.1	.1	.1	.0	.3	.0
4 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0	.1	.1	.0	.0	.0
5 *	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.2	.5	.5	.2	.1	.1	.0	.0	.0
6 *	.2	.3	.3	.2	.1	.0	.0	.1	.1	.1	.3	.2	.1	.1	.1	.1	.1	.0	.3	.1
7 *	.6	.6	.6	.3	.1	.1	.0	.1	.2	.3	.6	.4	.2	.2	.1	.2	.2	.0	.6	.6
8 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.2	.2	.1	.0	.0	.0
9 *	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.2	.1	.5	1.0	.6	.0	.0	.0
10 *	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
12 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14 *	.0	.0	.0	.3	.7	.8	.9	.9	.9	.8	.6	.3	.1	.1	.1	.1	.2	.0	.3	.0
15 *	.0	.0	.0	.0	.5	.7	1.1	1.2	1.1	1.0	.0	.1	.0	.1	.1	.1	.1	.0	.4	.0
16 *	.1	.1	.4	.8	.4	.3	.1	.1	.1	.1	.0	.1	.2	.1	.1	.1	.1	1.3	.0	.0
17 *	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
18 *	.1	.1	.2	.4	.3	.2	.1	.1	.0	.0	.2	.1	.1	.1	.0	.1	.1	.4	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.1	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27 *	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
34 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
35 *	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.4
36 *	.1	.2	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37 *	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
38 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.1
39 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
40 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.2
41 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.1	.1	.1	.0	.0	.0	.0	.3
42 *	.4	.3	.0	.0	.0	.0	.0	.1	.2	.2	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0
43 *	.2	.2	.1	.2	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
44 *	.1	.1	.1	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
45 *	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0

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JOB: Brent Spence Bridge RUN: W 4th & Central Alt E PM

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	290	275	280	260	270	265	280	235	230	215	185	175	185	175	155	150	140	265	40	145
46	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
47	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
48	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
49	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
50	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0

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JOB: Brent Spence Bridge RUN: W 4th & Central Alt E PM
DATE: 08/31/2010 TIME: 13:56:27.45

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC21	REC22
	295	250
1	.0	.0
2	.0	.0
3	.0	.0
4	.0	.0
5	.0	.0
6	.0	.0
7	.0	.0
8	.0	.0
9	.0	.0
10	.0	.0
11	.0	.0
12	.0	.0
13	.0	.0
14	.0	.0
15	.0	.0
16	.1	.4
17	.1	.7
18	.1	.4
19	.0	.1
20	.0	.1
21	.0	.2
22	.0	.0
23	.0	.1
24	.0	.1
25	.1	.0
26	.0	.0
27	.1	.0
28	.0	.0
29	.0	.1
30	.0	.0
31	.0	.0
32	.0	.0
33	.0	.0
34	.0	.0
35	1.0	.0
36	.3	.0
37	.1	.0
38	.0	.0
39	.0	.0
40	.0	.0
41	.0	.0
42	.8	.0
43	.3	.0
44	.2	1.4
45	.1	.5

1

PAGE 11

JOB: Brent Spence Bridge RUN: W 4th & Central Alt E PM

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC21	REC22
	295	250
46	.1	.2
47	.1	.1
48	.0	.1
49	.0	.1
50	.0	.1

1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000 PAGE 1

JOB: Brent Spence Bridge RUN: W 4th & Central Alt I AM
DATE: 08/31/2010 TIME: 12:18:42.95

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 1 NB Cent McF Appr	270186.0	289164.0	270108.0	289529.0	373.	348.	AG	190.	12.6	.0	44.0		
2. 2 NB Thr W 4th Appr	270117.0	289531.0	270060.0	289759.0	235.	346.	AG	150.	12.6	.0	44.0		
3. 3 NB Cent NB Queue	270067.0	289730.0	270070.6	289716.1	14.	166.	AG	229.	100.0	.0	24.0	.14	.7
4. 4 NB Cen W 4th Depr	270060.0	289759.0	270043.0	289808.0	52.	341.	AG	330.	12.6	.0	44.0		
5. 5 NB Cen W 4th Dept	270043.0	289808.0	269933.0	290337.0	540.	348.	AG	330.	12.6	.0	44.0		
6. 6 NB Lt W 4th Appr	270099.0	289527.0	270042.0	289755.0	235.	346.	AG	40.	12.6	.0	44.0		
7. 7 NB LefttNB Queue	270049.0	289728.0	270050.4	289722.1	6.	166.	AG	354.	100.0	.0	24.0	.41	.3
8. 8 NB Ramp From W 4th	270042.0	289755.0	269974.0	289811.0	88.	309.	AG	270.	12.6	.0	44.0		
9. 9 NB Ramp From W 4th	269974.0	289811.0	269755.0	290270.0	509.	334.	AG	270.	12.6	.0	44.0		
10. 10 SB CentSB Appr	269902.0	290330.0	270023.0	289751.0	591.	168.	AG	130.	12.6	.0	44.0		
11. 11 SB CentSB Queue	270007.0	289828.0	270004.2	289841.6	14.	348.	AG	256.	100.0	.0	24.0	.15	.7
12. 12 SB CentSB Dep	270023.0	289751.0	270080.0	289522.0	236.	166.	AG	150.	12.6	.0	44.0		
13. 13 SB CentSB Dep	270080.0	289522.0	270159.0	289159.0	371.	168.	AG	150.	12.6	.0	44.0		
14. 14 WB W 4tTo Plum	270636.0	289880.0	270490.0	289851.0	149.	259.	AG	430.	12.6	.0	44.0		
15. 15 WB W 4tFr Plum	270490.0	289851.0	270352.0	289819.0	142.	257.	AG	430.	12.6	.0	44.0		
16. 16 WB W 4tTo Cent	270352.0	289819.0	270042.0	289755.0	317.	258.	AG	430.	12.6	.0	56.0		
17. 17 WB W 4tWB Queue	270089.0	289764.0	270117.3	289770.1	29.	78.	AG	364.	100.0	.0	36.0	.30	1.5
18. 18 WB Off 3rd-SB 75	270473.0	289330.0	270387.0	289337.0	86.	275.	BR	280.	12.1	.0	32.0		
19. 19 WB Off 3rd-SB 75	270387.0	289337.0	270291.0	289353.0	97.	279.	BR	280.	12.1	.0	32.0		
20. 20 WB Off 3rd-SB 75	270291.0	289353.0	270209.0	289396.0	93.	298.	BR	280.	12.1	.0	32.0		
21. 21 WB Off 3rd-SB 75	270209.0	289396.0	269996.0	289555.0	266.	307.	BR	280.	12.1	.0	28.0		
22. 22 WB Off 3rd-SB 75	269996.0	289555.0	269861.0	289614.0	147.	294.	BR	280.	12.1	.0	32.0		
23. 23 WB Off 71- SB 75	270427.0	289288.0	270271.0	289320.0	159.	282.	BR	190.	12.1	.0	44.0		
24. 24 WB Off 71- SB 75	270271.0	289320.0	270153.0	289385.0	135.	299.	BR	190.	12.1	.0	44.0		
25. 25 WB Off 71- SB 75	270153.0	289385.0	269986.0	289528.0	220.	311.	BR	190.	12.1	.0	44.0		
26. 26 WB Off 71- SB 75	269986.0	289528.0	269861.0	289614.0	152.	305.	BR	190.	12.1	.0	44.0		
27. 27 WB Off 71- SB 75	269861.0	289614.0	269702.0	289652.0	163.	283.	BR	470.	12.1	.0	44.0		
28. 28 WB Off 71- SB 75	269702.0	289652.0	269576.0	289645.0	126.	267.	BR	470.	12.1	.0	44.0		
29. 29 WB Off 71- SB 75	269576.0	289645.0	269470.0	289614.0	110.	254.	BR	470.	12.1	.0	44.0		

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. 3 NB Cent NB Queue	60	35	2.0	150	1522	73.30	1	3
7. 7 NB LefttNB Queue	60	54	2.0	40	1474	73.30	1	3
11. 11 SB CentSB Queue	60	39	2.0	130	1504	73.30	1	3
17. 17 WB W 4tWB Queue	60	37	2.0	430	1503	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
1. R1 SE Mid	270140.0	289517.0	5.0
2. R2 SE 164	270124.0	289585.0	5.0
3. R3 SE 82	270105.0	289664.0	5.0
4. R4 SE Corner	270088.0	289735.0	5.0
5. R5 SE 82	270158.0	289749.0	5.0
6. R6 SE 164	270239.0	289766.0	5.0
7. R7 SE Mid	270274.0	289773.0	5.0
8. R8 NE Mid	270256.0	289830.0	5.0
9. R9 NE 164	270223.0	289823.0	5.0
10. R10 NE 82	270142.0	289806.0	5.0
11. R11 NE Corner	270072.0	289791.0	5.0
12. R12 NE 82	270057.0	289862.0	5.0
13. R13 NE 164	270040.0	289942.0	5.0
14. R14 NE Mid	270034.0	289968.0	5.0
15. R15 NW 164	269944.0	290010.0	5.0
16. R16 NW 82	269961.0	289930.0	5.0
17. R17 NW Corner	269976.0	289859.0	5.0
18. R18 SW Corner	270010.0	289716.0	5.0
19. R19 SW 82	270028.0	289646.0	5.0
20. R20 SW 164	270046.0	289566.0	5.0
21. R21 SW Mid	270055.0	289525.0	5.0

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION (PPM)

ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	.0	.2	.3	.7	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.2	.3	.2	.1
5.	.0	.2	.3	.8	.2	.2	.2	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.3	.2	.2
10.	.0	.1	.3	.8	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.1	.2
15.	.0	.1	.2	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2	.4	.2

20. *	.0	.1	.2	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.4	.3
25. *	.0	.1	.2	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2	.4	.3
30. *	.0	.1	.1	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.4	.4	.2
35. *	.0	.0	.1	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.4	.2
40. *	.0	.0	.1	.8	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.4	.4	.1
45. *	.0	.0	.1	.8	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.3	.1
50. *	.0	.0	.1	.7	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.3	.1
55. *	.0	.0	.1	.6	.2	.2	.3	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.5	.2	.1
60. *	.0	.0	.0	.6	.2	.3	.3	.0	.0	.0	.1	.0	.0	.0	.2	.2	.2	.6	.2	.1
65. *	.0	.0	.0	.6	.2	.3	.3	.0	.1	.1	.1	.0	.0	.0	.2	.2	.2	.7	.1	.1
70. *	.0	.0	.0	.4	.2	.3	.2	.1	.1	.1	.1	.0	.0	.0	.2	.2	.2	.7	.1	.1
75. *	.0	.0	.0	.3	.2	.3	.2	.2	.1	.1	.2	.0	.0	.0	.2	.2	.2	.5	.1	.1
80. *	.0	.0	.0	.3	.2	.1	.2	.2	.2	.2	.3	.0	.0	.0	.2	.2	.2	.5	.1	.1
85. *	.0	.0	.0	.1	.1	.1	.1	.2	.3	.2	.3	.0	.0	.0	.2	.2	.2	.5	.1	.1
90. *	.0	.0	.0	.1	.1	.1	.1	.3	.3	.2	.4	.0	.0	.0	.2	.2	.2	.4	.1	.1
95. *	.0	.0	.0	.1	.1	.0	.0	.3	.3	.2	.6	.0	.0	.0	.2	.2	.2	.3	.1	.1
100. *	.0	.0	.0	.0	.0	.0	.0	.3	.2	.2	.6	.1	.0	.0	.2	.2	.4	.3	.1	.1
105. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.6	.1	.0	.0	.2	.2	.4	.2	.1	.1
110. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.7	.1	.0	.0	.2	.2	.6	.1	.1	.1
115. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	.1	.0	.0	.2	.2	.6	.1	.1	.1
120. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	.1	.0	.0	.2	.3	.6	.1	.1	.1
125. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	.1	.1	.0	.2	.3	.6	.1	.1	.1
130. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	.2	.1	.0	.2	.4	.5	.1	.1	.1
135. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	.2	.1	.0	.2	.4	.5	.1	.1	.2
140. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	.2	.1	.0	.2	.3	.4	.1	.1	.3
145. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.7	.3	.1	.0	.2	.3	.4	.1	.1	.3
150. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.6	.3	.2	.0	.2	.2	.3	.1	.1	.4
155. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.6	.3	.2	.2	.2	.2	.4	.1	.1	.3
160. *	.1	.0	.1	.1	.0	.0	.0	.2	.2	.2	.6	.3	.2	.2	.1	.2	.4	.1	.1	.2
165. *	.2	.0	.1	.1	.0	.0	.0	.2	.2	.2	.7	.2	.2	.2	.1	.1	.3	.1	.1	.2
170. *	.2	.1	.1	.1	.0	.0	.0	.2	.2	.2	.6	.3	.2	.2	.1	.1	.2	.1	.1	.1
175. *	.2	.2	.1	.1	.0	.0	.0	.2	.2	.2	.6	.4	.1	.2	.1	.1	.2	.0	.0	.1
180. *	.2	.2	.1	.1	.0	.0	.0	.2	.2	.2	.5	.3	.2	.2	.1	.1	.1	.0	.0	.1
185. *	.2	.2	.1	.2	.0	.0	.0	.2	.2	.2	.5	.2	.2	.2	.1	.1	.1	.0	.0	.1
190. *	.2	.2	.1	.2	.0	.0	.0	.2	.2	.3	.6	.2	.2	.2	.1	.1	.1	.0	.0	.1
195. *	.2	.1	.1	.2	.0	.0	.0	.2	.2	.4	.5	.1	.2	.2	.1	.1	.1	.0	.0	.1
200. *	.2	.1	.1	.3	.0	.0	.0	.2	.2	.4	.5	.1	.3	.2	.1	.1	.1	.0	.0	.1
205. *	.2	.1	.1	.3	.0	.0	.0	.2	.2	.5	.3	.1	.2	.2	.1	.1	.1	.0	.0	.1

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	.2	.1	.1	.3	.0	.0	.0	.2	.2	.6	.3	.1	.2	.2	.1	.1	.1	.0	.0	.1
215. *	.2	.1	.1	.4	.0	.0	.0	.2	.2	.6	.2	.1	.2	.2	.1	.1	.1	.0	.0	.1
220. *	.2	.1	.1	.4	.0	.0	.0	.2	.2	.6	.2	.2	.1	.2	.1	.1	.1	.0	.0	.1
225. *	.2	.1	.1	.5	.0	.0	.0	.2	.3	.6	.2	.2	.1	.1	.1	.1	.1	.0	.0	.1
230. *	.2	.1	.1	.6	.0	.0	.0	.2	.3	.6	.3	.2	.1	.1	.1	.1	.1	.0	.0	.1
235. *	.2	.1	.1	.6	.0	.0	.0	.3	.3	.6	.3	.2	.1	.1	.1	.1	.1	.0	.0	.1
240. *	.2	.1	.1	.6	.0	.0	.0	.3	.3	.5	.3	.2	.1	.1	.1	.1	.1	.0	.0	.1
245. *	.2	.1	.1	.6	.2	.1	.1	.3	.3	.5	.3	.2	.1	.1	.1	.1	.1	.0	.0	.1
250. *	.2	.1	.1	.6	.3	.2	.1	.3	.3	.4	.3	.2	.1	.1	.1	.1	.1	.0	.0	.1
255. *	.2	.1	.1	.6	.3	.2	.2	.3	.3	.3	.3	.2	.1	.1	.1	.1	.1	.0	.0	.0
260. *	.2	.1	.1	.6	.4	.3	.3	.2	.2	.2	.3	.2	.1	.1	.1	.1	.1	.0	.0	.1
265. *	.2	.1	.1	.5	.4	.3	.3	.1	.2	.2	.2	.2	.1	.1	.1	.1	.1	.0	.0	.1
270. *	.2	.1	.1	.5	.5	.3	.3	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	.0	.0	.1
275. *	.2	.1	.1	.4	.5	.3	.3	.0	.0	.0	.2	.1	.1	.1	.1	.1	.1	.0	.0	.1
280. *	.1	.1	.1	.4	.6	.3	.3	.0	.0	.0	.2	.2	.1	.1	.1	.1	.1	.0	.0	.1
285. *	.0	.1	.1	.3	.6	.3	.2	.0	.0	.0	.1	.2	.1	.1	.1	.1	.1	.0	.0	.1
290. *	.0	.1	.1	.3	.6	.3	.2	.0	.0	.1	.2	.2	.1	.1	.1	.1	.1	.0	.0	.1
295. *	.0	.1	.1	.3	.6	.2	.2	.0	.0	.1	.3	.2	.1	.1	.1	.1	.1	.0	.0	.0
300. *	.0	.1	.1	.4	.5	.2	.2	.0	.0	.1	.4	.3	.2	.2	.1	.1	.2	.0	.0	.0
305. *	.0	.1	.1	.5	.5	.2	.2	.0	.0	.1	.4	.3	.2	.2	.1	.1	.2	.0	.0	.0
310. *	.1	.1	.2	.5	.5	.2	.2	.0	.0	.1	.4	.3	.2	.2	.1	.1	.2	.0	.0	.0
315. *	.1	.1	.2	.5	.5	.2	.2	.0	.0	.1	.4	.3	.2	.2	.1	.1	.2	.0	.0	.0
320. *	.1	.1	.2	.4	.4	.2	.2	.0	.0	.1	.4	.2	.2	.2	.1	.1	.2	.0	.0	.0
325. *	.1	.1	.2	.5	.4	.2	.2	.0	.0	.1	.2	.2	.2	.2	.1	.1	.2	.1	.0	.0
330. *	.1	.1	.3	.4	.3	.2	.2	.0	.0	.1	.3	.2	.2	.2	.0	.1	.2	.1	.0	.0
335. *	.1	.1	.5	.5	.3	.2	.2	.0	.0	.1	.3	.2	.2	.2	.0	.1	.2	.1	.0	.0
340. *	.1	.2	.5	.5	.2	.2	.2	.0	.0	.0	.3	.2	.2	.2	.0	.0	.1	.2	.1	.1
345. *	.1	.2	.5	.6	.2	.2	.2	.0	.0	.0	.2	.2	.2	.2	.1	.1	.2	.3	.1	.1
350. *	.2	.2	.5	.6	.2	.2	.2	.0	.0	.0	.1	.2	.2	.2	.1	.2	.3	.4	.2	.1
355. *	.0	.3	.3	.7	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.2	.3	.2	.1
360. *	.0	.2	.3	.7	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.2	.3	.2	.1
MAX *	.2	.3	.5	.9	.6	.3	.3	.3	.3	.6	.8	.4	.3	.2	.2	.4	.6	.7	.4	.4
DEGR. *	165	355	335	15	280	60	55	90	85	210	115	175	200	155	0	130	110	65	15	150

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MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

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(DEGR)* REC21
------*------
  0.  *    .1
  5.  *    .1
 10.  *    .2
 15.  *    .2
 20.  *    .1
 25.  *    .1
 30.  *    .1
 35.  *    .1
 40.  *    .1
 45.  *    .1
 50.  *    .1
 55.  *    .1
 60.  *    .1
 65.  *    .1
 70.  *    .1
 75.  *    .1
 80.  *    .1
 85.  *    .0
 90.  *    .0
 95.  *    .0
100.  *    .0
105.  *    .1
110.  *    .1
115.  *    .2
120.  *    .4
125.  *    .4
130.  *    .4
135.  *    .4
140.  *    .4
145.  *    .4
150.  *    .5
155.  *    .5
160.  *    .4
165.  *    .4
170.  *    .4
175.  *    .2
180.  *    .2
185.  *    .2
190.  *    .2
195.  *    .2
200.  *    .2
205.  *    .2
1
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WIND ANGLE RANGE:   0.-360.

WIND  * CONCENTRATION
ANGLE *      (PPM)
(DEGR)* REC21
------*------
210.  *    .2
215.  *    .2
220.  *    .2
225.  *    .2
230.  *    .2
235.  *    .2
240.  *    .2
245.  *    .2
250.  *    .2
255.  *    .2
260.  *    .2
265.  *    .2
270.  *    .2
275.  *    .2
280.  *    .2
285.  *    .3
290.  *    .3
295.  *    .3
300.  *    .3
305.  *    .2
310.  *    .1
315.  *    .1
320.  *    .1
325.  *    .1
330.  *    .0
335.  *    .0
340.  *    .0
345.  *    .1
350.  *    .1
355.  *    .1
360.  *    .1
------*------
MAX   *    .5
DEGR. *  150

THE HIGHEST CONCENTRATION IS     .90 PPM AT   15 DEGREES FROM REC4 .
THE 2ND HIGHEST CONCENTRATION IS     .80 PPM AT  115 DEGREES FROM REC11.
THE 3RD HIGHEST CONCENTRATION IS     .70 PPM AT   65 DEGREES FROM REC18.
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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	165	355	335	15	280	60	55	90	85	210	115	175	200	155	0	130	110	65	15	150
1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
2	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.1	.1	.1	.1	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.2	.0	.0	.0
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
13	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.1	.0	.0	.0	.1	.1	.2	.1	.0
17	.0	.1	.1	.7	.4	.0	.0	.0	.0	.4	.6	.1	.0	.1	.0	.1	.1	.2	.1	.0
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
22	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

1

JOB: Brent Spence Bridge RUN: W 4th & Central Alt I AM
DATE: 08/31/2010 TIME: 12:18:42.95

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC21
LINK #	150
1	.1
2	.0
3	.0
4	.0
5	.0
6	.0
7	.0
8	.0
9	.0
10	.0
11	.0
12	.0
13	.1
14	.0
15	.0
16	.0
17	.0
18	.0
19	.0
20	.0
21	.2
22	.0
23	.0
24	.0
25	.1
26	.0
27	.0
28	.0
29	.0

1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000

JOB: Brent Spence Bridge RUN: W 4th & Central Alt I PM
DATE: 08/31/2010 TIME: 12:15:58.33

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 1 NB Cent McF Appr	270186.0	289164.0	270108.0	289529.0	373.	348.	AG	810.	12.6	.0	44.0		

```
  2. 2 NB Thr  W 4th Appr* 270117.0  289531.0  270060.0  289759.0 *     235.   346. AG    480.  12.6    .0 44.0
  3. 3 NB Cent NB Queue  * 270067.0  289730.0  270081.6  289672.8 *      59.   166. AG    253. 100.0    .0 24.0  .53   3.0
  4. 4 NB Cen  W 4th Depr* 270060.0  289759.0  270043.0  289808.0 *      52.   341. AG    620.  12.6    .0 44.0
  5. 5 NB Cen  W 4th Dept* 270043.0  289808.0  269933.0  290337.0 *     540.   348. AG    620.  12.6    .0 44.0
  6. 6 NB Lt   W 4th Appr* 270099.0  289527.0  270042.0  289755.0 *     235.   346. AG    330.  12.6    .0 44.0
  7. 7 NB LefttNB Queue  * 270049.0  289728.0  270074.4  289622.6 *     108.   166. AG    326. 100.0    .0 24.0  .98   5.5
  8. 8 NB Ramp From W 4th* 270042.0  289755.0  269974.0  289811.0 *      88.   309. AG   1430.  12.6    .0 44.0
  9. 9 NB Ramp From W 4th* 269974.0  289811.0  269755.0  290270.0 *     509.   334. AG   1430.  12.6    .0 44.0
 10. 10 SB CentSB Appr   * 269902.0  290330.0  270023.0  289751.0 *     591.   168. AG    180.  12.6    .0 44.0
 11. 11 SB CentSB Queue  * 270007.0  289828.0  270001.3  289855.0 *      28.   348. AG    315. 100.0    .0 24.0  .45   1.4
 12. 12 SB CentSB Dep    * 270023.0  289751.0  270080.0  289522.0 *     236.   166. AG    180.  12.6    .0 44.0
 13. 13 SB CentSB Dep    * 270080.0  289522.0  270159.0  289159.0 *     371.   168. AG    180.  12.6    .0 44.0
 14. 14 WB W 4tTo Plum   * 270636.0  289880.0  270490.0  289851.0 *     149.   259. AG   1320.  12.6    .0 44.0
 15. 15 WB W 4tFr Plum   * 270490.0  289851.0  270352.0  289819.0 *     142.   257. AG   1320.  12.6    .0 44.0
 16. 16 WB W 4tTo Cent   * 270352.0  289819.0  270042.0  289755.0 *     317.   258. AG   1320.  12.6    .0 56.0
 17. 17 WB W 4tWB Queue  * 270089.0  289764.0  270176.0  289782.8 *      89.    78. AG    312. 100.0    .0 36.0  .69   4.5
 18. 18 WB Off 3rd-SB 75 * 270473.0  289330.0  270387.0  289337.0 *      86.   275. BR   1450.  12.1    .0 32.0
 19. 19 WB Off 3rd-SB 75 * 270387.0  289337.0  270291.0  289353.0 *      97.   279. BR   1450.  12.1    .0 32.0
 20. 20 WB Off 3rd-SB 75 * 270291.0  289353.0  270209.0  289396.0 *      93.   298. BR   1450.  12.1    .0 32.0
 21. 21 WB Off 3rd-SB 75 * 270209.0  289396.0  269996.0  289555.0 *     266.   307. BR   1450.  12.1    .0 28.0
 22. 22 WB Off 3rd-SB 75 * 269996.0  289555.0  269861.0  289614.0 *     147.   294. BR   1450.  12.1    .0 32.0
 23. 23 WB Off 71- SB 75 * 270427.0  289288.0  270271.0  289320.0 *     159.   282. BR    320.  12.1    .0 44.0
 24. 24 WB Off 71- SB 75 * 270271.0  289320.0  270153.0  289385.0 *     135.   299. BR    320.  12.1    .0 44.0
 25. 25 WB Off 71- SB 75 * 270153.0  289385.0  269986.0  289528.0 *     220.   311. BR    320.  12.1    .0 44.0
 26. 26 WB Off 71- SB 75 * 269986.0  289528.0  269861.0  289614.0 *     152.   305. BR    320.  12.1    .0 44.0
 27. 27 WB Off 71- SB 75 * 269861.0  289614.0  269702.0  289652.0 *     163.   283. BR   1770.  12.1    .0 44.0
 28. 28 WB Off 71- SB 75 * 269702.0  289652.0  269576.0  289645.0 *     126.   267. BR   1770.  12.1    .0 44.0
 29. 29 WB Off 71- SB 75 * 269576.0  289645.0  269470.0  289614.0 *     110.   254. BR   1770.  12.1    .0 44.0
1
                                                                     PAGE  2
 JOB: Brent Spence Bridge                          RUN: W 4th & Central Alt I PM
 DATE: 08/31/2010   TIME: 12:15:58.33

  ADDITIONAL QUEUE LINK PARAMETERS
  --------------------------------
   LINK DESCRIPTION     *   CYCLE    RED     CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                        *   LENGTH   TIME    LOST TIME    VOL     FLOW RATE   EM FAC   TYPE     RATE
                        *   (SEC)   (SEC)     (SEC)      (VPH)      (VPH)     (gm/hr)
 ------------------------*---------------------------------------------------------------------------
  3. 3 NB Cent NB Queue  *    70      45       2.0       480       1522      73.30      1        3
  7. 7 NB LefttNB Queue  *    70      58       2.0       330       1474      73.30      1        3
 11. 11 SB CentSB Queue  *    70      56       2.0       180       1420      73.30      1        3
 17. 17 WB W 4tWB Queue  *    70      37       2.0      1320       1535      73.30      1        3

  RECEPTOR LOCATIONS
  ------------------
                        *        COORDINATES (FT)         *
   RECEPTOR             *      X          Y         Z     *
 ------------------------*-------------------------------------*
  1. R1 SE Mid          *   270140.0   289517.0      5.0   *
  2. R2 SE 164          *   270124.0   289585.0      5.0   *
  3. R3 SE 82           *   270105.0   289664.0      5.0   *
  4. R4 SE Corner       *   270088.0   289735.0      5.0   *
  5. R5 SE 82           *   270158.0   289749.0      5.0   *
  6. R6 SE 164          *   270239.0   289766.0      5.0   *
  7. R7 SE Mid          *   270274.0   289773.0      5.0   *
  8. R8 NE Mid          *   270256.0   289830.0      5.0   *
  9. R9 NE 164          *   270223.0   289823.0      5.0   *
 10. R10 NE 82          *   270142.0   289806.0      5.0   *
 11. R11 NE Corner      *   270072.0   289791.0      5.0   *
 12. R12 NE 82          *   270057.0   289862.0      5.0   *
 13. R13 NE 164         *   270040.0   289942.0      5.0   *
 14. R14 NE Mid         *   270034.0   289968.0      5.0   *
 15. R15 NW 164         *   269944.0   290010.0      5.0   *
 16. R16 NW 82          *   269961.0   289930.0      5.0   *
 17. R17 NW Corner      *   269976.0   289859.0      5.0   *
 18. R18 SW Corner      *   270010.0   289716.0      5.0   *
 19. R19 SW 82          *   270028.0   289646.0      5.0   *
 20. R20 SW 164         *   270046.0   289566.0      5.0   *
 21. R21 SW Mid         *   270055.0   289525.0      5.0   *
1
                                                                     PAGE  3
 JOB: Brent Spence Bridge                          RUN: W 4th & Central Alt I PM

  MODEL RESULTS
  -------------

  REMARKS : In search of the angle corresponding to
            the maximum concentration, only the first
            angle, of the angles with same maximum
            concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18
REC19 REC20
 ------*----------------------------------------------------------------------------------------------------------------
   0.  *   .3    .6    .9   1.0   1.3    .5    .5    .0    .0    .0    .1    .1    .1    .2    .2    .3    .4    .9    .9   1.2
   5.  *   .3    .5    .7   1.0   1.3    .5    .5    .0    .0    .0    .1    .1    .1    .1    .3    .3    .4   1.0    .9   1.3
  10.  *   .2    .5    .7   1.1   1.3    .5    .5    .0    .0    .0    .0    .1    .1    .1    .3    .3    .4    .9   1.1   1.2
  15.  *   .2    .3    .6   1.2   1.2    .5    .5    .0    .0    .0    .0    .0    .0    .0    .3    .3    .4   1.0   1.4   1.2
  20.  *   .1    .3    .6   1.2   1.1    .5    .5    .0    .0    .0    .0    .0    .0    .0    .3    .3    .4    .7   1.4   1.2
  25.  *   .1    .3    .6   1.4   1.2    .6    .5    .0    .0    .0    .0    .0    .0    .0    .3    .3    .4    .7   1.5   1.1
  30.  *   .1    .2    .5   1.5   1.1    .6    .6    .0    .0    .0    .0    .0    .0    .0    .3    .3    .3    .8   1.7   1.0
  35.  *   .1    .1    .5   1.5   1.0    .6    .6    .0    .0    .1    .1    .0    .0    .0    .3    .3    .3    .8   1.8    .9
  40.  *   .2    .1    .4   1.6   1.0    .6    .7    .0    .0    .1    .1    .0    .0    .0    .3    .3    .3    .9   1.8    .8
```

45. *	.1	.2	.3	1.6	1.0	.7	.7	.0	.1	.1	.1	.0	.0	.0	.3	.3	.3	1.1	1.8	.5
50. *	.0	.2	.2	1.6	1.0	.7	.8	.1	.1	.1	.1	.0	.0	.0	.3	.3	.3	1.2	1.8	.5
55. *	.0	.1	.3	1.7	.9	.7	.8	.1	.1	.1	.1	.0	.0	.0	.3	.3	.3	1.4	1.6	.4
60. *	.0	.0	.2	1.6	.9	.9	.8	.1	.1	.1	.2	.0	.0	.0	.3	.3	.3	1.4	1.5	.3
65. *	.0	.0	.2	1.6	.9	.9	.9	.2	.3	.2	.3	.0	.0	.0	.3	.3	.3	1.4	1.5	.3
70. *	.0	.0	.2	1.4	.9	.8	.7	.4	.3	.4	.4	.0	.0	.0	.3	.3	.3	1.6	1.2	.3
75. *	.0	.0	.0	1.2	.8	.8	.7	.6	.5	.5	.8	.0	.0	.0	.3	.3	.4	1.8	1.2	.3
80. *	.0	.0	.0	.9	.7	.6	.6	.6	.7	.7	1.0	.0	.0	.0	.3	.3	.4	1.5	1.1	.3
85. *	.0	.0	.0	.6	.4	.5	.4	.7	.8	.9	1.3	.2	.0	.0	.3	.3	.6	1.5	1.0	.3
90. *	.0	.0	.0	.4	.2	.3	.3	.8	.9	.9	1.5	.2	.0	.0	.3	.3	.7	1.5	.9	.3
95. *	.0	.0	.0	.2	.2	.1	.1	.8	.9	1.0	1.5	.2	.0	.0	.3	.3	.9	1.3	.9	.3
100. *	.0	.0	.0	.1	.1	.1	.1	.7	.7	1.0	1.6	.3	.1	.0	.3	.4	1.1	1.4	.9	.3
105. *	.0	.0	.0	.1	.1	.1	.1	.7	.7	1.0	1.5	.2	.2	.1	.3	.4	1.2	1.3	.8	.3
110. *	.0	.0	.0	.1	.1	.1	.1	.7	.7	1.1	1.6	.3	.2	.2	.4	.4	1.4	1.3	.8	.4
115. *	.0	.0	.0	.1	.1	.1	.1	.7	.6	1.1	1.6	.4	.1	.2	.4	.5	1.3	1.3	.7	.4
120. *	.1	.0	.0	.1	.1	.1	.1	.6	.6	1.1	1.4	.5	.1	.1	.4	.6	1.4	1.2	.6	.5
125. *	.2	.0	.0	.1	.1	.1	.1	.6	.6	1.2	1.4	.5	.2	.1	.4	.6	1.5	1.2	.6	.6
130. *	.2	.0	.0	.0	.0	.0	.0	.6	.6	1.2	1.3	.6	.3	.1	.5	.6	1.5	1.1	.5	.7
135. *	.3	.1	.0	.0	.0	.0	.0	.5	.5	1.2	1.3	.6	.3	.3	.5	.7	1.6	1.0	.6	.8
140. *	.3	.2	.0	.0	.0	.0	.0	.5	.5	1.2	1.1	.6	.3	.3	.5	.7	1.6	1.1	.6	.8
145. *	.3	.3	.1	.1	.0	.0	.0	.5	.5	1.3	1.0	.6	.4	.3	.5	.8	1.7	1.0	.6	.8
150. *	.4	.4	.2	.1	.0	.0	.0	.5	.5	1.3	1.2	.6	.5	.3	.6	1.0	1.6	.9	.6	1.0
155. *	.4	.4	.4	.3	.0	.0	.0	.5	.5	1.3	1.2	.8	.5	.3	.8	1.0	1.8	.9	.6	1.0
160. *	.6	.6	.4	.5	.0	.0	.0	.5	.5	1.4	1.4	.9	.6	.4	.8	1.2	1.7	.7	.5	1.0
165. *	.5	.5	.4	.7	.0	.0	.0	.5	.5	1.4	1.6	1.2	.8	.7	.8	.9	1.4	.5	.4	.8
170. *	.6	.7	.5	1.0	.2	.0	.0	.5	.5	1.6	1.9	1.2	1.0	1.1	.6	.8	1.0	.5	.4	.7
175. *	.7	.7	.8	1.2	.2	.0	.0	.5	.5	1.6	1.8	1.3	1.0	.9	.5	.8	1.1	.2	.4	.6
180. *	.7	.7	.8	1.4	.2	.0	.0	.5	.5	1.6	1.9	1.3	.9	.8	.3	.6	.9	.2	.2	.5
185. *	.8	.8	.7	1.6	.2	.2	.0	.6	.7	1.8	1.9	1.1	.7	.7	.4	.7	.8	.2	.2	.5
190. *	.9	.7	.8	1.7	.3	.2	.1	.7	.7	1.9	1.8	1.1	.7	.9	.4	.6	.9	.2	.3	.5
195. *	.9	.7	.8	1.8	.3	.2	.2	.7	.7	1.9	1.9	.8	.7	.7	.5	.7	.8	.1	.2	.5
200. *	.9	.7	.7	2.0	.3	.2	.2	.7	.7	2.0	1.7	.8	.8	.8	.5	.6	.9	.1	.2	.5
205. *	.9	.6	.7	2.2	.3	.2	.2	.7	.9	2.2	1.5	.6	.8	.8	.5	.6	.8	.2	.2	.5

1

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	.9	.6	.7	2.0	.6	.1	.2	.7	1.0	2.4	1.3	.6	.8	.8	.5	.6	.7	.2	.3	.5
215. *	.9	.6	.8	1.9	.7	.2	.2	.9	1.2	2.3	1.2	.8	.9	.7	.5	.6	.7	.2	.2	.5
220. *	.7	.5	.9	1.9	.9	.4	.2	.9	1.2	2.2	1.2	.7	.7	.6	.5	.6	.7	.1	.2	.5
225. *	.7	.5	1.0	1.8	.9	.4	.3	1.1	1.6	1.9	1.3	.7	.6	.6	.4	.7	.7	.2	.2	.5
230. *	.7	.5	1.1	1.8	.9	.4	.3	1.2	1.6	1.8	1.1	.8	.6	.5	.4	.6	.8	.2	.2	.4
235. *	.7	.5	1.0	1.8	.9	.6	.3	1.3	1.5	1.8	1.0	.8	.4	.4	.4	.6	.8	.2	.2	.5
240. *	.7	.5	1.0	1.8	1.0	.6	.4	1.2	1.5	1.5	1.1	.9	.4	.4	.4	.5	.7	.2	.2	.4
245. *	.7	.6	1.1	1.7	1.1	.9	.6	1.3	1.6	1.3	1.1	1.0	.4	.4	.4	.5	.7	.2	.3	.4
250. *	.7	.6	1.2	1.5	1.1	1.0	.7	1.3	1.3	1.1	1.1	.9	.5	.5	.4	.5	.6	.3	.3	.6
255. *	.7	.5	1.2	1.5	1.0	.9	.9	1.0	1.1	1.0	1.1	.8	.5	.5	.4	.5	.6	.3	.3	.6
260. *	.7	.5	1.2	1.3	1.2	1.2	1.3	.8	.8	.7	.9	.8	.5	.5	.4	.5	.6	.2	.4	.6
265. *	.6	.7	1.4	1.4	1.3	1.3	1.2	.6	.7	.7	.8	.8	.5	.5	.4	.5	.6	.2	.4	.7
270. *	.7	.6	1.3	1.1	1.3	1.3	1.1	.5	.5	.8	.9	.7	.4	.4	.4	.5	.6	.2	.4	.7
275. *	.8	.6	1.3	.9	1.3	1.4	1.3	.2	.4	.5	.9	.6	.4	.4	.4	.5	.6	.0	.3	.8
280. *	.7	.5	1.4	1.0	1.7	1.4	1.2	.3	.3	.5	.7	.6	.4	.4	.4	.5	.6	.0	.2	.9
285. *	.9	.6	1.3	1.0	1.8	1.3	1.0	.3	.3	.6	.9	.6	.5	.5	.4	.5	.7	.0	.1	.7
290. *	.9	.6	1.4	1.2	1.8	1.2	1.0	.3	.3	.5	.8	.6	.6	.5	.4	.5	.7	.0	.0	.6
295. *	.7	.5	1.5	1.2	2.1	1.2	1.0	.3	.4	.5	.8	.6	.6	.5	.4	.6	.8	.0	.0	.3
300. *	.6	.6	1.6	1.3	2.1	1.1	.9	.2	.2	.5	1.0	.7	.7	.6	.4	.6	.8	.0	.0	.2
305. *	.4	.8	1.8	1.4	2.1	.9	.8	.2	.2	.3	1.1	.7	.6	.6	.4	.6	.9	.0	.0	.2
310. *	.6	.9	1.8	1.4	2.0	.9	.8	.2	.2	.3	1.0	.7	.6	.6	.4	.6	.9	.1	.0	.0
315. *	.7	1.2	2.1	1.7	1.7	.7	.7	.2	.2	.3	1.0	.7	.6	.6	.4	.6	1.0	.1	.0	.0
320. *	.8	1.2	2.0	1.5	1.7	.7	.7	.1	.2	.2	.8	.7	.7	.6	.3	.6	1.0	.3	.1	.0
325. *	.9	1.3	1.9	1.4	1.6	.6	.6	.0	.1	.2	.9	.7	.6	.6	.3	.5	1.0	.4	.2	.1
330. *	1.0	1.6	2.0	1.4	1.6	.6	.5	.0	.1	.2	.8	.6	.6	.6	.2	.4	.9	.6	.3	.1
335. *	1.2	1.5	1.8	1.5	1.5	.5	.5	.0	.0	.1	.6	.6	.4	.4	.1	.3	.8	.6	.4	.3
340. *	1.1	1.4	1.4	1.1	1.5	.5	.5	.0	.0	.1	.5	.4	.4	.4	.2	.3	.7	1.0	.6	.5
345. *	1.0	1.2	1.1	1.3	1.5	.5	.5	.0	.0	.1	.4	.4	.4	.4	.1	.3	.7	1.0	.6	.6
350. *	.7	.7	.9	1.2	1.5	.6	.6	.0	.0	.0	.4	.3	.3	.3	.2	.3	.5	1.0	.9	.8
355. *	.5	.9	.7	1.1	1.4	.5	.5	.0	.0	.0	.2	.2	.2	.2	.2	.2	.4	1.0	.9	1.0
360. *	.3	.6	.9	1.0	1.3	.5	.5	.0	.0	.0	.1	.1	.1	.2	.2	.3	.4	.9	.9	1.2
MAX *	1.2	1.6	2.1	2.2	2.1	1.4	1.3	1.3	1.6	2.4	1.9	1.3	1.0	1.1	.8	1.2	1.8	1.8	1.8	1.3
DEGR. *	335	330	315	205	295	275	260	235	225	210	170	175	170	170	155	160	155	75	35	5

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21
0. *	1.2
5. *	1.1
10. *	1.0

```
 15.  *   1.0
 20.  *    .8
 25.  *    .6
 30.  *    .6
 35.  *    .5
 40.  *    .4
 45.  *    .4
 50.  *    .4
 55.  *    .3
 60.  *    .4
 65.  *    .4
 70.  *    .4
 75.  *    .5
 80.  *    .5
 85.  *    .5
 90.  *    .2
 95.  *    .4
100.  *    .4
105.  *    .5
110.  *    .8
115.  *   1.0
120.  *   1.3
125.  *   1.5
130.  *   1.6
135.  *   1.6
140.  *   1.7
145.  *   1.6
150.  *   1.6
155.  *   1.4
160.  *   1.3
165.  *   1.2
170.  *   1.1
175.  *   1.0
180.  *    .8
185.  *    .8
190.  *    .8
195.  *    .7
200.  *    .7
205.  *    .7
1
                                                  PAGE  6
  JOB: Brent Spence Bridge                 RUN: W 4th & Central Alt I PM

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21
 ------*------
210.  *    .7
215.  *    .7
220.  *    .7
225.  *    .7
230.  *    .7
235.  *    .7
240.  *    .7
245.  *    .8
250.  *    .8
255.  *    .8
260.  *    .8
265.  *   1.0
270.  *   1.1
275.  *   1.3
280.  *   1.4
285.  *   1.5
290.  *   1.5
295.  *   1.4
300.  *   1.3
305.  *   1.2
310.  *   1.0
315.  *    .8
320.  *    .5
325.  *    .5
330.  *    .4
335.  *    .3
340.  *    .7
345.  *    .8
350.  *    .9
355.  *   1.2
360.  *   1.2
 ------*------
 MAX   *   1.7
 DEGR. *  140

 THE HIGHEST CONCENTRATION IS    2.40 PPM AT  210 DEGREES FROM REC10.
 THE 2ND HIGHEST CONCENTRATION IS    2.20 PPM AT  205 DEGREES FROM REC4 .
 THE 3RD HIGHEST CONCENTRATION IS    2.10 PPM AT  315 DEGREES FROM REC3 .
1
                                                  PAGE  7
  JOB: Brent Spence Bridge                 RUN: W 4th & Central Alt I PM
  DATE: 08/31/2010   TIME: 12:15:58.33


  RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
  THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

      *    CO/LINK  (PPM)
      *    ANGLE (DEGREES)
```

LINK #	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	335	330	315	205	295	275	260	235	225	210	170	175	170	170	155	160	155	75	35	5
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.1	.0	.0	.0
2	.3	.3	.3	.3	.0	.0	.0	.0	.1	.1	.2	.1	.1	.1	.0	.1	.1	.1	.1	.1
3	.1	.2	.7	.8	.0	.0	.1	.1	.1	.2	.3	.1	.1	.1	.0	.1	.1	.2	.3	.1
4	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
5	.1	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1	.2	.3	.1	.0	.0	.0	.0	.1
6	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1
7	.3	.5	.5	.7	.0	.0	.1	.1	.2	.3	.3	.2	.1	.1	.1	.1	.2	.4	.7	.5
8	.1	.1	.2	.0	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.2	.4	.0	.0	.1
9	.1	.2	.2	.0	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.3	.0	.0	.0
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0
11	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.0	.0	.0
12	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
13	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
16	.1	.1	.1	.0	.6	.7	.6	.7	.7	.6	.6	.2	.1	.1	.1	.1	.1	.5	.3	.1
17	.0	.0	.0	.0	.9	.5	.3	.3	.4	.9	.1	.1	.1	.1	.1	.0	.0	.3	.2	.1
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.1	.1	.0	.0	.0
22	.0	.0	.0	.1	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

1

JOB: Brent Spence Bridge RUN: W 4th & Central Alt I PM
DATE: 08/31/2010 TIME: 12:15:58.33

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC21
	140
1	.3
2	.0
3	.0
4	.0
5	.0
6	.0
7	.0
8	.0
9	.0
10	.0
11	.0
12	.0
13	.1
14	.0
15	.0
16	.0
17	.0
18	.0
19	.0
20	.1
21	1.1
22	.0
23	.0
24	.0
25	.1
26	.0
27	.0
28	.0
29	.0

1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000

JOB: Brent Spence Bridge RUN: W 4th & Central No Bld AM
DATE: 08/31/2010 TIME: 10:52:41.98

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 1 NB Cent McF Appr	270186.0	289164.0	270108.0	289529.0	373.	348.	AG	370.	12.6	.0	44.0		
2. 2 NB Thr W 4th Appr	270117.0	289531.0	270060.0	289759.0	235.	346.	AG	270.	12.6	.0	44.0		
3. 3 NB Cent NB Queue	270067.0	289730.0	270073.0	289706.4	24.	166.	AG	216.	100.0	.0	24.0	.23	1.2
4. 4 NB Cen W 4th Depr	270060.0	289759.0	270043.0	289808.0	52.	341.	AG	340.	12.6	.0	44.0		
5. 5 NB Cen W 4th Dept	270043.0	289808.0	269933.0	290337.0	540.	348.	AG	340.	12.6	.0	44.0		
6. 6 NB Lt W 4th Appr	270099.0	289527.0	270042.0	289755.0	235.	346.	AG	100.	12.6	.0	44.0		

```
 7. 7 NB LefttNB Queue  * 270049.0  289728.0  270063.0  289670.0 *     60.   166. AG    354. 100.0    .0 24.0 1.02   3.0
 8. 8 NB Ramp From W 4th* 270042.0  289755.0  269974.0  289811.0 *     88.   309. AG    290.  12.6    .0 44.0
 9. 9 NB Ramp From W 4th* 269974.0  289811.0  269755.0  290270.0 *    509.   334. AG    290.  12.6    .0 44.0
10. 10 SB CentSB Appr   * 269902.0  290330.0  270023.0  289751.0 *    591.   168. AG    130.  12.6    .0 44.0
11. 11 SB CentSB Queue  *  27007.2   89828.2   27021.4   89828.2 *     14.    89. AG    262. 100.0    .0 24.0  .16    .7
12. 12 SB CentSB Dep    * 270023.0  289751.0  270080.0  289522.0 *    236.   166. AG    280.  12.6    .0 44.0
13. 13 SB CentSB Dep    * 270080.0  289522.0  270159.0  289159.0 *    371.   168. AG    280.  12.6    .0 44.0
14. 14 WB W 4tTo Plum   * 270636.0  289880.0  270490.0  289851.0 *    149.   259. AG    410.  12.6    .0 44.0
15. 15 WB W 4tFr Plum   * 270490.0  289851.0  270352.0  289819.0 *    142.   257. AG    410.  12.6    .0 44.0
16. 16 WB W 4tTo Cent   * 270352.0  289819.0  270042.0  289755.0 *    317.   258. AG    410.  12.6    .0 56.0
17. 17 WB W 4tWB Queue  * 270089.0  289764.0  270117.3  289770.1 *     29.    78. AG    383. 100.0    .0 36.0  .32   1.5
18. 18 WB Off 3rd-SB 75 * 270473.0  289330.0  270387.0  289337.0 *     86.   275. BR    260.  12.1    .0 32.0
19. 19 WB Off 3rd-SB 75 * 270387.0  289337.0  270291.0  289353.0 *     97.   279. BR    260.  12.1    .0 32.0
20. 20 WB Off 3rd-SB 75 * 270291.0  289353.0  270209.0  289396.0 *     93.   298. BR    260.  12.1    .0 32.0
21. 21 WB Off 3rd-SB 75 * 270209.0  289396.0  269996.0  289555.0 *    266.   307. BR    260.  12.1    .0 28.0
22. 22 WB Off 3rd-SB 75 * 269996.0  289555.0  269861.0  289614.0 *    147.   294. BR    260.  12.1    .0 32.0
23. 23 WB Off 71- SB 75 * 270427.0  289288.0  270271.0  289320.0 *    159.   282. BR   2420.  12.1    .0 44.0
24. 24 WB Off 71- SB 75 * 270271.0  289320.0  270153.0  289385.0 *    135.   299. BR   2420.  12.1    .0 44.0
25. 25 WB Off 71- SB 75 * 270153.0  289385.0  269986.0  289528.0 *    220.   311. BR   2420.  12.1    .0 44.0
26. 26 WB Off 71- SB 75 * 269986.0  289528.0  269861.0  289614.0 *    152.   305. BR   2420.  12.1    .0 44.0
27. 27 WB Off 71- SB 75 * 269861.0  289614.0  269702.0  289652.0 *    163.   283. BR   2680.  12.1    .0 44.0
28. 28 WB Off 71- SB 75 * 269702.0  289652.0  269576.0  289645.0 *    126.   267. BR   2680.  12.1    .0 44.0
29. 29 WB Off 71- SB 75 * 269576.0  289645.0  269470.0  289614.0 *    110.   254. BR   2680.  12.1    .0 44.0
30. 30 WB Off WB 71- 6th* 270360.0  289236.0  270239.0  289258.0 *    123.   280. BR   2850.  12.1    .0 44.0
31. 31 WB Off WB 71- 6th* 270239.0  289258.0  270109.0  289317.0 *    143.   294. BR   2850.  12.1    .0 44.0
32. 32 WB Off WB 71- 6th* 270109.0  289317.0  270024.0  289390.0 *    112.   311. BR   2850.  12.1    .0 44.0
33. 33 WB Off WB 71- 6th* 270024.0  289390.0  269967.0  289470.0 *     98.   325. BR   2850.  12.1    .0 44.0
34. 34 WB Off WB 71- 6th* 269967.0  289470.0  269923.0  289566.0 *    106.   335. BR   2850.  12.1    .0 44.0
35. 35 WB Off WB 71- 6th* 269923.0  289566.0  269895.0  289698.0 *    135.   348. BR   2850.  12.1    .0 44.0
36. 36 WB Off WB 71- 75 * 269895.0  289698.0  269888.0  289755.0 *     57.   353. AG   1910.  12.1    .0 32.0
37. 37 WB Off WB 71- 75 * 269888.0  289755.0  269844.0  289970.0 *    219.   348. AG   1910.  12.1    .0 32.0
38. 38 WB Off WB 71- 75 * 269844.0  289970.0  269818.0  290061.0 *     95.   344. AG   1910.  12.1    .0 32.0
39. 39 WB Off WB 71- 75 * 269818.0  290061.0  269729.0  290257.0 *    215.   336. AG   1910.  12.1    .0 32.0
40. 40 WB Off WB 71-6th * 269895.0  289698.0  269874.0  289754.0 *     60.   339. AG    940.  12.1    .0 32.0
41. 41 WB Off WB 71-6th * 269874.0  289754.0  269831.0  289896.0 *    148.   343. AG    940.  12.1    .0 32.0
42. 42 WB Off WB 71-6th * 269831.0  289896.0  269791.0  289993.0 *    105.   338. AG    940.  12.1    .0 32.0
43. 43 WB Off WB 71-6th * 269791.0  289993.0  269680.0  290221.0 *    254.   334. AG    940.  12.1    .0 32.0
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ADDITIONAL QUEUE LINK PARAMETERS

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  LINK DESCRIPTION     *   CYCLE    RED     CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                       *   LENGTH   TIME    LOST TIME    VOL     FLOW RATE   EM FAC   TYPE     RATE
                       *   (SEC)    (SEC)     (SEC)     (VPH)      (VPH)     (gm/hr)
-----------------------*--------------------------------------------------------------------------------
 3. 3 NB Cent NB Queue  *    60      33       2.0       270       1522      73.30      1        3
 7. 7 NB LefttNB Queue  *    60      54       2.0       100       1474      73.30      1        3
11. 11 SB CentSB Queue  *    60      40       2.0       130       1522      73.30      1        3
17. 17 WB W 4tWB Queue  *    60      39       2.0       410       1487      73.30      1        3
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RECEPTOR LOCATIONS

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                        *       COORDINATES (FT)        *
  RECEPTOR              *      X          Y         Z   *
------------------------*-----------------------------------*
 1. R1 SE Mid           *   270140.0   289517.0      5.0   *
 2. R2 SE 164           *   270124.0   289585.0      5.0   *
 3. R3 SE 82            *   270105.0   289664.0      5.0   *
 4. R4 SE Corner        *   270088.0   289735.0      5.0   *
 5. R5 SE 82            *   270158.0   289749.0      5.0   *
 6. R6 SE 164           *   270239.0   289766.0      5.0   *
 7. R7 SE Mid           *   270274.0   289773.0      5.0   *
 8. R8 NE Mid           *   270256.0   289830.0      5.0   *
 9. R9 NE 164           *   270223.0   289823.0      5.0   *
10. R10 NE 82           *   270142.0   289806.0      5.0   *
11. R11 NE Corner       *   270072.0   289791.0      5.0   *
12. R12 NE 82           *   270057.0   289862.0      5.0   *
13. R13 NE 164          *   270040.0   289942.0      5.0   *
14. R14 NE Mid          *   270034.0   289968.0      5.0   *
15. R15 NW 164          *   269944.0   290010.0      5.0   *
16. R16 NW 82           *   269961.0   289930.0      5.0   *
17. R17 NW Corner       *   269976.0   289859.0      5.0   *
18. R18 SW Corner       *   270010.0   289716.0      5.0   *
19. R19 SW 82           *   270028.0   289646.0      5.0   *
20. R20 SW 164          *   270046.0   289566.0      5.0   *
21. R21 SW Mid          *   270055.0   289525.0      5.0   *
22. R22 Near CD         *   269775.0   289723.0      5.0   *
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MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

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WIND  * CONCENTRATION
ANGLE *      (PPM)
(DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18
REC19 REC20
```

0. *	.1	.2	.4	.7	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.2	.4	.5	.4
5. *	.0	.1	.3	.8	.2	.2	.2	.0	.0	.0	.0	.1	.1	.1	.2	.2	.2	.4	.6	.5
10. *	.0	.1	.3	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.4	.7	.6
15. *	.0	.1	.2	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	1.0	.6
20. *	.0	.1	.2	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	1.2	.5
25. *	.0	.1	.2	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	1.1	.5
30. *	.0	.0	.1	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.4	1.1	.4
35. *	.0	.0	.1	.9	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.4	1.1	.3
40. *	.0	.0	.1	.8	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.4	1.1	.2
45. *	.0	.0	.1	.8	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	1.0	.2
50. *	.0	.0	.1	.7	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.5	.9	.2
55. *	.0	.0	.1	.6	.2	.2	.3	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.5	.7	.2
60. *	.0	.0	.0	.6	.2	.2	.3	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.9	.6	.2
65. *	.0	.0	.0	.5	.2	.3	.2	.0	.0	.1	.1	.0	.0	.0	.2	.2	.2	.9	.4	.2
70. *	.0	.0	.0	.4	.2	.3	.2	.1	.1	.1	.1	.0	.0	.0	.2	.2	.2	1.0	.4	.2
75. *	.0	.0	.0	.3	.2	.2	.2	.1	.1	.1	.2	.0	.0	.0	.2	.2	.2	.9	.3	.2
80. *	.0	.0	.0	.3	.1	.1	.2	.2	.1	.2	.3	.0	.0	.0	.2	.2	.2	1.1	.2	.2
85. *	.0	.0	.0	.1	.1	.1	.1	.2	.3	.2	.4	.0	.0	.0	.2	.2	.2	1.1	.2	.2
90. *	.0	.0	.0	.1	.1	.1	.0	.2	.3	.2	.4	.0	.0	.0	.2	.2	.2	1.1	.2	.2
95. *	.0	.0	.0	.1	.0	.0	.0	.3	.2	.2	.5	.0	.0	.0	.2	.2	.2	1.1	.2	.2
100. *	.0	.0	.0	.0	.0	.0	.0	.3	.2	.2	.6	.1	.0	.0	.2	.2	.3	1.0	.2	.2
105. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.7	.1	.0	.0	.2	.2	.3	1.0	.2	.2
110. *	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.7	.1	.0	.0	.2	.2	.4	1.0	.2	.1
115. *	.1	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	.1	.0	.0	.2	.2	.4	1.0	.2	.2
120. *	.1	.0	.0	.0	.0	.0	.0	.2	.2	.2	.8	.1	.0	.0	.2	.2	.4	.8	.2	.2
125. *	.1	.1	.0	.0	.0	.0	.0	.2	.2	.2	.9	.1	.0	.0	.2	.3	.4	.7	.3	.4
130. *	.4	.1	.0	.0	.0	.0	.0	.2	.2	.2	.9	.2	.1	.0	.2	.4	.4	.9	.4	.6
135. *	.4	.1	.1	.0	.0	.0	.0	.2	.2	.2	.9	.2	.1	.0	.2	.3	.4	.8	.6	.9
140. *	.5	.3	.1	.1	.0	.0	.0	.2	.2	.2	.8	.2	.1	.0	.2	.3	.3	.9	.7	1.1
145. *	.5	.3	.3	.1	.1	.0	.0	.2	.2	.2	.9	.3	.1	.0	.2	.4	.4	1.0	.8	1.2
150. *	.6	.5	.4	.4	.1	.0	.0	.2	.2	.3	.8	.4	.1	.1	.2	.3	.5	.8	.9	1.4
155. *	.7	.5	.5	.5	.2	.1	.0	.2	.2	.3	1.0	.4	.1	.2	.4	.3	.9	.8	1.1	1.4
160. *	.9	.8	.6	.6	.3	.1	.1	.3	.3	.5	1.4	.7	.2	.2	.3	.4	.8	.8	.9	1.3
165. *	.9	.8	.6	.5	.4	.2	.1	.3	.3	.6	1.1	.8	.6	.4	.3	.4	.7	.8	1.0	1.4
170. *	1.0	.7	.7	.7	.4	.3	.2	.4	.5	.6	1.2	.9	.5	.5	.4	.8	.8	.7	.8	1.3
175. *	1.2	.9	.8	1.0	.3	.4	.2	.5	.6	.5	1.3	1.1	.4	.4	.5	.6	.8	.7	.8	1.2
180. *	1.1	.9	.9	.9	.4	.4	.4	.6	.4	.6	1.4	1.1	.6	.5	.6	.6	.7	.7	.8	1.1
185. *	1.2	.9	1.0	1.1	.4	.2	.3	.4	.5	.5	1.4	1.0	.8	.8	.5	.5	.7	.7	.8	1.0
190. *	1.2	.9	.7	1.2	.4	.3	.2	.5	.6	.7	1.6	.7	.8	.6	.7	.8	.6	.6	.8	1.1
195. *	1.1	.9	.8	1.4	.4	.4	.3	.6	.5	.9	1.4	.7	.5	.5	.7	.8	.6	.7	.7	1.0
200. *	1.2	.9	.8	1.5	.4	.3	.4	.4	.4	1.0	1.3	.5	.5	.6	.6	.6	.7	.7	.8	1.0
205. *	1.1	.8	.8	1.5	.5	.3	.2	.5	.5	1.1	1.3	.5	.6	.6	.6	.7	.6	.7	.7	1.0

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	1.2	.7	.7	1.7	.5	.3	.3	.5	.5	1.4	.9	.6	.7	.7	.7	.7	.8	.8	.8	1.0
215. *	1.1	.7	.7	2.0	.6	.2	.3	.5	.7	1.4	.9	.5	.6	.5	.7	.7	.7	.7	.8	1.1
220. *	1.1	.7	.7	1.9	.6	.4	.3	.6	.7	1.3	1.0	.6	.6	.5	.7	.7	.8	.9	.7	1.1
225. *	1.1	.8	.8	1.9	.6	.4	.4	.7	.8	1.3	.8	.5	.5	.6	.8	.7	.8	.8	.7	1.0
230. *	1.0	.8	.8	2.0	.6	.4	.3	.6	.7	1.4	.7	.5	.6	.6	.7	.8	.7	.7	.8	1.1
235. *	1.1	.9	.7	2.0	.8	.4	.5	.8	.8	1.1	.9	.6	.6	.5	.5	.7	.7	.8	.8	1.1
240. *	1.0	.8	.7	1.7	1.0	.5	.4	.7	.7	1.1	.9	.5	.5	.5	.5	.7	.8	.7	.8	1.0
245. *	1.0	.9	.8	1.7	.9	.5	.6	.7	.7	.9	.9	.6	.4	.4	.5	.5	.7	.9	.8	1.1
250. *	1.0	.8	.8	1.7	1.0	.6	.5	.6	.7	.8	.8	.5	.4	.3	.5	.5	.7	.8	.9	1.0
255. *	1.1	.8	.8	1.6	.8	.7	.6	.5	.6	.8	1.0	.4	.3	.4	.5	.6	.5	.8	.9	1.1
260. *	1.1	1.0	1.0	1.5	1.0	.7	.6	.4	.4	.5	.7	.4	.3	.4	.5	.5	.5	.8	1.1	1.1
265. *	1.1	1.0	1.2	1.2	.9	.7	.7	.2	.3	.3	.5	.5	.4	.4	.5	.5	.5	.7	1.0	1.2
270. *	1.1	1.0	1.0	1.2	.9	.4	.4	.2	.2	.3	.4	.5	.4	.4	.4	.5	.5	.6	1.0	1.2
275. *	1.1	1.0	1.0	.7	.8	.4	.4	.1	.1	.2	.5	.5	.4	.3	.4	.5	.5	.6	.9	1.5
280. *	1.1	.9	1.0	.7	.7	.4	.4	.1	.1	.1	.5	.4	.3	.3	.5	.5	.5	.4	.6	1.4
285. *	1.2	.7	1.0	.6	.7	.4	.3	.1	.1	.1	.5	.4	.5	.4	.5	.5	.6	.4	.6	1.2
290. *	1.0	.6	1.0	.6	.7	.4	.3	.1	.1	.2	.4	.4	.5	.4	.5	.5	.5	.5	.4	1.1
295. *	.9	.5	1.1	.6	.7	.3	.3	.0	.1	.2	.5	.5	.6	.5	.5	.5	.6	.4	.5	.9
300. *	.7	.5	1.1	.7	.7	.3	.2	.1	.1	.3	.5	.7	.6	.5	.5	.6	.6	.4	.4	.6
305. *	.7	.6	1.1	.6	.6	.3	.3	.1	.1	.4	.5	.7	.6	.5	.6	.5	.7	.4	.5	.6
310. *	.4	.5	1.1	.6	.7	.3	.3	.1	.1	.2	.7	.6	.3	.3	.5	.5	.8	.4	.4	.5
315. *	.4	.6	.9	.9	.6	.3	.2	.0	.1	.2	.7	.6	.3	.3	.3	.5	.6	.4	.4	.4
320. *	.5	.6	1.1	.9	.5	.2	.2	.0	.0	.2	.5	.3	.3	.3	.3	.5	.6	.4	.4	.4
325. *	.4	.7	1.0	.7	.5	.2	.2	.0	.0	.2	.5	.3	.3	.2	.2	.4	.5	.6	.4	.4
330. *	.4	.6	.7	.6	.3	.2	.2	.0	.0	.1	.4	.3	.2	.2	.1	.2	.4	.4	.3	.2
335. *	.4	.5	.8	.6	.3	.2	.2	.0	.0	.1	.3	.2	.2	.2	.0	.2	.4	.4	.4	.3
340. *	.2	.6	.6	.6	.2	.2	.2	.0	.0	.0	.3	.2	.2	.2	.0	.1	.2	.4	.4	.4
345. *	.2	.3	.6	.7	.2	.2	.2	.0	.0	.0	.2	.2	.2	.2	.1	.1	.2	.4	.1	.3
350. *	.3	.3	.6	.6	.2	.2	.2	.0	.0	.0	.1	.2	.2	.2	.1	.2	.3	.5	.3	.2
355. *	.2	.2	.4	.7	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.2	.4	.3	.4
360. *	.1	.2	.4	.7	.2	.2	.2	.0	.0	.0	.1	.1	.1	.1	.2	.2	.2	.4	.5	.4
MAX *	1.2	1.0	1.2	2.0	1.0	.7	.7	.8	.8	1.4	1.6	1.1	.8	.8	.8	.8	.9	1.1	1.2	1.5
DEGR. *	285	270	265	215	240	255	265	235	225	210	190	175	185	185	225	170	155	80	20	275

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22
0.	*	.4	.4
5.	*	.6	.5
10.	*	.5	.5
15.	*	.5	.6
20.	*	.4	.4
25.	*	.2	.3
30.	*	.2	.4
35.	*	.2	.4
40.	*	.2	.4
45.	*	.2	.4
50.	*	.2	.4
55.	*	.2	.3
60.	*	.2	.3
65.	*	.2	.4
70.	*	.2	.5
75.	*	.1	.4
80.	*	.1	.4
85.	*	.1	.6
90.	*	.2	.5
95.	*	.3	.5
100.	*	.3	.5
105.	*	.3	.6
110.	*	.4	.5
115.	*	.5	.7
120.	*	.6	.8
125.	*	.8	1.0
130.	*	1.0	1.3
135.	*	1.2	1.6
140.	*	1.3	1.4
145.	*	1.7	1.4
150.	*	1.8	1.1
155.	*	1.8	.8
160.	*	1.8	.7
165.	*	1.6	.5
170.	*	1.4	.5
175.	*	1.5	.5
180.	*	1.4	.5
185.	*	1.4	.5
190.	*	1.3	.5
195.	*	1.3	.5
200.	*	1.2	.5
205.	*	1.3	.6

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WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22
210.	*	1.2	.5
215.	*	1.2	.6
220.	*	1.3	.5
225.	*	1.3	.6
230.	*	1.2	.6
235.	*	1.3	.7
240.	*	1.3	.6
245.	*	1.3	.7
250.	*	1.4	.5
255.	*	1.4	.5
260.	*	1.3	.3
265.	*	1.4	.2
270.	*	1.6	.2
275.	*	1.9	.0
280.	*	1.9	.0
285.	*	2.0	.0
290.	*	1.8	.0
295.	*	1.7	.0
300.	*	1.4	.0
305.	*	1.0	.0
310.	*	.7	.0
315.	*	.7	.0
320.	*	.6	.0
325.	*	.5	.0
330.	*	.2	.0
335.	*	.4	.0
340.	*	.3	.0
345.	*	.3	.1
350.	*	.2	.2
355.	*	.3	.2
360.	*	.4	.4
MAX	*	2.0	1.6
DEGR.	*	285	135

THE HIGHEST CONCENTRATION IS 2.00 PPM AT 285 DEGREES FROM REC21.
THE 2ND HIGHEST CONCENTRATION IS 2.00 PPM AT 215 DEGREES FROM REC4 .
THE 3RD HIGHEST CONCENTRATION IS 1.60 PPM AT 190 DEGREES FROM REC11.

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JOB: Brent Spence Bridge RUN: W 4th & Central No Bld AM
DATE: 08/31/2010 TIME: 10:52:41.98

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	285	270	265	215	240	255	265	235	225	210	190	175	185	185	225	170	155	80	20	275
1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.0	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1	.0
3	.0	.0	.0	.5	.1	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.2	.1	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.0	.0	.2	.7	.3	.1	.1	.1	.1	.2	.4	.2	.1	.1	.0	.1	.2	.5	.6	.0
8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	.1	.2	.0
13	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.1	.0	.0	.0	.0	.0	.1	.1	.0
17	.0	.0	.0	.0	.0	.1	.1	.1	.1	.4	.0	.1	.0	.0	.0	.0	.0	.1	.1	.0
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
25	.1	.0	.0	.1	.0	.0	.0	.0	.1	.1	.2	.1	.1	.1	.0	.1	.1	.0	.0	.0
26	.3	.3	.1	.2	.1	.1	.0	.1	.1	.1	.1	.0	.1	.1	.0	.1	.0	.0	.0	.5
27	.1	.1	.2	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
28	.1	.1	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1
29	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1
30	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0
32	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.1	.0	.0	.0	.0
33	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.1	.0	.1	.0	.0	.0	.0
34	.2	.1	.0	.2	.1	.0	.0	.1	.1	.1	.1	.0	.1	.1	.0	.1	.0	.0	.0	.2
35	.2	.2	.3	.1	.2	.1	.1	.1	.1	.0	.0	.0	.1	.1	.0	.1	.0	.0	.0	.3
36	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	.0
38	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
39	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
41	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
42	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
43	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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JOB: Brent Spence Bridge RUN: W 4th & Central No Bld AM
DATE: 08/31/2010 TIME: 10:52:41.98

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC21	REC22
	285	135
1	.0	.0
2	.0	.0
3	.0	.0
4	.0	.0
5	.0	.0
6	.0	.0
7	.0	.0
8	.0	.0
9	.0	.0
10	.0	.0
11	.0	.0
12	.0	.0
13	.0	.0
14	.0	.0
15	.0	.0
16	.0	.0
17	.0	.0
18	.0	.0
19	.0	.0
20	.0	.0
21	.2	.0
22	.0	.0
23	.0	.0
24	.0	.1
25	.3	.2
26	.6	.3
27	.2	.2

28 *	.1	.0
29 *	.1	.0
30 *	.0	.0
31 *	.0	.1
32 *	.0	.1
33 *	.0	.1
34 *	.3	.2
35 *	.2	.3
36 *	.0	.0
37 *	.0	.0
38 *	.0	.0
39 *	.0	.0
40 *	.0	.0
41 *	.0	.0
42 *	.0	.0
43 *	.0	.0

JOB: Brent Spence Bridge RUN: W 4th & Central No Bld PM
DATE: 08/31/2010 TIME: 10:59:15.96

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. 1 NB Cent McF Appr	270186.0	289164.0	270108.0	289529.0	373.	348.	AG	1350.	12.6	.0	44.0		
2. 2 NB Thr W 4th Appr	270117.0	289531.0	270060.0	289759.0	235.	346.	AG	500.	12.6	.0	44.0		
3. 3 NB Cent NB Queue	270067.0	289730.0	270084.3	289662.5	70.	166.	AG	191.	100.0	.0	24.0	.35	3.5
4. 4 NB Cen W 4th Depr	270060.0	289759.0	270043.0	289808.0	52.	341.	AG	650.	12.6	.0	44.0		
5. 5 NB Cen W 4th Dept	270043.0	289808.0	269933.0	290337.0	540.	348.	AG	650.	12.6	.0	44.0		
6. 6 NB Lt W 4th Appr	270099.0	289527.0	270042.0	289755.0	235.	346.	AG	850.	12.6	.0	44.0		
7. 7 NB LefttNB Queue	270049.0	289728.0	270093.6	289543.5	190.	166.	AG	251.	100.0	.0	24.0	.89	9.6
8. 8 NB Ramp From W 4th	270042.0	289755.0	269974.0	289811.0	88.	309.	AG	1600.	12.6	.0	44.0		
9. 9 NB Ramp From W 4th	269974.0	289811.0	269755.0	290270.0	509.	334.	AG	1600.	12.6	.0	44.0		
10. 10 SB CentSB Appr	269902.0	290330.0	270023.0	289751.0	591.	168.	AG	160.	12.6	.0	44.0		
11. 11 SB CentSB Queue	27007.2	89828.2	27303.8	89829.0	297.	90.	AG	333.	100.0	.0	24.0	1.36	15.1
12. 12 SB CentSB Dep	270023.0	289751.0	270080.0	289522.0	236.	166.	AG	350.	12.6	.0	44.0		
13. 13 SB CentSB Dep	270080.0	289522.0	270159.0	289159.0	371.	168.	AG	350.	12.6	.0	44.0		
14. 14 WB W 4tTo Plum	270636.0	289880.0	270490.0	289851.0	149.	259.	AG	1040.	12.6	.0	44.0		
15. 15 WB W 4tFr Plum	270490.0	289851.0	270352.0	289819.0	142.	257.	AG	1040.	12.6	.0	44.0		
16. 16 WB W 4tTo Cent	270352.0	289819.0	270042.0	289755.0	317.	258.	AG	1040.	12.6	.0	56.0		
17. 17 WB W 4tWB Queue	270089.0	289764.0	270211.1	289790.3	125.	78.	AG	371.	100.0	.0	36.0	.68	6.3
18. 18 WB Off 3rd-SB 75	270473.0	289330.0	270387.0	289337.0	86.	275.	BR	1200.	12.1	.0	32.0		
19. 19 WB Off 3rd-SB 75	270387.0	289337.0	270291.0	289353.0	97.	279.	BR	1200.	12.1	.0	32.0		
20. 20 WB Off 3rd-SB 75	270291.0	289353.0	270209.0	289396.0	93.	298.	BR	1200.	12.1	.0	32.0		
21. 21 WB Off 3rd-SB 75	270209.0	289396.0	269996.0	289555.0	266.	307.	BR	1200.	12.1	.0	28.0		
22. 22 WB Off 3rd-SB 75	269996.0	289555.0	269861.0	289614.0	147.	294.	BR	1200.	12.1	.0	32.0		
23. 23 WB Off 71- SB 75	270427.0	289288.0	270271.0	289320.0	159.	282.	BR	3140.	12.1	.0	44.0		
24. 24 WB Off 71- SB 75	270271.0	289320.0	270153.0	289385.0	135.	299.	BR	3140.	12.1	.0	44.0		
25. 25 WB Off 71- SB 75	270153.0	289385.0	269986.0	289528.0	220.	311.	BR	3140.	12.1	.0	44.0		
26. 26 WB Off 71- SB 75	269986.0	289528.0	269861.0	289614.0	152.	305.	BR	3140.	12.1	.0	44.0		
27. 27 WB Off 71- SB 75	269861.0	289614.0	269702.0	289652.0	163.	283.	BR	4340.	12.1	.0	44.0		
28. 28 WB Off 71- SB 75	269702.0	289652.0	269576.0	289645.0	126.	267.	BR	4340.	12.1	.0	44.0		
29. 29 WB Off 71- SB 75	269576.0	289645.0	269470.0	289614.0	110.	254.	BR	4340.	12.1	.0	44.0		
30. 30 WB Off WB 71- 6th	270360.0	289236.0	270239.0	289258.0	123.	280.	BR	3050.	12.1	.0	44.0		
31. 31 WB Off WB 71- 6th	270239.0	289258.0	270109.0	289317.0	143.	294.	BR	3050.	12.1	.0	44.0		
32. 32 WB Off WB 71- 6th	270109.0	289317.0	270024.0	289390.0	112.	311.	BR	3050.	12.1	.0	44.0		
33. 33 WB Off WB 71- 6th	270024.0	289390.0	269967.0	289470.0	98.	325.	BR	3050.	12.1	.0	44.0		
34. 34 WB Off WB 71- 6th	269967.0	289470.0	269923.0	289566.0	106.	335.	BR	3050.	12.1	.0	44.0		
35. 35 WB Off WB 71- 6th	269923.0	289566.0	269895.0	289698.0	135.	348.	BR	3050.	12.1	.0	44.0		
36. 36 WB Off WB 71- 75	269895.0	289698.0	269888.0	289755.0	57.	353.	AG	1600.	12.1	.0	32.0		
37. 37 WB Off WB 71- 75	269888.0	289755.0	269844.0	289970.0	219.	348.	AG	1600.	12.1	.0	32.0		
38. 38 WB Off WB 71- 75	269844.0	289970.0	269818.0	290061.0	95.	344.	AG	1600.	12.1	.0	32.0		
39. 39 WB Off WB 71- 75	269818.0	290061.0	269729.0	290257.0	215.	336.	AG	1600.	12.1	.0	32.0		
40. 40 WB Off WB 71-6th	269895.0	289698.0	269874.0	289754.0	60.	339.	AG	1450.	12.1	.0	32.0		
41. 41 WB Off WB 71-6th	269874.0	289754.0	269831.0	289896.0	148.	343.	AG	1450.	12.1	.0	32.0		
42. 42 WB Off WB 71-6th	269831.0	289896.0	269791.0	289993.0	105.	338.	AG	1450.	12.1	.0	32.0		
43. 43 WB Off WB 71-6th	269791.0	289993.0	269680.0	290221.0	254.	334.	AG	1450.	12.1	.0	32.0		

JOB: Brent Spence Bridge RUN: W 4th & Central No Bld PM
DATE: 08/31/2010 TIME: 10:59:15.96

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. 3 NB Cent NB Queue	105	51	2.0	500	1522	73.30	1	3
7. 7 NB LefttNB Queue	105	67	2.0	850	1474	73.30	1	3
11. 11 SB CentSB Queue	105	89	2.0	160	522	73.30	1	3
17. 17 WB W 4tWB Queue	105	66	2.0	1040	1528	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
1. R1 SE Mid	270140.0	289517.0	5.0
2. R2 SE 164	270124.0	289585.0	5.0

3. R3 SE 82 * 270105.0 289664.0 5.0 *
4. R4 SE Corner * 270088.0 289735.0 5.0 *
5. R5 SE 82 * 270158.0 289749.0 5.0 *
6. R6 SE 164 * 270239.0 289766.0 5.0 *
7. R7 SE Mid * 270274.0 289773.0 5.0 *
8. R8 NE Mid * 270256.0 289830.0 5.0 *
9. R9 NE 164 * 270223.0 289823.0 5.0 *
10. R10 NE 82 * 270142.0 289806.0 5.0 *
11. R11 NE Corner * 270072.0 289791.0 5.0 *
12. R12 NE 82 * 270057.0 289862.0 5.0 *
13. R13 NE 164 * 270040.0 289942.0 5.0 *
14. R14 NE Mid * 270034.0 289968.0 5.0 *
15. R15 NW 164 * 269944.0 290010.0 5.0 *
16. R16 NW 82 * 269961.0 289930.0 5.0 *
17. R17 NW Corner * 269976.0 289859.0 5.0 *
18. R18 SW Corner * 270010.0 289716.0 5.0 *
19. R19 SW 82 * 270028.0 289646.0 5.0 *
20. R20 SW 164 * 270046.0 289566.0 5.0 *
21. R21 SW Mid * 270055.0 289525.0 5.0 *
22. R22 Near CD * 269775.0 289723.0 5.0 *

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.4	.5	.8	1.0	1.4	.4	.4	.0	.0	.0	.1	.2	.2	.2	.3	.3	.5	1.0	1.0	1.5
5. *	.4	.5	.7	1.0	1.4	.4	.4	.0	.0	.0	.1	.1	.1	.1	.3	.3	.4	1.0	1.0	1.5
10. *	.3	.5	.7	1.1	1.4	.4	.4	.0	.0	.0	.0	.1	.1	.1	.3	.3	.4	.9	1.4	1.4
15. *	.2	.3	.6	1.2	1.5	.4	.4	.0	.0	.0	.0	.0	.0	.0	.3	.3	.4	.9	1.5	1.6
20. *	.2	.3	.7	1.3	1.5	.4	.4	.0	.0	.0	.0	.0	.0	.0	.3	.3	.4	.9	1.5	1.6
25. *	.2	.3	.6	1.4	1.5	.4	.4	.0	.0	.0	.0	.0	.0	.0	.3	.3	.4	.8	1.7	1.6
30. *	.1	.2	.6	1.5	1.6	.5	.4	.0	.0	.0	.0	.0	.0	.0	.3	.3	.4	.8	1.8	1.6
35. *	.1	.2	.6	1.6	1.6	.5	.5	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	1.9	1.6
40. *	.0	.1	.5	1.7	1.6	.5	.6	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	1.9	1.3
45. *	.0	.1	.4	1.7	1.5	.5	.6	.0	.0	.0	.1	.0	.0	.0	.3	.3	.3	1.2	1.9	1.3
50. *	.0	.1	.3	1.8	1.5	.6	.6	.0	.0	.1	.1	.0	.0	.0	.3	.3	.3	1.2	1.8	1.2
55. *	.0	.0	.3	1.8	1.4	.6	.6	.1	.1	.1	.1	.0	.0	.0	.3	.3	.3	1.5	1.7	1.1
60. *	.0	.0	.2	1.7	1.3	.6	.7	.1	.1	.1	.2	.0	.0	.0	.3	.3	.3	1.5	1.5	1.0
65. *	.0	.0	.2	1.6	1.2	.7	.7	.2	.1	.2	.3	.0	.0	.0	.3	.3	.3	1.8	1.4	1.0
70. *	.0	.0	.1	1.5	1.0	.6	.6	.2	.3	.3	.5	.0	.0	.0	.3	.3	.3	1.8	1.5	1.1
75. *	.0	.0	.0	1.2	.8	.6	.6	.4	.5	.5	.8	.0	.0	.0	.3	.3	.3	1.8	1.2	1.1
80. *	.0	.0	.0	.9	.6	.5	.4	.6	.5	.7	1.1	.0	.0	.0	.3	.3	.3	1.7	1.2	1.1
85. *	.0	.0	.0	.6	.5	.3	.3	.6	.6	.9	1.4	.0	.0	.0	.3	.3	.4	1.5	1.1	1.0
90. *	.0	.0	.0	.4	.2	.3	.2	.7	.6	1.1	1.5	.2	.0	.0	.3	.3	.5	1.3	1.0	1.0
95. *	.0	.0	.0	.2	.1	.1	.1	.7	.6	1.3	1.6	.2	.0	.0	.3	.3	.5	1.5	1.0	1.0
100. *	.0	.0	.0	.1	.1	.1	.1	.5	.6	1.4	1.7	.2	.0	.0	.3	.4	.8	1.3	1.0	.9
105. *	.0	.0	.0	.1	.1	.1	.1	.5	.6	1.5	1.7	.3	.1	.0	.3	.4	.8	1.4	1.1	.9
110. *	.0	.0	.0	.1	.1	.0	.0	.6	.5	1.5	1.6	.4	.1	.0	.3	.5	.9	1.4	1.1	.8
115. *	.1	.0	.0	.0	.0	.0	.0	.6	.5	1.6	1.6	.5	.1	.1	.4	.5	.8	1.4	1.1	1.0
120. *	.1	.0	.0	.0	.0	.0	.0	.5	.5	1.6	1.5	.6	.2	.1	.5	.6	.9	1.4	1.2	1.2
125. *	.3	.1	.0	.0	.0	.0	.0	.5	.5	1.6	1.4	.6	.2	.2	.5	.6	1.0	1.4	1.3	1.1
130. *	.6	.1	.1	.0	.0	.0	.0	.4	.4	1.5	1.4	.6	.3	.2	.5	.6	.9	1.4	1.4	1.6
135. *	.7	.3	.1	.1	.0	.0	.0	.4	.4	1.5	1.2	.6	.3	.3	.5	.6	1.3	1.5	1.6	1.8
140. *	.7	.5	.2	.1	.0	.0	.0	.4	.4	1.5	1.2	.6	.3	.3	.5	.7	1.4	1.8	1.8	1.8
145. *	1.0	.6	.4	.3	.1	.0	.0	.4	.4	1.5	1.1	.7	.4	.3	.5	.8	1.6	1.8	2.0	2.0
150. *	1.1	.9	.5	.4	.1	.0	.0	.4	.4	1.5	1.5	.7	.6	.5	.7	1.4	2.0	2.0	2.0	2.3
155. *	1.3	1.1	.8	.7	.2	.1	.1	.4	.5	1.5	1.7	1.0	.7	.5	1.1	1.4	2.2	1.8	1.9	2.2
160. *	1.5	1.1	1.1	1.2	.3	.1	.1	.5	.5	1.7	2.0	1.7	1.0	1.1	.9	1.4	2.2	1.6	1.8	2.1
165. *	1.6	1.4	1.2	1.4	.5	.2	.1	.5	.6	2.0	2.1	1.6	1.3	1.0	.9	1.3	2.1	1.5	1.8	1.9
170. *	1.9	1.7	1.5	1.7	.6	.3	.2	.6	.7	2.1	2.2	1.6	1.5	1.5	1.2	1.7	2.1	1.2	1.6	1.9
175. *	2.0	1.7	1.8	1.9	.6	.4	.3	.7	1.0	1.9	2.5	2.2	1.6	1.3	1.0	1.2	1.9	1.1	1.3	1.9
180. *	2.0	1.9	1.9	2.4	.7	.5	.4	.9	1.2	2.1	2.7	2.0	1.5	1.4	1.0	1.2	1.7	1.0	1.2	1.6
185. *	2.2	1.9	2.0	2.4	.9	.4	.5	.8	1.0	2.4	2.5	2.0	1.1	1.2	.9	1.3	1.6	1.1	1.2	1.4
190. *	2.0	1.7	1.9	2.6	1.0	.6	.4	.8	1.3	2.5	2.5	1.7	1.2	1.2	1.0	1.4	1.5	.9	1.1	1.5
195. *	1.9	1.8	1.9	2.6	.9	.6	.6	1.0	1.5	2.6	2.4	1.5	.9	1.1	1.1	1.4	1.6	.9	1.1	1.4
200. *	2.1	1.8	2.0	2.5	1.0	.7	.6	1.0	1.7	2.8	2.3	1.4	1.0	1.0	1.1	1.4	1.8	.9	1.1	1.4
205. *	1.9	1.8	2.1	2.6	1.1	.7	.7	1.2	1.8	2.8	2.1	1.4	1.0	.9	1.0	1.5	1.5	.8	1.1	1.4

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	2.0	1.7	2.1	2.6	1.2	.8	.6	1.5	2.1	2.7	1.7	1.3	1.0	1.1	1.0	1.3	1.5	.9	1.0	1.4
215. *	1.9	1.8	1.9	2.6	1.2	.9	.7	1.5	2.3	2.9	1.9	1.1	1.1	1.0	.9	1.1	1.5	.8	1.1	1.4
220. *	2.0	2.0	2.0	2.3	1.1	.9	.8	1.5	2.3	2.6	1.8	1.1	1.1	1.1	1.1	1.2	1.5	1.0	1.0	1.5
225. *	1.9	1.9	1.9	2.5	1.3	1.0	.7	1.8	2.4	2.7	1.9	1.2	1.0	1.0	1.1	1.2	1.5	1.0	1.1	1.5
230. *	1.8	2.0	1.9	2.3	1.5	.9	.8	2.0	2.5	2.6	1.6	1.2	1.0	1.0	1.0	1.2	1.5	.9	1.1	1.5
235. *	1.9	2.1	1.9	2.4	1.6	1.2	.8	2.0	2.5	2.2	1.6	1.5	1.1	1.1	.9	1.2	1.5	1.0	1.2	1.5
240. *	1.8	2.0	1.9	2.4	1.5	1.2	1.1	1.9	2.2	2.1	1.8	1.2	1.2	1.0	.9	1.1	1.5	1.1	1.1	1.5
245. *	1.9	2.0	2.0	2.4	1.4	1.2	1.0	2.0	2.2	1.8	1.7	1.1	1.1	1.0	.7	1.0	1.4	1.0	1.3	1.5

250.	1.7	2.1	2.1	2.3	1.6	1.3	1.2	1.7	1.9	1.5	1.7	1.1	.9	.9	.7	.9	1.3	1.1	1.2	1.4
255.	1.9	2.1	2.3	2.2	1.6	1.6	1.6	1.5	1.5	1.3	1.9	1.0	1.0	.7	.8	.9	1.3	1.2	1.3	1.6
260.	1.8	2.1	2.4	2.1	1.5	1.8	1.8	1.2	1.2	1.2	1.6	.9	.9	.7	.8	.9	1.0	1.0	1.4	1.8
265.	1.9	2.6	2.4	2.0	1.7	1.9	1.6	1.0	1.1	1.1	1.4	.9	.8	.8	.8	.8	1.0	.9	1.5	1.9
270.	2.4	2.2	2.2	1.8	1.8	1.8	1.7	.8	.7	.8	1.1	.9	.8	.9	.8	.8	1.1	.6	1.3	2.0
275.	2.0	2.3	2.1	1.7	1.8	2.0	1.7	.5	.7	.6	1.0	1.0	.9	1.0	.7	.9	1.1	.5	1.2	2.1
280.	2.3	2.2	2.1	1.5	1.9	2.0	1.5	.4	.4	.7	1.1	.9	1.0	.9	.9	1.0	1.1	.4	.9	2.0
285.	2.4	2.1	2.1	1.2	2.0	2.0	1.4	.4	.5	.7	1.1	.8	1.0	.9	.9	1.0	1.2	.4	.8	2.0
290.	2.2	1.7	2.1	1.4	2.1	1.9	1.2	.3	.4	.4	1.1	.8	.9	.9	.9	1.0	1.2	.4	.7	1.6
295.	2.0	1.5	1.9	1.5	2.3	1.8	1.1	.4	.4	.4	1.1	1.0	.9	.9	1.0	1.0	1.2	.5	.4	1.3
300.	1.8	1.5	2.0	1.5	2.2	1.6	1.0	.3	.4	.5	1.0	1.0	.9	.9	1.0	1.3	1.4	.4	.5	1.0
305.	1.6	1.6	2.2	1.7	2.2	1.6	.9	.3	.5	.5	1.2	.9	.9	.8	.9	1.2	1.5	.4	.5	.6
310.	1.6	1.7	2.2	1.8	2.0	1.3	.7	.2	.3	.5	1.2	.9	.8	.7	.8	1.1	1.5	.5	.5	.8
315.	1.6	1.8	2.5	1.7	2.0	1.1	.6	.2	.2	.5	1.3	1.1	.7	.8	.7	1.0	1.6	.6	.6	.6
320.	1.6	1.8	2.3	1.6	1.9	1.0	.6	.1	.2	.4	1.2	1.0	.8	.7	.6	1.1	1.5	.8	.5	.6
325.	1.6	1.7	2.4	1.5	1.6	.9	.5	.1	.1	.2	.9	.8	.7	.6	.4	.9	1.4	1.1	.6	.5
330.	1.8	1.8	2.0	1.4	1.6	.7	.4	.0	.1	.2	.8	.6	.5	.5	.3	.6	1.4	1.0	.8	.6
335.	1.8	1.5	1.6	1.2	1.5	.5	.4	.0	.0	.1	.6	.5	.4	.4	.1	.4	1.0	1.1	.8	.6
340.	1.5	1.5	1.4	1.0	1.6	.4	.4	.0	.0	.1	.5	.4	.4	.4	.1	.3	.9	1.2	.8	.7
345.	1.2	1.2	1.2	1.1	1.6	.4	.4	.0	.0	.1	.4	.4	.4	.4	.2	.3	.7	1.1	.7	.9
350.	.9	.9	.8	1.1	1.5	.4	.4	.0	.0	.0	.4	.3	.3	.3	.2	.3	.5	1.0	.8	.9
355.	.7	.8	.8	1.1	1.5	.4	.4	.0	.0	.0	.2	.2	.2	.2	.2	.2	.5	1.0	.8	1.3
360.	.4	.5	.8	1.0	1.4	.4	.4	.0	.0	.0	.1	.2	.2	.2	.3	.3	.5	1.0	1.0	1.5
MAX	2.4	2.6	2.5	2.6	2.3	2.0	1.8	2.0	2.5	2.9	2.7	2.2	1.6	1.5	1.2	1.7	2.2	2.0	2.0	2.3
DEGR.	285	265	315	210	295	275	260	230	230	215	180	175	175	170	170	170	155	150	145	150

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JOB: Brent Spence Bridge RUN: W 4th & Central No Bld PM

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22
0.	1.6	.4
5.	1.6	.7
10.	1.6	.8
15.	1.6	.6
20.	1.6	.7
25.	1.5	.8
30.	1.3	.7
35.	1.3	.7
40.	1.3	.7
45.	1.0	.7
50.	.9	.6
55.	.9	.6
60.	.7	.6
65.	.8	.8
70.	.8	.8
75.	.7	.7
80.	.7	.7
85.	.7	.7
90.	.6	.8
95.	.8	.7
100.	.8	.6
105.	.8	.7
110.	1.0	.8
115.	1.2	1.0
120.	1.6	1.5
125.	2.1	1.7
130.	2.5	2.1
135.	2.6	2.1
140.	2.8	2.2
145.	3.0	1.9
150.	3.0	1.5
155.	3.0	1.2
160.	2.9	1.0
165.	2.7	.9
170.	2.6	.8
175.	2.4	.8
180.	2.2	.8
185.	2.1	.8
190.	2.1	.8
195.	2.0	.8
200.	1.9	.8
205.	1.9	.9

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JOB: Brent Spence Bridge RUN: W 4th & Central No Bld PM

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22
210.	1.9	.9

215. *	1.9	.8
220. *	1.9	1.0
225. *	1.9	1.1
230. *	2.0	1.1
235. *	1.9	1.1
240. *	1.9	1.1
245. *	2.1	1.0
250. *	2.1	.9
255. *	2.2	.7
260. *	2.2	.5
265. *	2.4	.3
270. *	2.9	.2
275. *	2.9	.0
280. *	3.0	.0
285. *	3.0	.0
290. *	3.1	.0
295. *	2.8	.0
300. *	2.5	.0
305. *	2.0	.0
310. *	1.5	.0
315. *	1.3	.0
320. *	1.0	.0
325. *	.9	.0
330. *	.7	.0
335. *	.8	.0
340. *	.8	.1
345. *	1.1	.1
350. *	.9	.3
355. *	1.3	.4
360. *	1.6	.4
MAX *	3.1	2.2
DEGR. *	290	140

THE HIGHEST CONCENTRATION IS 3.10 PPM AT 290 DEGREES FROM REC21.
THE 2ND HIGHEST CONCENTRATION IS 2.90 PPM AT 215 DEGREES FROM REC10.
THE 3RD HIGHEST CONCENTRATION IS 2.70 PPM AT 180 DEGREES FROM REC11.

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK # *	285	265	315	210	295	275	260	230	230	215	180	175	175	170	170	170	155	150	145	150
1 *	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.2	.2	.4
2 *	.1	.2	.3	.3	.0	.0	.0	.1	.1	.1	.2	.1	.1	.1	.0	.0	.1	.1	.1	.0
3 *	.0	.0	.6	.6	.0	.0	.1	.1	.1	.1	.3	.1	.1	.1	.0	.0	.1	.0	.0	.0
4 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0
5 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.2	.3	.3	.0	.0	.0	.0	.0	.0
6 *	.2	.3	.3	.3	.0	.0	.1	.1	.1	.1	.3	.2	.1	.1	.1	.1	.2	.3	.3	.1
7 *	.1	.5	.4	.6	.0	.0	.1	.1	.2	.2	.5	.3	.2	.1	.1	.1	.2	.5	.4	.0
8 *	.0	.0	.2	.0	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.2	.4	.0	.0	.0
9 *	.0	.0	.2	.0	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	.0	.0	.0
10 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 *	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.1	.2	.2	.1
13 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
14 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.0	.0	.1	.0	.5	.6	.5	.5	.5	.5	.4	.2	.1	.1	.0	.0	.1	.0	.0	.0
17 *	.0	.0	.0	.0	1.1	1.0	.5	.6	1.1	1.1	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21 *	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.1	.1	.1	.4
22 *	.1	.1	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
24 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.0	.0	.1	.1	.2	.2
25 *	.2	.1	.0	.1	.0	.0	.0	.1	.0	.1	.2	.2	.1	.1	.1	.1	.1	.2	.2	.5
26 *	.3	.4	.0	.2	.0	.0	.0	.1	.1	.2	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0
27 *	.2	.2	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28 *	.1	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29 *	.1	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
31 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.1	.1	.1	.2
32 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.1	.0	.0	.0	.1
33 *	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0
34 *	.2	.2	.0	.2	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0
35 *	.2	.2	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37 *	.0	.0	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
38 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
39 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
41 *	.0	.0	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
42 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
43 *	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

1

DATE: 08/31/2010 TIME: 10:59:15.96

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC21	REC22
	290	140
1	.0	.1
2	.0	.0
3	.0	.0
4	.0	.0
5	.0	.0
6	.0	.0
7	.0	.0
8	.0	.0
9	.0	.0
10	.0	.0
11	.0	.0
12	.0	.0
13	.0	.0
14	.0	.0
15	.0	.0
16	.0	.0
17	.0	.0
18	.0	.0
19	.0	.0
20	.0	.0
21	.7	.1
22	.3	.1
23	.0	.0
24	.0	.1
25	.3	.2
26	.7	.4
27	.4	.5
28	.1	.0
29	.1	.0
30	.0	.0
31	.0	.1
32	.0	.1
33	.0	.1
34	.2	.2
35	.3	.2
36	.0	.0
37	.0	.0
38	.0	.0
39	.0	.0
40	.0	.0
41	.0	.0
42	.0	.0
43	.0	.0

JOB: Central & McMillan Alt E AM RUN: Central & McMillan Alt E AM
DATE: 08/27/2010 TIME: 14:07:00.91

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 321. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION		X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. EB	McM	264826.0	298986.0	265320.0	298926.0	498.	97.	BR	2390.	12.1	15.0	56.0		
2. EB	McM	265320.0	298926.0	265465.0	298936.0	145.	86.	BR	2390.	12.1	15.0	56.0		
3. EB	McM	265465.0	298936.0	265632.0	298995.0	177.	71.	BR	2390.	12.1	15.0	56.0		
4. EB	McM	265632.0	298995.0	265738.0	299076.0	133.	53.	BR	2390.	12.1	15.0	56.0		
5. EB	McM TH	265738.0	299076.0	265818.0	299184.0	134.	37.	BR	930.	12.1	15.0	44.0		
6. EB	McM TH	265818.0	299184.0	265950.0	299333.0	199.	42.	BR	930.	12.1	15.0	44.0		
7. EB	McM TH	265928.0	299309.0	265872.4	299245.5	84.	221.	BR	216.	100.0	15.0	24.0	.72	4.3
8. EB	McM RT	265738.0	299076.0	265889.0	299231.0	216.	44.	BR	1460.	12.1	15.0	44.0		
9. EB	McM RT	265889.0	299231.0	265954.0	299262.0	72.	64.	BR	1460.	12.1	15.0	44.0		
10. EB	McM RT	265954.0	299262.0	266019.0	299236.0	70.	112.	BR	1460.	12.1	15.0	44.0		
11. EB	McM RT	266019.0	299236.0	266061.0	299150.0	96.	154.	BR	1460.	12.1	15.0	44.0		
12. EB	McM dep	265950.0	299333.0	266013.0	299414.0	103.	38.	AG	1080.	12.1	.0	44.0		
13. EB	McM dep	266013.0	299414.0	266179.0	299586.0	239.	44.	AG	1080.	12.1	.0	44.0		
14. EB	McM dep	266179.0	299586.0	266265.0	299652.0	108.	52.	AG	1080.	12.1	.0	44.0		
15. EB	McM dep	266265.0	299652.0	266419.0	299706.0	163.	71.	AG	1080.	12.1	.0	44.0		
16. WB	McM aprch	266393.0	299727.0	266254.0	299670.0	150.	248.	AG	300.	12.1	.0	44.0		
17. WB	McM aprch	266254.0	299670.0	266166.0	299603.0	111.	233.	AG	300.	12.1	.0	44.0		
18. WB	McM aprch	266166.0	299603.0	265955.0	299385.0	303.	224.	BR	300.	12.1	15.0	44.0		
19. WB	McM TH	265993.0	299424.0	266011.8	299443.5	27.	44.	BR	216.	100.0	15.0	24.0	.23	1.4
20. WB	McM depart	265955.0	299385.0	265793.0	299222.0	230.	225.	BR	500.	12.1	15.0	44.0		
21. WB	McM depart	265793.0	299222.0	265665.0	299086.0	187.	223.	BR	500.	12.1	15.0	56.0		
22. WB	McM depart	265665.0	299086.0	265558.0	299020.0	126.	238.	BR	500.	12.1	15.0	56.0		
23. WB	McM depart	265558.0	299020.0	265431.0	298984.0	132.	254.	BR	500.	12.1	15.0	56.0		
24. WB	McM depart	265431.0	298984.0	265282.0	298980.0	149.	268.	BR	500.	12.1	15.0	56.0		
25. WB	McM depart	265282.0	298980.0	264828.0	299042.0	458.	278.	BR	500.	12.1	15.0	56.0		
26. WB	Conn ap	266061.0	299150.0	266083.0	299066.0	87.	165.	AG	1460.	12.1	.0	56.0		
27. WB	Conn ap	266083.0	299066.0	266082.0	298968.0	98.	181.	AG	1460.	12.1	.0	56.0		
28. WB	Conn ap	266082.0	298968.0	266046.0	298872.0	103.	201.	AG	1460.	12.1	.0	56.0		

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 29. WB       Conn ap  * 266046.0  298872.0  265993.0  298803.0 *     87.   218. AG   1460.  12.1    .0 56.0
 30. WB       Conn ap  * 265993.0  298803.0  265875.0  298712.0 *    149.   232. AG   1460.  12.1    .0 56.0
 31. WB       Conn ap  * 265916.0  298744.0  265972.8  298787.8 *     72.    52. AG    265. 100.0   .0 36.0  .67   3.6
 32. NB       Cen ap   * 266302.0  298032.0  266154.0  298263.0 *    274.   327. AG    530.  12.1   .0 56.0
 33. NB       Cen ap   * 266154.0  298263.0  265990.0  298522.0 *    307.   328. AG    530.  12.1   .0 68.0
 34. NB       Cen ap   * 265990.0  298522.0  265910.0  298684.0 *    181.   334. AG    530.  12.1   .0 68.0
 35. NB       Cen ap   * 265918.0  298668.0  265930.4  298642.7 *     28.   154. AG    511. 100.0   .0 48.0  .33   1.4
 36. NB       Cen depart* 265910.0  298684.0  265863.0  298827.0 *   151.   342. AG    390.  12.1    .0 56.0
 37. NB       Cen depart* 265863.0  298827.0  265839.0  298979.0 *   154.   351. AG    390.  12.1    .0 56.0
 38. NB       Cen depart* 265839.0  298979.0  265832.0  299119.0 *   140.   357. AG    390.  12.1    .0 56.0
 39. NB       Cen depart* 265832.0  299119.0  265857.0  299590.0 *   472.     3. AG    390.  12.1   .0 56.0
 40. NB       Cen depart* 265857.0  299590.0  265854.0  299736.0 *   146.   359. AG    390.  12.1    .0 56.0
 41. NB       Cen depart* 265854.0  299736.0  265839.0  299907.0 *   172.   355. AG    390.  12.1    .0 56.0
 42. SB       Cen ap   * 265813.0  299907.0  265830.0  299690.0 *    218.   176. AG    640.  12.1   .0 44.0
 43. SB       Cen ap   * 265830.0  299690.0  265832.0  299574.0 *    116.   179. AG    640.  12.1   .0 44.0
 44. SB       Cen ap   * 265832.0  299574.0  265822.0  299461.0 *    113.   185. AG    640.  12.1   .0 44.0
1
                                                                 PAGE  2
 JOB: Central & McMillan Alt E AM                     RUN: Central & McMillan Alt E AM
 DATE: 08/27/2010   TIME: 14:07:00.91

  LINK VARIABLES
  --------------
   LINK DESCRIPTION    *       LINK COORDINATES (FT)         *   LENGTH  BRG TYPE  VPH    EF     H  W   V/C QUEUE
                       *  X1       Y1       X2       Y2    *     (FT)  (DEG)         (G/MI)  (FT) (FT)      (VEH)
 ------------------------*--------------------------------------*-------------------------------------------------------
 45. SB       Cen ap   * 265822.0  299461.0  265786.0  299087.0 *    376.   186. AG    640.  12.1   .0 44.0
 46. SB       Cen ap   * 265786.0  299087.0  265808.0  298897.0 *    191.   173. AG    640.  12.1   .0 44.0
 47. SB       Cen ap   * 265808.0  298897.0  265855.0  298729.0 *    174.   164. AG    640.  12.1   .0 56.0
 48. SB       Cen ap   * 265846.0  298759.0  265833.8  298802.8 *     45.   344. AG    383. 100.0   .0 36.0  .54   2.3
 49. SB       Cen depart* 265855.0  298729.0  265878.0  298636.0 *    96.   166. AG   1890.  12.1    .0 44.0
 50. SB       Cen depart* 265878.0  298636.0  265930.0  298525.0 *   123.   155. AG   1890.  12.1    .0 44.0
 51. SB       Cen depart* 265930.0  298525.0  266171.0  298181.0 *   420.   145. AG   1890.  12.1    .0 44.0
 52. SB       Cen depart* 266171.0  298181.0  266281.0  298020.0 *   195.   146. AG   1890.  12.1    .0 44.0
 53. NB       Conn dep  * 265886.0  298692.0  265989.0  298763.0 *   125.    55. AG    350.  12.1    .0 44.0
 54. NB       Conn dep  * 265989.0  298763.0  266061.0  298843.0 *   108.    42. AG    350.  12.1    .0 44.0
 55. NB       Conn dep  * 266061.0  298843.0  266101.0  298938.0 *   103.    23. AG    350.  12.1    .0 44.0
 56. NB       Conn dep  * 266101.0  298938.0  266114.0  299035.0 *    98.     8. AG    350.  12.1   .0 44.0
 57. NB       Conn dep  * 266114.0  299035.0  266099.0  299124.0 *    90.   350. AG    350.  12.1    .0 44.0
 58. NB       Conn dep  * 266099.0  299124.0  266074.0  299186.0 *    67.   338. AG    350.  12.1    .0 44.0
 59. NB       Conn dep  * 266074.0  299186.0  265986.0  299361.0 *   196.   333. BR    350.  12.1  15.0 44.0
 60. NB       Conn dep  * 266000.0  299333.0  266009.4  299314.3 *    21.   153. BR    324. 100.0  15.0 36.0  .19   1.1
 61. NB       I-75      * 265327.0  298041.0  265368.0  298889.0 *   849.     3. AG   5070.  12.9   .0 80.0
 62. NB       I-75      * 265368.0  298889.0  265421.0  299301.0 *   415.     7. AG   5070.  12.9   .0 80.0
 63. NB       I-75      * 265421.0  299301.0  265572.0  299874.0 *   593.    15. AG   5070.  12.9   .0 80.0
 64. SB       I-75      * 265463.0  299836.0  265358.0  299399.0 *   449.   194. AG   7870.  12.9   .0 80.0
 65. SB       I-75      * 265358.0  299399.0  265280.0  298741.0 *   663.   187. AG   7870.  12.9   .0 80.0
 66. SB       I-75      * 265280.0  298741.0  265243.0  298097.0 *   645.   183. AG   7870.  12.9   .0 80.0
1
                                                                 PAGE  3
 JOB: Central & McMillan Alt E AM                     RUN: Central & McMillan Alt E AM
 DATE: 08/27/2010   TIME: 14:07:00.91

  ADDITIONAL QUEUE LINK PARAMETERS
  --------------------------------
   LINK DESCRIPTION    *   CYCLE   RED    CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                       *   LENGTH   TIME    LOST TIME    VOL      FLOW RATE   EM FAC   TYPE      RATE
                       *    (SEC)   (SEC)    (SEC)      (VPH)      (VPH)    (gm/hr)
 ------------------------*------------------------------------------------------------------------
  7. EB       McM TH   *     60      33      2.0      930       1691     73.30     1       3
 19. WB       McM TH   *     60      33      2.0      300       1691     73.30     1       3
 31. WB       Conn ap  *     60      27      2.0     1460       1506     73.30     1       3
 35. NB       Cen ap   *     60      39      2.0      530       1399     73.30     1       3
 48. SB       Cen ap   *     60      39      2.0      640       1403     73.30     1       3
 60. NB       Conn dep *     60      33      2.0      350       1630     73.30     1       3

  RECEPTOR LOCATIONS
  ------------------
                       *        COORDINATES (FT)        *
   RECEPTOR            *      X          Y          Z   *
 ------------------------*--------------------------------*
  1. SE MID S          *    266089.0   298420.0      5.0  *
  2. SE 164 S          *    266017.0   298537.0      5.0  *
  3. SE 82 S           *    265980.0   298608.0      5.0  *
  4. SE CNR            *    265952.0   298689.0      5.0  *
  5. SE 82 E           *    266009.0   298754.0      5.0  *
  6. SE 164 E          *    266067.0   298814.0      5.0  *
  7. SE MID E          *    266130.0   298970.0      5.0  *
  8. SE 164 S          *    266081.0   299220.0      5.0  *
  9. SE 82 S           *    266044.0   299294.0      5.0  *
 10. SE CNR            *    266014.0   299370.0      5.0  *
 11. SE 82 E           *    266072.0   299443.0      5.0  *
 12. SE 164 E          *    266129.0   299503.0      5.0  *
 13. SE MID E          *    266236.0   299603.0      5.0  *
 14. NE MID E          *    266197.0   299656.0      5.0  *
 15. NE 164 E          *    266064.0   299530.0      5.0  *
 16. NE 82 E           *    266006.0   299471.0      5.0  *
 17. NE CNR            *    265950.0   299412.0      5.0  *
 18. NE CNR            *    265869.0   299339.0      5.0  *
 19. NE 82 N           *    265872.0   299412.0      5.0  *
 20. NE 164 N          *    265876.0   299494.0      5.0  *
 21. NE MID N          *    265881.0   299614.0      5.0  *
1
                                                                 PAGE  4
 JOB: Central & McMillan Alt E AM                     RUN: Central & McMillan Alt E AM

  MODEL RESULTS
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REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.0	.2	.3	.9	.7	.8	.4	.1	.1	.7	.6	.6	.6	.0	.0	.0	.0	.2	.3	.3
5. *	.0	.1	.3	.8	.8	.8	.1	.1	.2	.6	.6	.6	.6	.0	.0	.0	.0	.2	.2	.2
10. *	.0	.0	.4	.8	.8	.7	.1	.1	.2	.7	.7	.6	.7	.0	.0	.0	.0	.1	.1	.1
15. *	.0	.0	.3	.8	.8	.5	.0	.1	.2	.7	.7	.7	.7	.0	.0	.0	.0	.1	.1	.1
20. *	.0	.0	.2	.8	.8	.4	.0	.1	.1	.7	.7	.6	.7	.0	.0	.0	.0	.1	.1	.1
25. *	.0	.0	.1	.7	.6	.3	.0	.0	.1	.7	.7	.6	.6	.0	.0	.0	.0	.1	.1	.0
30. *	.0	.0	.0	.6	.5	.2	.0	.0	.1	.6	.8	.6	.7	.0	.0	.0	.0	.0	.0	.0
35. *	.0	.0	.0	.6	.4	.1	.0	.0	.1	.6	.7	.7	.7	.0	.0	.2	.2	.0	.0	.0
40. *	.0	.0	.0	.4	.3	.0	.0	.0	.0	.4	.6	.6	.7	.0	.1	.2	.3	.1	.0	.0
45. *	.0	.0	.0	.1	.2	.0	.0	.0	.0	.2	.6	.6	.7	.0	.3	.2	.4	.3	.0	.0
50. *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.2	.6	.5	.7	.1	.4	.4	.4	.4	.1	.0
55. *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.4	.4	.6	.2	.5	.4	.5	.4	.1	.0
60. *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.2	.4	.5	.3	.5	.5	.6	.4	.1	.0
65. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.4	.4	.5	.5	.7	.4	.2	.0
70. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.3	.5	.6	.4	.7	.4	.2	.1
75. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.5	.5	.5	.7	.4	.3	.1
80. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.5	.5	.5	.5	.3	.4	.1
85. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.6	.4	.5	.6	.5	.4	.1
90. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.5	.4	.4	.5	.4	.2	.1
95. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.5	.4	.4	.5	.4	.2	.1
100. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.5	.4	.4	.4	.4	.1	.1
105. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.4	.4	.4	.5	.1	.1
110. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.4	.4	.4	.4	.1	.1
115. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.4	.4	.4	.5	.2	.2
120. *	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.8	.3	.2
125. *	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.8	.3	.1
130. *	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.5	.8	.3	.1
135. *	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.6	.9	.5	.1
140. *	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.5	1.0	.6	.1
145. *	.5	.4	.3	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.6	1.0	.6	.1
150. *	.5	.6	.5	.3	.0	.0	.0	.1	.1	.1	.0	.0	.0	.4	.4	.5	.7	.8	.6	.1
155. *	.6	.7	.7	.4	.1	.0	.0	.2	.3	.3	.0	.0	.0	.4	.4	.6	.7	.8	.5	.2
160. *	.7	.7	.7	.6	.1	.0	.0	.3	.4	.4	.0	.0	.0	.4	.4	.5	.7	.8	.5	.5
165. *	.8	.8	.7	.7	.1	.1	.0	.3	.5	.4	.0	.0	.0	.4	.4	.7	.8	.8	.5	.5
170. *	.8	.7	.7	.9	.3	.1	.0	.4	.5	.5	.0	.0	.0	.4	.4	.8	.6	.9	.6	.5
175. *	.8	.7	.7	.8	.3	.1	.1	.7	.6	.6	.1	.0	.0	.5	.4	1.1	.7	.9	.6	.7
180. *	.7	.6	.7	.8	.2	.1	.1	.7	.6	.6	.1	.1	.0	.5	.4	.9	.7	.9	.7	.7
185. *	.6	.6	.7	1.0	.3	.1	.1	.7	.5	.5	.1	.1	.1	.5	.4	.8	.8	.8	.7	.7
190. *	.6	.6	.5	.9	.4	.1	.3	.7	.5	.5	.2	.1	.1	.5	.5	.9	.7	1.1	.8	.8
195. *	.6	.6	.6	1.1	.4	.1	.4	.6	.4	.5	.3	.2	.1	.5	.5	1.2	.9	1.2	1.0	.9
200. *	.6	.6	.6	1.2	.4	.2	.5	.6	.5	.7	.6	.3	.1	.7	.8	1.3	1.1	1.3	1.3	1.0
205. *	.6	.6	.6	1.2	.4	.2	.7	.7	.5	1.1	.6	.4	.4	.8	1.0	1.4	1.4	1.4	1.4	1.4

1

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	.6	.6	.6	1.2	.5	.4	.8	.6	.8	1.3	1.1	.6	.4	.9	1.2	1.3	1.5	1.8	1.5	1.4
215. *	.6	.6	.5	1.5	.6	.4	1.0	.9	.8	1.4	1.4	1.1	.6	1.1	1.3	1.6	1.7	1.8	1.5	1.4
220. *	.6	.6	.7	1.6	.8	.7	1.0	1.0	1.1	1.6	1.6	1.3	.9	1.0	1.5	1.8	1.7	1.8	1.6	1.3
225. *	.6	.6	.8	1.7	1.0	1.0	1.3	.9	1.2	2.0	1.8	1.5	1.2	1.0	1.4	1.5	1.6	1.7	1.5	1.4
230. *	.6	.8	.8	1.7	1.1	1.2	1.4	1.0	1.4	2.2	1.8	1.4	1.2	.9	.9	1.1	1.2	1.7	1.4	1.5
235. *	.7	.9	.9	1.9	1.2	1.4	1.4	1.3	1.6	2.2	1.9	1.7	1.3	1.2	1.0	1.1	1.3	1.4	1.5	1.4
240. *	.8	.9	1.1	1.8	1.3	1.5	1.2	1.4	1.7	1.9	1.9	1.6	1.4	.7	.9	.9	1.1	1.4	1.3	1.4
245. *	.8	1.1	1.2	1.8	1.5	1.5	1.2	1.4	1.9	1.5	1.7	1.6	1.4	.6	.8	1.0	1.2	1.3	1.4	1.5
250. *	1.0	1.2	1.3	1.6	1.7	1.7	1.1	1.5	1.6	1.5	1.6	1.5	1.3	.7	.7	1.1	1.0	1.2	1.2	1.1
255. *	1.1	1.3	1.3	1.4	1.7	1.8	1.2	1.4	1.4	1.6	1.6	1.4	1.4	.7	.8	.9	1.0	1.3	1.2	1.1
260. *	1.1	1.3	1.3	1.4	1.9	1.7	1.4	1.5	1.6	1.5	1.5	1.4	1.2	.6	.8	.9	1.0	1.1	1.2	1.5
265. *	1.1	1.3	1.2	1.5	1.9	1.6	1.3	1.4	1.5	1.3	1.5	1.2	1.3	.7	.7	.9	1.0	1.3	1.3	1.4
270. *	1.2	1.2	1.3	1.6	2.1	1.8	1.4	1.5	1.2	1.3	1.5	1.3	1.2	.6	.7	.8	1.1	1.3	1.3	1.3
275. *	1.2	1.3	1.4	1.6	2.2	1.7	1.4	1.7	1.4	1.5	1.4	1.3	1.2	.5	.7	.9	.9	1.3	1.4	1.4
280. *	1.2	1.3	1.5	1.6	2.3	1.4	1.2	1.6	1.3	1.3	1.4	1.2	1.1	.4	.7	.9	1.0	1.2	1.3	1.3
285. *	1.2	1.2	1.6	1.7	2.4	1.5	1.2	1.6	1.4	1.4	1.3	1.1	1.0	.4	.7	.8	.9	1.2	1.3	1.3
290. *	1.4	1.3	1.7	1.7	2.2	1.4	1.4	1.3	1.5	1.1	1.2	1.0	.7	.2	.6	.8	.8	1.2	1.1	1.2
295. *	1.5	1.4	1.5	1.9	2.1	1.2	1.1	1.4	1.3	1.1	1.1	.9	.7	.2	.4	.6	.8	1.2	1.1	1.2
300. *	1.5	1.3	1.8	1.7	2.0	1.3	1.3	1.3	1.1	1.1	.9	.9	.6	.1	.4	.6	.9	1.3	1.2	1.2
305. *	1.3	1.4	1.9	1.6	2.0	1.3	1.2	1.1	1.0	1.0	.9	.7	.5	.0	.3	.4	.8	1.3	1.1	1.2
310. *	1.2	1.3	1.8	2.0	1.6	1.3	1.2	1.0	1.0	.9	.9	.8	.5	.0	.2	.3	.8	1.2	1.2	1.0
315. *	1.3	1.5	2.0	1.8	1.5	1.3	1.2	.8	.9	.9	.8	.7	.5	.0	.1	.2	.6	1.2	1.0	.9
320. *	1.2	1.4	2.0	1.6	1.5	1.2	1.0	.6	.8	.8	.6	.5	.6	.0	.0	.1	.5	1.0	.9	.7
325. *	1.2	1.3	2.0	1.8	1.3	1.0	1.1	.5	.7	.7	.5	.5	.6	.0	.0	.1	.3	.8	.7	.7
330. *	1.1	1.3	1.9	1.8	1.1	1.0	1.0	.4	.5	.7	.5	.5	.5	.0	.0	.0	.1	.6	.6	.5
335. *	.7	1.1	1.4	1.5	1.2	.9	.8	.3	.3	.7	.5	.5	.5	.0	.0	.0	.0	.7	.4	.5
340. *	.4	.7	1.0	1.4	.8	.8	.8	.3	.3	.6	.5	.5	.5	.0	.0	.0	.0	.5	.4	.5
345. *	.4	.6	.7	1.2	.8	.9	.6	.3	.3	.6	.5	.5	.5	.0	.0	.0	.0	.5	.3	.6
350. *	.1	.4	.7	1.2	.7	.8	.6	.1	.2	.6	.6	.6	.5	.0	.0	.0	.0	.4	.4	.5
355. *	.1	.4	.5	.9	.7	.8	.4	.1	.2	.7	.6	.6	.5	.0	.0	.0	.0	.3	.3	.5
360. *	.0	.2	.3	.9	.7	.8	.4	.1	.1	.7	.6	.6	.6	.0	.0	.0	.0	.2	.3	.3
MAX *	1.5	1.5	2.0	2.0	2.4	1.8	1.4	1.7	1.9	2.2	1.9	1.7	1.4	1.2	1.5	1.8	1.7	1.8	1.6	1.5
DEGR. *	295	315	315	310	285	270	260	275	245	230	235	235	255	235	220	220	215	210	220	230

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	.2
5.	.1
10.	.1
15.	.1
20.	.1
25.	.0
30.	.0
35.	.0
40.	.0
45.	.0
50.	.0
55.	.0
60.	.0
65.	.0
70.	.0
75.	.0
80.	.0
85.	.0
90.	.0
95.	.1
100.	.1
105.	.1
110.	.1
115.	.1
120.	.1
125.	.1
130.	.1
135.	.1
140.	.1
145.	.1
150.	.1
155.	.1
160.	.1
165.	.1
170.	.2
175.	.3
180.	.6
185.	.7
190.	.8
195.	.8
200.	1.0
205.	1.1

1

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
210.	1.2
215.	1.3
220.	1.5
225.	1.6
230.	1.4
235.	1.5
240.	1.5
245.	1.3
250.	1.1
255.	1.2
260.	1.3
265.	1.3
270.	1.3
275.	1.3
280.	1.3
285.	1.3
290.	1.2
295.	1.1
300.	.9
305.	.9
310.	.7
315.	.8
320.	.5
325.	.5
330.	.4
335.	.4
340.	.4

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345.  *    .4
350.  *    .4
355.  *    .4
360.  *    .2
------*------
MAX   *   1.6
DEGR. *  225

THE HIGHEST CONCENTRATION IS     2.40 PPM AT  285 DEGREES FROM REC5 .
THE 2ND HIGHEST CONCENTRATION IS     2.20 PPM AT  230 DEGREES FROM REC10.
THE 3RD HIGHEST CONCENTRATION IS     2.00 PPM AT  315 DEGREES FROM REC3 .
1                      CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000                    PAGE  1

     JOB: Central & McMillan Alt E PM                        RUN: Central & McMillan Alt E PM
     DATE: 08/27/2010   TIME: 14:19:21.36


     SITE & METEOROLOGICAL VARIABLES
     -------------------------------
     VS =    .0 CM/S       VD =    .0 CM/S       Z0 = 321. CM
      U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

     LINK VARIABLES
     --------------
       LINK DESCRIPTION     *        LINK COORDINATES (FT)         *   LENGTH  BRG TYPE  VPH    EF      H   W    V/C QUEUE
                        *   X1        Y1         X2        Y2    *    (FT)  (DEG)          (G/MI)  (FT) (FT)        (VEH)
    ------------------------*---------------------------------------*------------------------------------------------------
     1. EB        McM       * 264826.0  298986.0  265320.0  298926.0 *    498.    97. BR   1130.  12.1  15.0 56.0
     2. EB        McM       * 265320.0  298926.0  265465.0  298936.0 *    145.    86. BR   1130.  12.1  15.0 56.0
     3. EB        McM       * 265465.0  298936.0  265632.0  298995.0 *    177.    71. BR   1130.  12.1  15.0 56.0
     4. EB        McM       * 265632.0  298995.0  265738.0  299076.0 *    133.    53. BR   1130.  12.1  15.0 56.0
     5. EB        McM TH    * 265738.0  299076.0  265818.0  299184.0 *    134.    37. BR    390.  12.1  15.0 44.0
     6. EB        McM TH    * 265818.0  299184.0  265950.0  299333.0 *    199.    42. BR    390.  12.1  15.0 44.0
     7. EB        McM TH    * 265928.0  299309.0  265902.0  299279.3 *     39.   221. BR    242. 100.0  15.0 24.0  .36   2.0
     8. EB        McM RT    * 265738.0  299076.0  265889.0  299231.0 *    216.    44. BR    740.  12.1  15.0 44.0
     9. EB        McM RT    * 265889.0  299231.0  265954.0  299262.0 *     72.    64. BR    740.  12.1  15.0 44.0
    10. EB        McM RT    * 265954.0  299262.0  266019.0  299236.0 *     70.   112. BR    740.  12.1  15.0 44.0
    11. EB        McM RT    * 266019.0  299236.0  266061.0  299150.0 *     96.   154. BR    740.  12.1  15.0 44.0
    12. EB        McM dep   * 265950.0  299333.0  266013.0  299414.0 *    103.    38. AG    480.  12.1    .0 44.0
    13. EB        McM dep   * 266013.0  299414.0  266179.0  299586.0 *    239.    44. AG    480.  12.1    .0 44.0
    14. EB        McM dep   * 266179.0  299586.0  266265.0  299652.0 *    108.    52. AG    480.  12.1    .0 44.0
    15. EB        McM dep   * 266265.0  299652.0  266419.0  299706.0 *    163.    71. AG    480.  12.1    .0 44.0
    16. WB        McM aprch * 266393.0  299727.0  266254.0  299670.0 *    150.   248. AG    890.  12.1    .0 44.0
    17. WB        McM aprch * 266254.0  299670.0  266166.0  299603.0 *    111.   233. AG    890.  12.1    .0 44.0
    18. WB        McM aprch * 266166.0  299603.0  265955.0  299385.0 *    303.   224. BR    890.  12.1  15.0 44.0
    19. WB        McM TH    * 265993.0  299424.0  266068.7  299502.3 *    109.    44. BR    242. 100.0  15.0 24.0  .83   5.5
    20. WB        McM depart* 265955.0  299385.0  265793.0  299222.0 *    230.   225. BR   2090.  12.1  15.0 44.0
    21. WB        McM depart* 265793.0  299222.0  265665.0  299086.0 *    187.   223. BR   2090.  12.1  15.0 56.0
    22. WB        McM depart* 265665.0  299086.0  265558.0  299020.0 *    126.   238. BR   2090.  12.1  15.0 56.0
    23. WB        McM depart* 265558.0  299020.0  265431.0  298984.0 *    132.   254. BR   2090.  12.1  15.0 56.0
    24. WB        McM depart* 265431.0  298984.0  265282.0  298980.0 *    149.   268. BR   2090.  12.1  15.0 56.0
    25. WB        McM depart* 265282.0  298980.0  264828.0  299042.0 *    458.   278. BR   2090.  12.1  15.0 56.0
    26. WB        Conn ap   * 266061.0  299150.0  266083.0  299066.0 *     87.   165. AG    740.  12.1    .0 56.0
    27. WB        Conn ap   * 266083.0  299066.0  266082.0  298968.0 *     98.   181. AG    740.  12.1    .0 56.0
    28. WB        Conn ap   * 266082.0  298968.0  266046.0  298872.0 *    103.   201. AG    740.  12.1    .0 56.0
    29. WB        Conn ap   * 266046.0  298872.0  265993.0  298803.0 *     87.   218. AG    740.  12.1    .0 56.0
    30. WB        Conn ap   * 265993.0  298803.0  265875.0  298712.0 *    149.   232. AG    740.  12.1    .0 56.0
    31. WB        Conn ap   * 265916.0  298744.0  265952.2  298771.9 *     46.    52. AG    334. 100.0    .0 36.0  .40   2.3
    32. NB        Cen ap    * 266302.0  298032.0  266154.0  298263.0 *    274.   327. AG   2100.  12.1    .0 56.0
    33. NB        Cen ap    * 266154.0  298263.0  265990.0  298522.0 *    307.   328. AG   2100.  12.1    .0 68.0
    34. NB        Cen ap    * 265990.0  298522.0  265910.0  298684.0 *    181.   334. AG   2100.  12.1    .0 68.0
    35. NB        Cen ap    * 265918.0  298668.0  265967.7  298566.3 *    113.   154. AG    419. 100.0    .0 48.0  .85   5.8
    36. NB        Cen depart* 265910.0  298684.0  265863.0  298827.0 *    151.   342. AG    980.  12.1    .0 56.0
    37. NB        Cen depart* 265863.0  298827.0  265839.0  298979.0 *    154.   351. AG    980.  12.1    .0 56.0
    38. NB        Cen depart* 265839.0  298979.0  265832.0  299119.0 *    140.   357. AG    980.  12.1    .0 56.0
    39. NB        Cen depart* 265832.0  299119.0  265857.0  299590.0 *    472.     3. AG    980.  12.1    .0 56.0
    40. NB        Cen depart* 265857.0  299590.0  265854.0  299736.0 *    146.   359. AG    980.  12.1    .0 56.0
    41. NB        Cen depart* 265854.0  299736.0  265839.0  299907.0 *    172.   355. AG    980.  12.1    .0 56.0
    42. SB        Cen ap    * 265813.0  299907.0  265830.0  299690.0 *    218.   176. AG    780.  12.1    .0 44.0
    43. SB        Cen ap    * 265830.0  299690.0  265832.0  299574.0 *    116.   179. AG    780.  12.1    .0 44.0
    44. SB        Cen ap    * 265832.0  299574.0  265822.0  299461.0 *    113.   185. AG    780.  12.1    .0 44.0
1
                                                                                PAGE  2
     JOB: Central & McMillan Alt E PM                        RUN: Central & McMillan Alt E PM
     DATE: 08/27/2010   TIME: 14:19:21.36

     LINK VARIABLES
     --------------
       LINK DESCRIPTION     *        LINK COORDINATES (FT)         *   LENGTH  BRG TYPE  VPH    EF      H   W    V/C QUEUE
                        *   X1        Y1         X2        Y2    *    (FT)  (DEG)          (G/MI)  (FT) (FT)        (VEH)
    ------------------------*---------------------------------------*------------------------------------------------------
    45. SB        Cen ap    * 265822.0  299461.0  265786.0  299087.0 *    376.   186. AG    780.  12.1    .0 44.0
    46. SB        Cen ap    * 265786.0  299087.0  265808.0  298897.0 *    191.   173. AG    780.  12.1    .0 44.0
    47. SB        Cen ap    * 265808.0  298897.0  265855.0  298729.0 *    174.   164. AG    780.  12.1    .0 56.0
    48. SB        Cen ap    * 265846.0  298759.0  265833.8  298802.8 *     45.   344. AG    315. 100.0    .0 36.0  .50   2.3
    49. SB        Cen depart* 265855.0  298729.0  265878.0  298636.0 *     96.   166. AG   1350.  12.1    .0 44.0
    50. SB        Cen depart* 265878.0  298636.0  265930.0  298525.0 *    123.   155. AG   1350.  12.1    .0 44.0
    51. SB        Cen depart* 265930.0  298525.0  266171.0  298181.0 *    420.   145. AG   1350.  12.1    .0 44.0
    52. SB        Cen depart* 266171.0  298181.0  266281.0  298020.0 *    195.   146. AG   1350.  12.1    .0 44.0
    53. NB        Conn dep  * 265886.0  298692.0  265989.0  298763.0 *    125.    55. AG   1290.  12.1    .0 44.0
    54. NB        Conn dep  * 265989.0  298763.0  266061.0  298843.0 *    108.    42. AG   1290.  12.1    .0 44.0
    55. NB        Conn dep  * 266061.0  298843.0  266101.0  298938.0 *    103.    23. AG   1290.  12.1    .0 44.0
    56. NB        Conn dep  * 266101.0  298938.0  266114.0  299035.0 *     98.     8. AG   1290.  12.1    .0 44.0
    57. NB        Conn dep  * 266114.0  299035.0  266099.0  299124.0 *     90.   350. AG   1290.  12.1    .0 44.0
    58. NB        Conn dep  * 266099.0  299124.0  266074.0  299186.0 *     67.   338. AG   1290.  12.1    .0 44.0
    59. NB        Conn dep  * 266074.0  299186.0  265986.0  299361.0 *    196.   333. BR   1290.  12.1  15.0 44.0
    60. NB        Conn dep  * 266000.0  299333.0  266030.7  299272.1 *     68.   153. BR    285. 100.0  15.0 36.0  .57   3.5
    61. NB        I-75      * 265327.0  298041.0  265368.0  298889.0 *    849.     3. AG   7923.  12.9    .0 80.0
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62. NB	I-75	* 265368.0	298889.0	265421.0	299301.0 *	415.	7.	AG	7923.	12.9	.0	80.0
63. NB	I-75	* 265421.0	299301.0	265572.0	299874.0 *	593.	15.	AG	7923.	12.9	.0	80.0
64. SB	I-75	* 265463.0	299836.0	265358.0	299399.0 *	449.	194.	AG	5980.	12.9	.0	80.0
65. SB	I-75	* 265358.0	299399.0	265280.0	298741.0 *	663.	187.	AG	5980.	12.9	.0	80.0
66. SB	I-75	* 265280.0	298741.0	265243.0	298097.0 *	645.	183.	AG	5980.	12.9	.0	80.0

1

JOB: Central & McMillan Alt E PM RUN: Central & McMillan Alt E PM

DATE: 08/27/2010 TIME: 14:19:21.36

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION		*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
7. EB	McM TH	*	60	37	2.0	390	1691	73.30	1	3
19. WB	McM TH	*	60	37	2.0	890	1691	73.30	1	3
31. WB	Conn ap	*	60	34	2.0	740	1673	73.30	1	3
35. NB	Cen ap	*	60	32	2.0	2100	1555	73.30	1	3
48. SB	Cen ap	*	60	32	2.0	780	1299	73.30	1	3
60. NB	Conn dep	*	60	29	2.0	1290	1677	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. SE MID S	*	266089.0	298420.0	5.0	*
2. SE 164 S	*	266017.0	298537.0	5.0	*
3. SE 82 S	*	265980.0	298608.0	5.0	*
4. SE CNR	*	265952.0	298689.0	5.0	*
5. SE 82 E	*	266009.0	298754.0	5.0	*
6. SE 164 E	*	266067.0	298814.0	5.0	*
7. SE MID E	*	266130.0	298970.0	5.0	*
8. SE 164 S	*	266081.0	299220.0	5.0	*
9. SE 82 S	*	266044.0	299294.0	5.0	*
10. SE CNR	*	266014.0	299370.0	5.0	*
11. SE 82 E	*	266072.0	299443.0	5.0	*
12. SE 164 E	*	266129.0	299503.0	5.0	*
13. SE MID E	*	266236.0	299603.0	5.0	*
14. NE MID E	*	266197.0	299656.0	5.0	*
15. NE 164 E	*	266064.0	299530.0	5.0	*
16. NE 82 E	*	266006.0	299471.0	5.0	*
17. NE CNR	*	265950.0	299412.0	5.0	*
18. NE CNR	*	265869.0	299339.0	5.0	*
19. NE 82 N	*	265872.0	299412.0	5.0	*
20. NE 164 N	*	265876.0	299494.0	5.0	*
21. NE MID N	*	265881.0	299614.0	5.0	*

1

JOB: Central & McMillan Alt E PM RUN: Central & McMillan Alt E PM

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.2	.3	.7	1.0	.8	1.3	.7	.3	.4	.7	.6	.4	.4	.0	.0	.0	.0	.7	.7	.8
5. *	.1	.3	.7	.9	1.1	1.0	.5	.2	.3	.7	.5	.4	.5	.0	.0	.0	.0	.5	.5	.5
10. *	.1	.2	.4	1.0	1.1	1.1	.3	.1	.3	.7	.6	.5	.5	.0	.0	.0	.0	.4	.4	.4
15. *	.1	.1	.4	.8	1.2	.9	.3	.0	.3	.7	.6	.5	.5	.0	.0	.0	.0	.3	.3	.3
20. *	.1	.1	.4	.9	1.1	.8	.1	.0	.2	.8	.5	.4	.5	.0	.0	.0	.1	.2	.2	.2
25. *	.1	.1	.4	.9	1.1	.8	.1	.0	.2	.7	.5	.4	.6	.0	.1	.1	.2	.1	.1	.1
30. *	.1	.1	.2	.8	1.1	.5	.1	.0	.0	.7	.6	.5	.6	.1	.1	.1	.2	.3	.1	.1
35. *	.1	.1	.1	.7	.9	.3	.1	.0	.0	.5	.5	.6	.6	.1	.1	.3	.4	.4	.1	.1
40. *	.1	.1	.1	.5	.7	.3	.0	.0	.0	.3	.4	.5	.5	.1	.3	.3	.5	.5	.1	.1
45. *	.0	.0	.1	.4	.5	.2	.0	.0	.0	.2	.3	.5	.4	.2	.3	.5	.7	.6	.2	.1
50. *	.0	.0	.0	.2	.4	.1	.0	.0	.0	.1	.2	.4	.4	.3	.4	.7	.8	.8	.3	.1
55. *	.0	.0	.0	.1	.3	.0	.0	.0	.0	.1	.1	.2	.3	.3	.6	.8	.9	.8	.3	.1
60. *	.0	.0	.0	.1	.2	.0	.0	.0	.0	.0	.1	.1	.3	.4	.6	.7	.9	.9	.3	.0
65. *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	.1	.3	.6	.5	.8	.9	.8	.5	.1
70. *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.2	.6	.5	.9	.8	.9	.5	.1
75. *	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.6	.4	1.0	.7	.8	.5	.2
80. *	.1	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.7	.4	1.0	.8	.9	.5	.2
85. *	.1	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.7	.3	1.0	.7	.8	.4	.3
90. *	.1	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.7	.3	.9	.5	.8	.3	.3
95. *	.1	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.7	.3	.8	.4	.8	.4	.4
100. *	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.3	.8	.4	1.0	.5	.4
105. *	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.3	.7	.3	1.0	.6	.4
110. *	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.3	.7	.3	1.0	.6	.3
115. *	.2	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.3	.7	.4	.9	.6	.2
120. *	.2	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.3	.7	.5	1.1	.7	.2
125. *	.3	.3	.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.3	.7	.5	1.0	.7	.3
130. *	.5	.4	.3	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.4	.3	.7	.6	.9	.6	.5
135. *	.6	.6	.6	.2	.0	.0	.0	.1	.1	.1	.0	.0	.0	.5	.3	.7	.6	1.1	.7	.5
140. *	.8	.9	.8	.5	.0	.0	.0	.1	.1	.2	.0	.0	.0	.5	.3	.7	.7	.9	.6	.5
145. *	1.2	1.1	1.1	.8	.0	.0	.0	.2	.3	.2	.0	.0	.0	.5	.4	.7	.8	.9	.7	.5

150. *	1.4	1.4	1.4	1.1	.2	.0	.0	.3	.4	.4	.0	.0	.0	.5	.4	.8	.8	.9	.7	.5
155. *	1.4	1.5	1.7	1.3	.2	.0	.0	.4	.5	.6	.0	.0	.0	.4	.4	.9	.8	.8	.6	.5
160. *	1.6	1.5	1.8	1.7	.4	.2	.0	.7	.6	.7	.0	.0	.0	.4	.5	.9	.9	.8	.7	.6
165. *	1.5	1.5	2.0	2.0	.4	.2	.0	.8	.8	.9	.0	.0	.0	.4	.5	1.0	.7	1.0	.8	.4
170. *	1.6	1.6	1.9	2.0	.5	.3	.2	.9	.9	.9	.1	.0	.0	.4	.7	1.1	.8	1.0	.9	.6
175. *	1.4	1.4	2.1	2.2	.5	.4	.4	.9	1.0	.9	.1	.0	.0	.5	.7	1.1	.7	1.0	1.0	.7
180. *	1.4	1.4	2.0	2.2	.6	.3	.4	.9	.9	1.0	.2	.0	.0	.5	.9	1.1	.8	1.2	1.2	.9
185. *	1.3	1.3	2.1	2.2	.7	.5	.5	1.0	.6	.9	.2	.1	.0	.6	1.0	1.2	.9	1.5	1.2	1.2
190. *	1.2	1.3	2.1	2.2	.8	.5	.7	.9	.6	.9	.3	.1	.0	.7	1.1	1.0	1.0	1.7	1.4	1.3
195. *	1.2	1.2	2.1	2.2	.9	.5	.9	1.0	.5	1.0	.4	.2	.0	.7	1.3	1.2	1.1	1.9	1.6	1.4
200. *	1.2	1.2	2.1	2.1	1.1	.7	1.2	.7	.8	.9	.5	.4	.1	.9	1.4	1.5	1.5	2.0	1.8	1.4
205. *	1.1	1.1	2.1	2.1	.9	.8	1.0	.7	1.0	1.0	.7	.6	.3	1.2	1.6	1.6	1.7	2.2	1.8	1.8

1

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210. *	1.1	1.1	2.0	2.0	1.0	.9	1.3	.8	1.1	1.3	.9	.8	.4	1.2	1.9	1.7	2.1	2.5	2.1	1.9
215. *	1.1	1.0	2.3	2.0	1.1	1.0	1.4	.8	1.1	1.9	1.2	.9	.9	1.4	2.0	1.9	2.2	2.7	2.0	1.8
220. *	1.1	1.2	2.4	2.2	1.4	1.2	1.9	1.0	1.3	2.1	1.5	1.6	1.2	1.5	1.9	1.7	2.1	2.5	2.1	2.0
225. *	1.1	1.2	2.6	2.2	1.6	1.8	2.0	.9	1.5	1.9	1.6	1.7	1.1	1.5	1.8	1.6	2.0	2.4	2.0	1.8
230. *	1.2	1.4	2.6	2.2	1.7	1.8	1.6	1.1	1.6	2.1	1.7	1.7	1.5	1.5	1.7	1.6	1.8	2.3	1.7	1.9
235. *	1.2	1.4	2.8	2.1	2.0	1.9	1.4	1.1	1.9	2.2	2.0	1.8	1.3	1.4	1.4	1.5	1.6	2.2	1.7	1.8
240. *	1.4	1.5	3.0	2.2	1.9	2.1	1.4	1.2	2.2	2.2	1.8	2.1	1.4	.9	1.4	1.4	1.5	1.9	1.8	1.7
245. *	1.4	1.6	3.1	2.3	2.0	2.2	1.5	1.2	2.2	2.3	2.0	1.9	1.4	1.0	1.2	1.1	1.3	1.7	1.6	1.7
250. *	1.5	1.7	3.1	2.1	2.1	2.2	1.5	1.5	2.3	2.1	1.9	1.8	1.5	.9	.8	1.1	1.4	1.7	1.7	1.7
255. *	1.6	1.8	3.1	1.9	2.1	2.0	1.6	1.5	2.4	1.8	1.9	1.7	1.4	.9	.9	1.1	1.1	1.7	1.6	1.8
260. *	1.7	1.8	3.0	1.8	2.4	2.0	1.4	1.6	2.3	1.8	1.8	1.5	1.3	.7	1.0	1.1	1.2	1.5	1.6	1.7
265. *	1.8	1.7	2.9	1.9	2.4	1.8	1.6	1.7	2.1	1.7	1.7	1.6	1.3	.6	.9	1.0	1.2	1.6	1.6	1.6
270. *	1.8	1.9	3.1	1.8	2.5	2.0	1.5	1.7	2.1	1.5	1.6	1.4	1.1	.6	1.0	.9	1.3	1.6	1.6	1.6
275. *	1.8	1.9	3.1	2.0	2.4	2.0	1.5	1.6	2.3	1.6	1.5	1.4	1.1	.6	.9	1.1	1.2	1.6	1.6	1.6
280. *	1.8	1.9	3.2	1.9	2.4	1.8	1.6	1.9	2.2	1.5	1.7	1.3	1.0	.5	.9	1.0	1.2	1.6	1.6	1.6
285. *	1.9	2.2	3.4	2.2	2.3	1.6	1.5	1.6	2.2	1.5	1.7	1.2	.9	.4	.9	1.0	1.1	1.6	1.6	1.6
290. *	1.9	2.3	3.4	2.2	2.1	1.4	1.6	1.9	2.1	1.5	1.6	1.1	.7	.3	.7	1.0	1.1	1.6	1.6	1.6
295. *	2.2	2.6	3.4	2.1	2.3	1.5	1.5	1.9	1.9	1.3	1.5	1.0	.8	.1	.7	1.0	1.1	1.6	1.6	1.6
300. *	2.2	2.7	3.6	2.1	2.0	1.5	1.4	1.7	2.1	1.3	1.5	.9	.6	.1	.5	.7	1.1	1.6	1.6	1.5
305. *	2.2	2.8	3.3	2.2	2.1	1.6	1.7	1.6	1.9	1.1	1.3	.8	.6	.0	.4	.8	1.1	1.6	1.5	1.5
310. *	2.1	2.8	3.5	2.2	1.9	1.4	1.6	1.6	1.9	1.1	1.3	.5	.5	.0	.3	.7	1.0	1.5	1.5	1.3
315. *	2.3	2.8	3.4	2.2	1.8	1.7	1.4	1.5	1.5	.9	1.2	.5	.5	.0	.2	.5	.8	1.5	1.3	1.2
320. *	2.2	2.9	3.3	2.3	1.8	1.6	1.6	1.4	1.5	.9	1.0	.4	.5	.0	.2	.3	.7	1.4	1.4	1.2
325. *	2.0	2.6	3.2	2.4	1.6	1.7	1.5	1.2	1.3	.8	.9	.4	.5	.0	.1	.2	.5	1.3	1.2	1.1
330. *	1.7	2.7	3.2	2.4	1.5	1.5	1.5	1.1	1.0	.8	.7	.4	.5	.0	.0	.2	.4	1.2	1.1	1.0
335. *	1.5	2.2	2.5	2.1	1.4	1.3	1.5	.8	.8	.6	.7	.4	.5	.0	.0	.2	.3	1.1	.9	.9
340. *	.9	1.7	2.0	1.8	1.2	1.3	1.4	.7	.6	.6	.7	.4	.5	.0	.0	.0	.2	1.0	.9	.9
345. *	.7	1.3	1.6	1.8	1.0	1.1	1.1	.5	.4	.5	.7	.4	.5	.0	.0	.0	.1	.9	.9	.9
350. *	.5	.8	1.3	1.5	1.1	1.0	1.0	.4	.4	.7	.7	.4	.4	.0	.0	.0	.1	.9	.9	.9
355. *	.2	.6	.8	1.3	1.0	1.2	.9	.3	.5	.7	.6	.4	.4	.0	.0	.0	.0	.7	.9	.9
360. *	.2	.3	.7	1.0	.8	1.3	.7	.3	.4	.7	.6	.4	.4	.0	.0	.0	.0	.7	.7	.8
MAX *	2.3	2.9	3.6	2.4	2.5	2.2	2.0	1.9	2.4	2.3	2.0	2.1	1.5	1.5	2.0	1.9	2.2	2.7	2.1	2.0
DEGR. *	315	320	300	325	270	245	225	280	255	245	245	240	230	225	215	215	215	215	210	220

1

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21
0. *	.6
5. *	.4
10. *	.3
15. *	.2
20. *	.1
25. *	.1
30. *	.1
35. *	.1
40. *	.1
45. *	.1
50. *	.1
55. *	.0
60. *	.0
65. *	.0
70. *	.0
75. *	.0
80. *	.0
85. *	.0
90. *	.0
95. *	.1
100. *	.1
105. *	.1
110. *	.1
115. *	.2

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120.  *    .2
125.  *    .2
130.  *    .2
135.  *    .2
140.  *    .2
145.  *    .3
150.  *    .3
155.  *    .6
160.  *    .5
165.  *    .5
170.  *    .4
175.  *    .7
180.  *    .9
185.  *   1.3
190.  *   1.3
195.  *   1.4
200.  *   1.6
205.  *   1.8
1
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JOB: Central & McMillan Alt E PM                    RUN: Central & McMillan Alt E PM

WIND ANGLE RANGE:   0.-360.

WIND  * CONCENTRATION
ANGLE *      (PPM)
(DEGR)* REC21
------*------
210.  *   1.9
215.  *   1.9
220.  *   1.9
225.  *   1.9
230.  *   2.0
235.  *   1.9
240.  *   1.9
245.  *   1.7
250.  *   1.8
255.  *   1.6
260.  *   1.8
265.  *   1.6
270.  *   1.6
275.  *   1.7
280.  *   1.7
285.  *   1.7
290.  *   1.5
295.  *   1.5
300.  *   1.3
305.  *   1.1
310.  *   1.0
315.  *    .9
320.  *   1.0
325.  *    .8
330.  *    .8
335.  *    .8
340.  *    .9
345.  *    .7
350.  *    .6
355.  *    .6
360.  *    .6
------*------
MAX   *   2.0
DEGR. *  230

THE HIGHEST CONCENTRATION IS    3.60 PPM AT  300 DEGREES FROM REC3 .
THE 2ND HIGHEST CONCENTRATION IS    2.90 PPM AT  320 DEGREES FROM REC2 .
THE 3RD HIGHEST CONCENTRATION IS    2.70 PPM AT  215 DEGREES FROM REC18.
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1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000

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JOB: Central & McMillan Alt I  AM                    RUN: Central & McMillan Alt I  AM
DATE: 08/27/2010   TIME: 11:43:39.24


 SITE & METEOROLOGICAL VARIABLES
 -------------------------------
 VS =    .0 CM/S       VD =    .0 CM/S       Z0 = 321. CM
  U =  1.0 M/S        CLAS =   4  (D)    ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

 LINK VARIABLES
 --------------
   LINK DESCRIPTION     *        LINK COORDINATES (FT)          *    LENGTH  BRG TYPE   VPH    EF      H   W    V/C QUEUE
                        *   X1       Y1       X2       Y2    *     (FT)  (DEG)          (G/MI)  (FT) (FT)       (VEH)
------------------------*---------------------------------------*----------------------------------------------------------
  1. NB     Cen aprch * 266300.0  298030.0  265981.0  298520.0 *     585.   327. AG    400.  12.1    .0 56.0
  2. NB     Cen aprch * 265981.0  298520.0  265930.0  298621.0 *     113.   333. AG    400.  12.1    .0 56.0
  3. NB     Cen th+rt * 265930.0  298621.0  265887.0  298770.0 *     155.   344. AG    250.  12.1    .0 44.0
  4. NB     Cen thru  * 265887.0  298770.0  265848.0  298926.0 *     161.   346. AG    240.  12.1    .0 44.0
  5. NB     Cen thru  * 265860.0  298880.0  265863.8  298864.7 *      16.   166. AG    145. 100.0    .0 24.0  .12    .8
  6. NB     Cen right * 265896.0  298777.0  265889.0  298867.0 *      90.   356. AG     10.  12.1    .0 32.0
  7. NB     Cen right * 265890.0  298859.0  265890.1  298857.7 *       1.   176. AG     73. 100.0    .0 12.0  .01    .1
  8. NB     Cen right * 265889.0  298867.0  265913.0  298986.0 *     121.    11. AG     10.  12.1    .0 32.0
  9. NB     Cen left  * 265930.0  298621.0  265871.0  298749.0 *     141.   335. AG    150.  12.1    .0 44.0
 10. NB     Cen left  * 265871.0  298749.0  265834.0  298915.0 *     170.   347. AG    150.  12.1    .0 44.0
 11. NB     Cen left  * 265843.0  298876.0  265845.1  298866.4 *      10.   168. AG    145. 100.0    .0 24.0  .19    .5
 12. NB     Cen depart* 265848.0  298926.0  265835.0  299123.0 *     197.   356. AG    450.  12.1    .0 56.0
 13. NB     Cen depart* 265835.0  299123.0  265854.0  299553.0 *     430.     3. AG    450.  12.1    .0 56.0
 14. NB     Cen depart* 265854.0  299553.0  265853.0  299734.0 *     181.   360. AG    450.  12.1    .0 56.0
 15. NB     Cen depart* 265853.0  299734.0  265840.0  299908.0 *     174.   356. AG    450.  12.1    .0 56.0
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 17. SB      Cen aprch * 265829.0  299697.0  265831.0  299539.0 *     158.   179. AG    720.  12.1    .0 44.0
 18. SB      Cen aprch * 265831.0  299539.0  265800.0  299112.0 *     428.   184. AG    720.  12.1    .0 44.0
 19. SB      Cen aprch * 265800.0  299112.0  265807.0  298918.0 *     194.   178. AG    720.  12.1    .0 56.0
 20. SB      Cen aprch * 265805.0  298976.0  265803.9  299007.5 *      31.   358. AG    218. 100.0    .0 36.0  .26   1.6
 21. SB      Cen depart* 265807.0  298918.0  265870.0  298694.0 *     233.   164. AG   1320.  12.1    .0 44.0
 22. SB      Cen depart* 265870.0  298694.0  265929.0  298554.0 *     152.   157. AG   1320.  12.1    .0 44.0
 23. SB      Cen depart* 265929.0  298554.0  266278.0  298019.0 *     639.   147. AG   1320.  12.1    .0 44.0
 24. EB      McM aprch * 264648.0  299034.0  265403.0  298932.0 *     762.    98. BR   1540.  12.1  15.0 44.0
 25. EB      McM thru+l* 265403.0  298932.0  265612.0  298913.0 *     210.    95. BR    910.  12.1  15.0 44.0
 26. EB      McM thru+l* 265612.0  298913.0  265821.0  298881.0 *     211.    99. AG    910.  12.1    .0 44.0
 27. EB      McM thr+lt* 265773.0  298888.0  265689.4  298900.9 *      85.   279. AG    206. 100.0    .0 24.0  .66   4.3
 28. EB      McM right * 265403.0  298932.0  265757.0  298877.0 *     358.    99. AG    630.  12.1    .0 32.0
 29. EB      McM right * 265751.0  298878.0  265474.7  298920.9 *     280.   279. AG    103. 100.0    .0 12.0 1.01  14.2
 30. EB      McM right * 265757.0  298877.0  265798.0  298862.0 *      44.   110. AG    630.  12.1    .0 32.0
 31. EB      McM right * 265798.0  298862.0  265827.0  298834.0 *      40.   134. AG    630.  12.1    .0 32.0
 32. EB      McM depart* 265821.0  298884.0  265876.0  298929.0 *      71.    51. AG    710.  12.1    .0 44.0
 33. EB      McM depart* 265876.0  298929.0  265913.0  298986.0 *      68.    33. AG    710.  12.1    .0 44.0
 34. EB      McM depart* 265912.0  298988.0  265938.0  299116.0 *     131.    11. AG    720.  12.1    .0 44.0
 35. EB      McM depart* 265938.0  299116.0  265975.0  299226.0 *     116.    19. AG    720.  12.1    .0 44.0
 36. EB      McM depart* 265975.0  299226.0  266163.0  299539.0 *     365.    31. AG    720.  12.1    .0 44.0
 37. EB      McM depart* 266163.0  299539.0  266220.0  299610.0 *      91.    39. AG    720.  12.1    .0 44.0
 38. EB      McM depart* 266220.0  299610.0  266293.0  299664.0 *      91.    54. AG    720.  12.1    .0 44.0
 39. EB      McM depart* 266293.0  299664.0  266414.0  299711.0 *     130.    69. AG    720.  12.1    .0 44.0
 40. WB      McM aprch * 266380.0  299736.0  266244.0  299666.0 *     153.   243. AG    200.  12.1    .0 44.0
 41. WB      McM aprch * 266244.0  299666.0  266173.0  299596.0 *     100.   225. AG    200.  12.1    .0 44.0
 42. WB      McM aprch * 266173.0  299596.0  265969.0  299259.0 *     394.   211. AG    200.  12.1    .0 44.0
 43. WB      McM aprch * 265969.0  299259.0  265933.0  299173.0 *      93.   203. AG    200.  12.1    .0 44.0
 44. WB      McM aprch * 265933.0  299173.0  265909.0  299091.0 *      85.   196. AG    200.  12.1    .0 44.0
1
                                                      PAGE  2
 JOB: Central & McMillan Alt I  AM                RUN: Central & McMillan Alt I  AM
 DATE: 08/27/2010   TIME: 11:43:39.24

  LINK VARIABLES
  --------------
   LINK DESCRIPTION     *        LINK COORDINATES (FT)          *   LENGTH  BRG TYPE  VPH    EF     H   W    V/C QUEUE
                   *   X1        Y1        X2        Y2    *   (FT)  (DEG)            (G/MI)  (FT) (FT)      (VEH)
 ------------------------*----------------------------------------*----------------------------------------------------------
 45. WB      McM aprch * 265909.0  299091.0  265892.0  299010.0 *      83.   192. AG    200.  12.1    .0 44.0
 46. WB      McM aprch * 265892.0  299010.0  265856.0  298942.0 *      77.   208. AG    200.  12.1    .0 44.0
 47. WB      McM aprch * 265892.0  299011.0  265880.1  298988.2 *      26.   208. AG    284. 100.0    .0 24.0  .28   1.3
 48. WB      McM depart* 265856.0  298942.0  265752.0  298914.0 *     108.   255. AG    370.  12.1    .0 44.0
 49. WB      McM depart* 265752.0  298914.0  264661.0  299060.0 *    1101.   278. BR    370.  12.1  15.0 44.0
 50. NB      I-75      * 265324.0  298040.0  265380.0  298899.0 *     861.     4. AG   5840.  12.9    .0 80.0
 51. NB      I-75      * 265380.0  298899.0  265402.0  299143.0 *     245.     5. AG   5840.  12.9    .0 80.0
 52. NB      I-75      * 265402.0  299143.0  265454.0  299420.0 *     282.    11. AG   5840.  12.9    .0 80.0
 53. NB      I-75      * 265454.0  299420.0  265576.0  299875.0 *     471.    15. AG   5840.  12.9    .0 80.0
 54. SB      I-75      * 265474.0  299844.0  265416.0  299648.0 *     204.   196. AG   8750.  12.9    .0 80.0
 55. SB      I-75      * 265416.0  299648.0  265345.0  299344.0 *     312.   193. AG   8750.  12.9    .0 80.0
 56. SB      I-75      * 265345.0  299344.0  265316.0  299152.0 *     194.   189. AG   8750.  12.9    .0 80.0
 57. SB      I-75      * 265316.0  299152.0  265292.0  298925.0 *     228.   186. AG   8750.  12.9    .0 80.0
 58. SB      I-75      * 265292.0  298925.0  265238.0  298100.0 *     827.   184. AG   8750.  12.9    .0 80.0
1
                                                      PAGE  3
 JOB: Central & McMillan Alt I  AM                RUN: Central & McMillan Alt I  AM
 DATE: 08/27/2010   TIME: 11:43:39.24

  ADDITIONAL QUEUE LINK PARAMETERS
  --------------------------------
   LINK DESCRIPTION     *   CYCLE    RED     CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                   *    LENGTH   TIME    LOST TIME    VOL      FLOW RATE    EM FAC   TYPE     RATE
                   *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)     (gm/hr)
 ------------------------*--------------------------------------------------------------------------------
  5. NB      Cen thru  *     65      24       2.0      240       1691      73.30      1       3
  7. NB      Cen right *     65      24       2.0       10       1509      73.30      1       3
 11. NB      Cen left  *     65      24       2.0      150        685      73.30      1       3
 20. SB      Cen aprch *     65      24       2.0      720       1630      73.30      1       3
 27. EB      McM thr+lt*     65      34       2.0      910       1650      73.30      1       3
 29. EB      McM right *     65      34       2.0      630       1509      73.30      1       3
 47. WB      McM aprch *     65      47       2.0      200       1678      73.30      1       3

  RECEPTOR LOCATIONS
  ------------------
                   *         COORDINATES (FT)          *
   RECEPTOR            *      X          Y          Z       *
 ------------------------*------------------------------------*
  1. SE MID S          *    265957.0   298638.0        5.0   *
  2. SE 164 S          *    265938.0   298713.0        5.0   *
  3. SE 82 S           *    265912.0   298793.0        5.0   *
  4. SE CNR            *    265918.0   298875.0        5.0   *
  5. SE 82 E           *    265934.0   298958.0        5.0   *
  6. SE 164 E          *    265949.0   299039.0        5.0   *
  7. SE MID E          *    265999.0   299214.0        5.0   *
  8. NE MID E          *    265976.0   299319.0        5.0   *
  9. NE 164 E          *    265908.0   299163.0        5.0   *
 10. NE 82 E           *    265886.0   299084.0        5.0   *
 11. NE CNR            *    265865.0   298999.0        5.0   *
 12. NE 82 N           *    265859.0   299083.0        5.0   *
 13. NE 164 N          *    265860.0   299164.0        5.0   *
 14. NE MID N          *    265871.0   299350.0        5.0   *
1
                                                      PAGE  4
 JOB: Central & McMillan Alt I  AM                RUN: Central & McMillan Alt I  AM

  MODEL RESULTS
  -------------

  REMARKS : In search of the angle corresponding to
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the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14
0. *	.0	.0	.1	.3	.3	.3	.5	.0	.1	.2	.4	.4	.4	.3
5. *	.0	.0	.1	.2	.3	.4	.5	.0	.0	.1	.3	.3	.3	.2
10. *	.0	.0	.0	.2	.4	.4	.5	.0	.0	.0	.2	.3	.3	.1
15. *	.0	.0	.0	.1	.3	.3	.5	.0	.1	.3	.3	.2	.2	.1
20. *	.0	.0	.0	.1	.2	.3	.5	.0	.2	.3	.5	.3	.1	.1
25. *	.0	.0	.0	.0	.2	.3	.4	.2	.2	.3	.6	.1	.1	.1
30. *	.0	.0	.0	.0	.0	.1	.3	.2	.4	.3	.5	.2	.2	.0
35. *	.0	.0	.0	.0	.0	.0	.2	.2	.4	.4	.7	.2	.1	.0
40. *	.0	.0	.0	.0	.0	.0	.2	.3	.4	.5	.7	.2	.1	.0
45. *	.0	.0	.0	.0	.0	.0	.1	.3	.4	.5	.6	.2	.1	.0
50. *	.0	.0	.0	.0	.0	.0	.1	.3	.4	.3	.8	.2	.1	.0
55. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	.9	.1	.2	.1
60. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	.9	.2	.2	.1
65. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	.9	.2	.2	.1
70. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	.2	.2	.1
75. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.2	1.0	.2	.1	.1
80. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.1	.1	.1
85. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.1	.1	.1
90. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.1	.1	.1
95. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.1	.1	.1	.1
100. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.2	.1	.1
105. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.3	.1	.1
110. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.3	.1	.1
115. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	.3	.1	.1
120. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	.3	.2	.1
125. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.8	.2	.2	.1
130. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.7	.2	.1	.1
135. *	.1	.0	.0	.0	.0	.0	.0	.3	.4	.3	.6	.2	.1	.1
140. *	.2	.1	.0	.0	.0	.0	.0	.3	.3	.3	.5	.3	.1	.0
145. *	.4	.1	.1	.0	.0	.0	.0	.3	.3	.3	.5	.3	.1	.1
150. *	.4	.2	.1	.1	.0	.0	.0	.3	.3	.3	.6	.4	.1	.1
155. *	.5	.3	.1	.1	.1	.0	.0	.3	.3	.5	.6	.5	.1	.1
160. *	.5	.3	.3	.1	.1	.1	.0	.3	.5	.5	.6	.5	.2	.2
165. *	.5	.5	.4	.1	.1	.1	.0	.3	.5	.5	.7	.5	.4	.1
170. *	.5	.4	.3	.2	.1	.1	.1	.4	.4	.6	.7	.6	.6	.1
175. *	.6	.5	.4	.2	.2	.1	.1	.5	.4	.6	.9	.6	.5	.1
180. *	.6	.6	.4	.3	.2	.2	.1	.3	.4	.6	.9	.4	.4	.3
185. *	.5	.5	.5	.3	.3	.3	.1	.3	.4	.5	.8	.5	.4	.4
190. *	.5	.4	.4	.2	.2	.4	.2	.3	.5	.5	.8	.5	.4	.5
195. *	.5	.5	.4	.2	.2	.3	.3	.5	.6	.6	.8	.8	.7	.6
200. *	.4	.4	.5	.3	.2	.5	.6	.4	.6	.6	1.1	1.1	.9	.9
205. *	.4	.4	.5	.5	.4	.6	.6	.5	.7	.9	1.2	1.2	1.1	1.0

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14
210. *	.5	.5	.6	.5	.5	.9	.9	.6	.9	1.1	1.5	1.4	1.2	1.1
215. *	.5	.6	.7	.7	.8	1.1	1.0	.7	1.0	1.1	1.4	1.5	1.4	1.3
220. *	.6	.7	.8	.9	1.0	1.4	1.2	.8	1.1	1.3	1.5	1.6	1.4	1.4
225. *	.7	.8	1.0	1.0	1.1	1.4	1.1	1.1	1.1	1.4	1.7	1.8	1.4	1.4
230. *	.8	1.0	1.1	1.1	1.3	2.0	1.2	1.0	1.1	1.5	2.0	1.7	1.4	1.5
235. *	1.0	1.0	1.2	1.2	1.5	2.0	1.3	1.1	1.2	1.4	1.9	1.7	1.4	1.5
240. *	1.2	1.1	1.3	1.2	1.5	1.7	1.0	1.1	1.2	1.3	1.8	1.6	1.4	1.5
245. *	1.2	1.3	1.3	1.2	1.4	2.0	1.3	1.2	1.3	1.1	2.0	1.6	1.5	1.5
250. *	1.1	1.3	1.3	1.4	1.7	1.7	1.5	1.1	1.2	1.2	2.2	1.4	1.4	1.5
255. *	1.2	1.2	1.3	1.3	2.0	1.7	1.5	1.1	1.4	1.3	2.1	1.5	1.5	1.5
260. *	1.2	1.2	1.3	1.7	2.0	1.6	1.4	1.1	1.1	1.2	1.9	1.4	1.4	1.4
265. *	1.2	1.2	1.2	1.9	2.0	1.5	1.3	1.1	1.2	1.2	1.8	1.5	1.4	1.5
270. *	1.2	1.1	1.4	2.1	1.7	1.5	1.2	1.1	1.1	1.2	1.7	1.4	1.4	1.3
275. *	1.2	1.3	1.4	2.1	1.6	1.5	1.4	1.0	1.2	1.2	1.6	1.4	1.4	1.5
280. *	1.4	1.4	1.7	2.1	1.5	1.4	1.4	1.0	1.1	1.2	1.6	1.3	1.3	1.3
285. *	1.5	1.3	1.8	2.1	1.5	1.4	1.4	1.0	1.0	1.2	1.4	1.2	1.4	1.4
290. *	1.5	1.3	1.8	1.6	1.5	1.4	1.4	1.1	1.1	1.3	1.5	1.4	1.3	1.4
295. *	1.5	1.3	1.8	1.5	1.4	1.5	1.4	.9	.9	1.1	1.4	1.2	1.4	1.3
300. *	1.3	1.6	1.7	1.4	1.5	1.3	1.4	1.0	1.2	1.1	1.4	1.3	1.3	1.3
305. *	1.4	1.5	1.5	1.1	1.4	1.1	1.4	.9	1.1	1.2	1.3	1.3	1.4	1.4
310. *	1.4	1.5	1.4	1.3	1.5	1.3	1.2	.8	1.0	1.3	1.3	1.4	1.3	1.3
315. *	1.3	1.5	1.4	1.3	1.6	1.2	1.1	.8	1.0	1.1	1.3	1.4	1.3	1.2
320. *	1.4	1.4	1.3	1.4	1.4	1.3	1.1	.7	.9	1.2	1.2	1.4	1.2	1.2
325. *	1.2	1.1	1.4	1.0	1.5	1.2	.7	.5	.8	.9	1.3	1.2	1.2	.9
330. *	1.0	1.1	1.0	1.1	1.2	1.1	.7	.2	.8	.9	1.2	1.1	1.0	.8
335. *	.8	.8	1.1	.9	1.0	.8	.4	.1	.5	.9	1.0	1.0	1.0	.7
340. *	.6	.6	.8	.9	.9	.8	.4	.0	.5	.5	.9	.7	.8	.5
345. *	.4	.3	.8	.7	.7	.7	.3	.0	.3	.4	.8	.8	.7	.6
350. *	.1	.1	.3	.5	.5	.6	.4	.0	.2	.3	.5	.6	.6	.4
355. *	.0	.1	.1	.4	.2	.3	.4	.0	.2	.2	.5	.6	.5	.4
360. *	.0	.0	.1	.3	.3	.3	.5	.0	.1	.2	.4	.4	.4	.3
MAX *	1.5	1.6	1.8	2.1	2.0	2.0	1.5	1.2	1.4	1.5	2.2	1.8	1.5	1.5
DEGR. *	295	300	290	270	255	245	250	245	255	230	250	225	255	245

THE HIGHEST CONCENTRATION IS 2.20 PPM AT 250 DEGREES FROM REC11.
THE 2ND HIGHEST CONCENTRATION IS 2.10 PPM AT 270 DEGREES FROM REC4 .
THE 3RD HIGHEST CONCENTRATION IS 2.00 PPM AT 255 DEGREES FROM REC5 .

JOB: Central & McMillan Alt I PM RUN: Central & McMillan Alt I PM
DATE: 08/27/2010 TIME: 11:47:19.93

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 321. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NB Cen aprch	266300.0	298030.0	265981.0	298520.0	585.	327.	AG	1600.	12.1	.0	56.0		
2. NB Cen aprch	265981.0	298520.0	265930.0	298621.0	113.	333.	AG	1600.	12.1	.0	56.0		
3. NB Cen th+rt	265930.0	298621.0	265887.0	298770.0	155.	344.	AG	990.	12.1	.0	44.0		
4. NB Cen thru	265887.0	298770.0	265848.0	298926.0	161.	346.	AG	970.	12.1	.0	44.0		
5. NB Cen thru	265860.0	298880.0	265896.0	298735.9	149.	166.	AG	184.	100.0	.0	24.0	.57	7.5
6. NB Cen right	265896.0	298777.0	265889.0	298867.0	90.	356.	AG	20.	12.1	.0	32.0		
7. NB Cen right	265890.0	298859.0	265890.4	298852.9	6.	176.	AG	92.	100.0	.0	12.0	.03	.3
8. NB Cen right	265889.0	298867.0	265913.0	298986.0	121.	11.	AG	20.	12.1	.0	32.0		
9. NB Cen left	265930.0	298621.0	265871.0	298749.0	141.	335.	AG	610.	12.1	.0	44.0		
10. NB Cen left	265871.0	298749.0	265834.0	298915.0	170.	347.	AG	610.	12.1	.0	44.0		
11. NB Cen left	265843.0	298876.0	265880.1	298705.5	175.	168.	AG	295.	100.0	.0	24.0	.86	8.9
12. NB Cen depart	265848.0	298926.0	265835.0	299123.0	197.	356.	AG	1150.	12.1	.0	56.0		
13. NB Cen depart	265835.0	299123.0	265854.0	299553.0	430.	3.	AG	1150.	12.1	.0	56.0		
14. NB Cen depart	265854.0	299553.0	265853.0	299734.0	181.	360.	AG	1150.	12.1	.0	56.0		
15. NB Cen depart	265853.0	299734.0	265840.0	299908.0	174.	356.	AG	1150.	12.1	.0	56.0		
16. SB Cen aprch	265814.0	299905.0	265829.0	299697.0	209.	176.	AG	820.	12.1	.0	44.0		
17. SB Cen aprch	265829.0	299697.0	265831.0	299539.0	158.	179.	AG	820.	12.1	.0	44.0		
18. SB Cen aprch	265831.0	299539.0	265800.0	299112.0	428.	184.	AG	820.	12.1	.0	44.0		
19. SB Cen aprch	265800.0	299112.0	265807.0	298918.0	194.	178.	AG	820.	12.1	.0	56.0		
20. SB Cen aprch	265805.0	298976.0	265800.2	299105.8	130.	358.	AG	428.	100.0	.0	36.0	.69	6.6
21. SB Cen depart	265807.0	298918.0	265870.0	298694.0	233.	164.	AG	910.	12.1	.0	44.0		
22. SB Cen depart	265870.0	298694.0	265929.0	298554.0	152.	157.	AG	910.	12.1	.0	44.0		
23. SB Cen depart	265929.0	298554.0	266278.0	298019.0	639.	147.	AG	910.	12.1	.0	44.0		
24. EB McM aprch	264648.0	299034.0	265403.0	298932.0	762.	98.	BR	660.	12.1	15.0	44.0		
25. EB McM thru+l	265403.0	298932.0	265612.0	298913.0	210.	95.	BR	430.	12.1	15.0	44.0		
26. EB McM thru+l	265612.0	298913.0	265821.0	298881.0	211.	99.	AG	430.	12.1	.0	44.0		
27. EB McM thr+lt	265773.0	298888.0	265684.7	298901.6	89.	279.	AG	249.	100.0	.0	24.0	.37	4.5
28. EB McM right	265403.0	298932.0	265757.0	298877.0	358.	99.	AG	230.	12.1	.0	32.0		
29. EB McM right	265751.0	298878.0	265656.6	298892.7	96.	279.	AG	125.	100.0	.0	12.0	.41	4.9
30. EB McM right	265757.0	298877.0	265798.0	298862.0	44.	110.	AG	230.	12.1	.0	32.0		
31. EB McM right	265798.0	298862.0	265827.0	298834.0	40.	134.	AG	230.	12.1	.0	32.0		
32. EB McM depart	265821.0	298884.0	265876.0	298929.0	71.	51.	AG	270.	12.1	.0	44.0		
33. EB McM depart	265876.0	298929.0	265913.0	298986.0	68.	33.	AG	270.	12.1	.0	44.0		
34. EB McM depart	265912.0	298988.0	265938.0	299116.0	131.	11.	AG	290.	12.1	.0	44.0		
35. EB McM depart	265938.0	299116.0	265975.0	299226.0	116.	19.	AG	290.	12.1	.0	44.0		
36. EB McM depart	265975.0	299226.0	266163.0	299539.0	365.	31.	AG	290.	12.1	.0	44.0		
37. EB McM depart	266163.0	299539.0	266220.0	299610.0	91.	39.	AG	290.	12.1	.0	44.0		
38. EB McM depart	266220.0	299610.0	266293.0	299664.0	91.	54.	AG	290.	12.1	.0	44.0		
39. EB McM depart	266293.0	299664.0	266414.0	299711.0	130.	69.	AG	290.	12.1	.0	44.0		
40. WB McM aprch	266380.0	299736.0	266244.0	299666.0	153.	243.	AG	610.	12.1	.0	44.0		
41. WB McM aprch	266244.0	299666.0	266173.0	299596.0	100.	225.	AG	610.	12.1	.0	44.0		
42. WB McM aprch	266173.0	299596.0	265969.0	299259.0	394.	211.	AG	610.	12.1	.0	44.0		
43. WB McM aprch	265969.0	299259.0	265933.0	299173.0	93.	203.	AG	610.	12.1	.0	44.0		
44. WB McM aprch	265933.0	299173.0	265909.0	299091.0	85.	196.	AG	610.	12.1	.0	44.0		

JOB: Central & McMillan Alt I PM RUN: Central & McMillan Alt I PM
DATE: 08/27/2010 TIME: 11:47:19.93

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. WB McM aprch	265909.0	299091.0	265892.0	299010.0	83.	192.	AG	610.	12.1	.0	44.0		
46. WB McM aprch	265892.0	299010.0	265856.0	298942.0	77.	208.	AG	610.	12.1	.0	44.0		
47. WB McM aprch	265892.0	299011.0	265822.9	298878.5	149.	208.	AG	285.	100.0	.0	24.0	.75	7.6
48. WB McM depart	265856.0	298942.0	265752.0	298914.0	108.	255.	AG	1340.	12.1	.0	44.0		
49. WB McM depart	265752.0	298914.0	264661.0	299060.0	1101.	278.	BR	1340.	12.1	15.0	44.0		
50. NB I-75	265324.0	298040.0	265380.0	298899.0	861.	4.	AG	7856.	12.9	.0	80.0		
51. NB I-75	265380.0	298899.0	265402.0	299143.0	245.	5.	AG	7856.	12.9	.0	80.0		
52. NB I-75	265402.0	299143.0	265454.0	299420.0	282.	11.	AG	7856.	12.9	.0	80.0		
53. NB I-75	265454.0	299420.0	265576.0	299875.0	471.	15.	AG	7856.	12.9	.0	80.0		
54. SB I-75	265474.0	299844.0	265416.0	299648.0	204.	196.	AG	6720.	12.9	.0	80.0		
55. SB I-75	265416.0	299648.0	265345.0	299344.0	312.	193.	AG	6720.	12.9	.0	80.0		
56. SB I-75	265345.0	299344.0	265316.0	299152.0	194.	189.	AG	6720.	12.9	.0	80.0		
57. SB I-75	265316.0	299152.0	265292.0	298925.0	228.	186.	AG	6720.	12.9	.0	80.0		
58. SB I-75	265292.0	298925.0	265238.0	298100.0	827.	184.	AG	6720.	12.9	.0	80.0		

JOB: Central & McMillan Alt I PM RUN: Central & McMillan Alt I PM
DATE: 08/27/2010 TIME: 11:47:19.93

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
5. NB Cen thru	120	56	2.0	970	1691	73.30	1	3
7. NB Cen right	120	56	2.0	20	1509	73.30	1	3
11. NB Cen left	120	90	2.0	610	1638	73.30	1	3

20. SB	Cen aprch *	120	87	2.0	820	1630	73.30	1	3
27. EB	McM thr+lt*	120	76	2.0	430	1732	73.30	1	3
29. EB	McM right *	120	76	2.0	230	1687	73.30	1	3
47. WB	McM aprch *	120	87	2.0	610	1682	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	X (FT)	Y (FT)	Z (FT)	*
1. SE MID S	*	265957.0	298638.0	5.0	*
2. SE 164 S	*	265938.0	298713.0	5.0	*
3. SE 82 S	*	265912.0	298793.0	5.0	*
4. SE CNR	*	265918.0	298875.0	5.0	*
5. SE 82 E	*	265934.0	298958.0	5.0	*
6. SE 164 E	*	265949.0	299039.0	5.0	*
7. SE MID E	*	265999.0	299214.0	5.0	*
8. NE MID E	*	265976.0	299319.0	5.0	*
9. NE 164 E	*	265908.0	299163.0	5.0	*
10. NE 82 E	*	265886.0	299084.0	5.0	*
11. NE CNR	*	265865.0	298999.0	5.0	*
12. NE 82 N	*	265859.0	299083.0	5.0	*
13. NE 164 N	*	265860.0	299164.0	5.0	*
14. NE MID N	*	265871.0	299350.0	5.0	*

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14
0. *	.1	.2	.5	.3	.3	.5	.3	.0	.1	.4	.9	.8	.8	.8
5. *	.0	.0	.2	.2	.2	.5	.4	.0	.2	.3	.8	.8	.7	.6
10. *	.0	.0	.1	.0	.1	.2	.4	.1	.2	.2	.7	.6	.6	.5
15. *	.0	.0	.0	.0	.2	.1	.4	.1	.3	.6	.6	.4	.4	.3
20. *	.0	.0	.0	.0	.0	.1	.4	.1	.4	.5	.8	.3	.3	.2
25. *	.0	.0	.0	.0	.0	.1	.2	.2	.4	.5	.7	.5	.3	.1
30. *	.0	.0	.0	.0	.0	.0	.2	.3	.5	.6	.8	.4	.3	.1
35. *	.0	.0	.0	.0	.0	.0	.2	.4	.5	.6	.8	.4	.2	.1
40. *	.0	.0	.0	.0	.0	.0	.1	.4	.5	.6	.8	.4	.3	.1
45. *	.0	.0	.0	.0	.0	.0	.0	.5	.6	.4	.8	.2	.4	.1
50. *	.0	.0	.0	.0	.0	.0	.0	.5	.6	.4	1.0	.2	.4	.2
55. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.3	1.1	.2	.3	.2
60. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.1	.1	.2	.1
65. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.0	.1	.1	.1
70. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.3	1.1	.2	.1	.1
75. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.3	1.1	.2	.1	.1
80. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.1	.2	.2	.1
85. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.2	.3	.3	.1
90. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.4	1.1	.3	.2	.1
95. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.1	.2	.1	.1
100. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.1	.2	.1	.1
105. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	1.1	.3	.1	.1
110. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	1.2	.4	.1	.1
115. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	1.4	.4	.1	.1
120. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.4	.4	.1	.1
125. *	.1	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.4	.4	.2	.1
130. *	.2	.0	.0	.0	.0	.0	.0	.3	.3	.4	1.4	.4	.2	.1
135. *	.2	.1	.0	.0	.0	.0	.0	.3	.4	.4	1.4	.5	.2	.1
140. *	.5	.1	.1	.0	.0	.0	.0	.3	.4	.4	1.4	.5	.2	.2
145. *	.6	.4	.2	.1	.0	.0	.0	.3	.4	.4	1.4	.3	.3	.2
150. *	.7	.4	.5	.1	.1	.0	.0	.3	.3	.5	1.6	.6	.3	.2
155. *	1.0	.4	.5	.2	.1	.1	.0	.3	.4	.6	2.1	.7	.6	.2
160. *	1.1	.8	.6	.3	.2	.1	.0	.3	.5	.6	2.1	1.2	.5	.1
165. *	1.0	.7	.8	.4	.2	.2	.1	.4	.6	1.0	2.6	1.4	.8	.3
170. *	1.1	.9	.9	.5	.2	.2	.1	.5	.7	1.2	2.9	1.6	1.1	.6
175. *	1.0	.8	.9	.8	.5	.2	.1	.5	.8	1.3	3.0	1.7	1.3	.8
180. *	.9	.8	1.1	.9	.5	.3	.1	.4	1.1	1.3	3.0	2.0	1.6	1.0
185. *	1.0	.9	1.0	1.0	.4	.4	.1	.5	1.1	1.6	2.9	1.9	1.8	1.3
190. *	.9	.9	1.3	.9	.6	.5	.2	.6	1.2	1.6	2.9	1.9	1.8	1.3
195. *	.8	.8	1.4	1.3	.8	.7	.3	.8	1.5	1.9	2.8	1.8	1.9	1.6
200. *	.8	.9	1.3	1.3	1.0	.9	.5	1.0	1.6	1.7	2.7	2.1	1.9	1.8
205. *	.9	.9	1.6	1.3	1.0	1.2	.9	1.1	1.4	2.0	2.5	2.1	2.3	1.6

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14
210. *	.8	.9	1.8	1.5	1.2	1.7	1.1	1.4	1.6	2.0	2.7	2.4	2.5	1.8
215. *	.9	.9	2.0	1.6	1.5	1.8	1.2	1.5	2.0	2.1	2.4	2.6	2.4	2.0
220. *	.9	1.1	2.2	1.8	1.4	1.8	1.5	1.4	1.8	2.2	2.5	2.6	2.3	2.0
225. *	1.1	1.2	2.4	1.9	1.7	2.1	1.6	1.2	1.8	2.3	2.8	2.7	2.2	1.7
230. *	1.3	1.3	2.6	2.0	1.7	2.4	1.6	1.4	1.9	2.2	2.6	2.6	2.1	1.9
235. *	1.4	1.4	2.4	2.1	2.0	2.3	1.7	1.1	1.7	2.4	2.6	2.7	2.1	1.8

240. *	1.5	1.5	2.6	2.1	2.0	2.3	1.8	1.4	1.7	2.2	2.5	2.7	2.0	1.8
245. *	1.4	1.6	2.6	2.1	2.3	2.2	1.5	1.3	1.6	2.2	2.4	2.6	1.7	1.7
250. *	1.7	1.7	2.6	2.1	2.3	2.4	1.6	1.3	1.6	2.3	2.3	2.7	1.7	1.7
255. *	1.7	1.8	2.6	2.2	2.5	2.1	1.6	1.3	1.6	2.2	2.4	2.6	1.8	1.7
260. *	1.7	1.8	2.6	2.2	2.6	2.1	1.4	1.1	1.3	2.1	2.4	2.5	1.8	1.6
265. *	1.7	1.9	2.4	2.3	2.5	1.9	1.5	1.2	1.2	2.2	2.5	2.6	1.7	1.7
270. *	1.6	1.7	2.7	2.3	2.4	2.1	1.3	1.2	1.4	1.9	2.4	2.4	1.7	1.6
275. *	1.4	1.8	2.7	2.5	2.3	1.9	1.4	1.1	1.3	1.8	2.5	2.3	1.7	1.7
280. *	1.5	2.2	3.0	2.1	2.3	1.9	1.4	1.2	1.3	1.7	2.4	2.1	1.8	1.7
285. *	1.8	2.1	3.0	2.5	2.2	1.8	1.3	1.2	1.3	1.7	2.4	2.2	1.6	1.6
290. *	1.7	2.1	3.1	2.3	2.1	1.7	1.3	1.2	1.3	1.7	2.4	1.9	1.7	1.7
295. *	1.9	2.5	3.1	2.4	2.2	1.8	1.6	1.1	1.3	1.7	2.4	1.8	1.7	1.6
300. *	2.0	2.7	3.2	2.3	2.2	1.4	1.5	1.2	1.4	1.3	2.4	1.8	1.6	1.6
305. *	2.1	2.7	3.1	2.2	2.0	1.4	1.4	1.1	1.3	1.4	2.3	1.9	1.6	1.7
310. *	1.9	2.5	3.3	1.9	2.0	1.5	1.2	1.1	1.3	1.4	2.4	2.0	1.7	1.6
315. *	2.3	2.8	3.1	1.9	2.0	1.3	1.2	.9	1.2	1.6	2.4	1.8	1.7	1.6
320. *	2.4	3.0	2.8	2.1	2.1	1.4	1.1	.7	1.2	1.3	2.4	1.7	1.6	1.4
325. *	2.6	2.6	2.8	2.0	2.0	1.2	.9	.6	1.1	1.3	2.3	1.8	1.6	1.4
330. *	2.4	2.5	2.6	1.7	1.3	1.1	.8	.4	.9	1.2	2.1	1.6	1.6	1.2
335. *	2.0	2.3	2.3	1.8	1.2	1.0	.5	.3	.8	1.1	1.9	1.5	1.4	1.1
340. *	1.9	2.2	2.2	1.6	1.0	.8	.6	.3	.7	1.0	1.7	1.4	1.3	1.2
345. *	1.5	1.4	1.5	1.1	.7	.6	.3	.1	.5	.8	1.6	1.2	1.1	1.1
350. *	.9	.8	1.1	.8	.5	.5	.3	.1	.4	.5	1.2	1.1	1.0	.9
355. *	.8	.7	.9	.6	.4	.3	.3	.0	.3	.5	1.0	1.1	1.0	.9
360. *	.1	.2	.5	.3	.3	.5	.3	.0	.1	.4	.9	.8	.8	.8
MAX *	2.6	3.0	3.3	2.5	2.6	2.4	1.8	1.5	2.0	2.4	3.0	2.7	2.5	2.0
DEGR. *	325	320	310	275	260	230	240	215	215	235	175	225	210	220

THE HIGHEST CONCENTRATION IS 3.30 PPM AT 310 DEGREES FROM REC3 .
THE 2ND HIGHEST CONCENTRATION IS 3.00 PPM AT 175 DEGREES FROM REC11.
THE 3RD HIGHEST CONCENTRATION IS 3.00 PPM AT 320 DEGREES FROM REC2 .

JOB: Central & McMillan No Bld AM RUN: Central & McMillan No Bld AM
DATE: 08/27/2010 TIME: 09:48:46.92

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 321. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

	LINK DESCRIPTION *	X1	Y1	X2	Y2 *	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NB	Cen aprch *	266300.0	298030.0	265981.0	298520.0 *	585.	327.	AG	400.	12.1	.0	56.0		
2. NB	Cen aprch *	265981.0	298520.0	265930.0	298621.0 *	113.	333.	AG	400.	12.1	.0	56.0		
3. NB	Cen th+rt *	265930.0	298621.0	265887.0	298770.0 *	155.	344.	AG	250.	12.1	.0	44.0		
4. NB	Cen thru *	265887.0	298770.0	265848.0	298926.0 *	161.	346.	AG	240.	12.1	.0	44.0		
5. NB	Cen thru *	265860.0	298880.0	265863.8	298864.7 *	16.	166.	AG	145.	100.0	.0	24.0	.12	.8
6. NB	Cen right *	265896.0	298777.0	265889.0	298867.0 *	90.	356.	AG	10.	12.1	.0	32.0		
7. NB	Cen right *	265890.0	298859.0	265890.1	298857.7 *	1.	176.	AG	73.	100.0	.0	12.0	.01	.1
8. NB	Cen right *	265889.0	298867.0	265913.0	298986.0 *	121.	11.	AG	10.	12.1	.0	32.0		
9. NB	Cen left *	265930.0	298621.0	265871.0	298749.0 *	141.	335.	AG	150.	12.1	.0	44.0		
10. NB	Cen left *	265871.0	298749.0	265834.0	298915.0 *	170.	347.	AG	150.	12.1	.0	44.0		
11. NB	Cen left *	265843.0	298876.0	265845.1	298866.4 *	10.	168.	AG	145.	100.0	.0	24.0	.19	.5
12. NB	Cen depart*	265848.0	298926.0	265835.0	299123.0 *	197.	356.	AG	450.	12.1	.0	56.0		
13. NB	Cen depart*	265835.0	299123.0	265854.0	299553.0 *	430.	3.	AG	450.	12.1	.0	56.0		
14. NB	Cen depart*	265854.0	299553.0	265853.0	299734.0 *	181.	360.	AG	450.	12.1	.0	56.0		
15. NB	Cen depart*	265853.0	299734.0	265840.0	299908.0 *	174.	356.	AG	450.	12.1	.0	56.0		
16. SB	Cen aprch *	265814.0	299905.0	265829.0	299697.0 *	209.	176.	AG	720.	12.1	.0	44.0		
17. SB	Cen aprch *	265829.0	299697.0	265831.0	299539.0 *	158.	179.	AG	720.	12.1	.0	44.0		
18. SB	Cen aprch *	265831.0	299539.0	265800.0	299112.0 *	428.	184.	AG	720.	12.1	.0	44.0		
19. SB	Cen aprch *	265800.0	299112.0	265807.0	298918.0 *	194.	178.	AG	720.	12.1	.0	56.0		
20. SB	Cen aprch *	265805.0	298976.0	265803.9	299007.5 *	31.	358.	AG	218.	100.0	.0	36.0	.26	1.6
21. SB	Cen depart*	265807.0	298918.0	265870.0	298694.0 *	233.	164.	AG	1320.	12.1	.0	44.0		
22. SB	Cen depart*	265870.0	298694.0	265929.0	298554.0 *	152.	157.	AG	1320.	12.1	.0	44.0		
23. SB	Cen depart*	265929.0	298554.0	266278.0	298019.0 *	639.	147.	AG	1320.	12.1	.0	44.0		
24. EB	McM aprch *	264648.0	299034.0	265403.0	298932.0 *	762.	98.	BR	1540.	12.1	15.0	44.0		
25. EB	McM thru+l*	265403.0	298932.0	265612.0	298913.0 *	210.	95.	BR	910.	12.1	15.0	44.0		
26. EB	McM thru+l*	265612.0	298913.0	265821.0	298881.0 *	211.	99.	AG	910.	12.1	.0	44.0		
27. EB	McM thr+lt*	265773.0	298888.0	265689.4	298900.9 *	85.	279.	AG	206.	100.0	.0	24.0	.66	4.3
28. EB	McM right *	265403.0	298932.0	265757.0	298877.0 *	358.	99.	AG	630.	12.1	.0	32.0		
29. EB	McM right *	265751.0	298878.0	265474.7	298920.9 *	280.	279.	AG	103.	100.0	.0	12.0	1.01	14.2
30. EB	McM right *	265757.0	298877.0	265798.0	298862.0 *	44.	110.	AG	630.	12.1	.0	32.0		
31. EB	McM right *	265798.0	298862.0	265827.0	298834.0 *	40.	134.	AG	630.	12.1	.0	32.0		
32. EB	McM depart*	265821.0	298884.0	265876.0	298929.0 *	71.	51.	AG	710.	12.1	.0	44.0		
33. EB	McM depart*	265876.0	298929.0	265913.0	298986.0 *	68.	33.	AG	710.	12.1	.0	44.0		
34. EB	McM depart*	265912.0	298988.0	265938.0	299116.0 *	131.	11.	AG	720.	12.1	.0	44.0		
35. EB	McM depart*	265938.0	299116.0	265975.0	299226.0 *	116.	19.	AG	720.	12.1	.0	44.0		
36. EB	McM depart*	265975.0	299226.0	266163.0	299539.0 *	365.	31.	AG	720.	12.1	.0	44.0		
37. EB	McM depart*	266163.0	299539.0	266220.0	299610.0 *	91.	39.	AG	720.	12.1	.0	44.0		
38. EB	McM depart*	266220.0	299610.0	266293.0	299664.0 *	91.	54.	AG	720.	12.1	.0	44.0		
39. EB	McM depart*	266293.0	299664.0	266414.0	299711.0 *	130.	69.	AG	720.	12.1	.0	44.0		
40. WB	McM aprch *	266380.0	299736.0	266244.0	299666.0 *	153.	243.	AG	200.	12.1	.0	44.0		
41. WB	McM aprch *	266244.0	299666.0	266173.0	299596.0 *	100.	225.	AG	200.	12.1	.0	44.0		
42. WB	McM aprch *	266173.0	299596.0	265969.0	299259.0 *	394.	211.	AG	200.	12.1	.0	44.0		
43. WB	McM aprch *	265969.0	299259.0	265933.0	299173.0 *	93.	203.	AG	200.	12.1	.0	44.0		
44. WB	McM aprch *	265933.0	299173.0	265909.0	299091.0 *	85.	196.	AG	200.	12.1	.0	44.0		

JOB: Central & McMillan No Bld AM RUN: Central & McMillan No Bld AM
DATE: 08/27/2010 TIME: 09:48:46.92

LINK VARIABLES

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  LINK DESCRIPTION    *       LINK COORDINATES (FT)        *  LENGTH  BRG TYPE  VPH    EF     H  W   V/C QUEUE
                   *  X1      Y1       X2       Y2    *    (FT)  (DEG)         (G/MI)  (FT) (FT)      (VEH)
------------------------*---------------------------------------*---------------------------------------------------------
 45. WB       McM aprch * 265909.0  299091.0  265892.0  299010.0 *     83.   192. AG    200.  12.1    .0 44.0
 46. WB       McM aprch * 265892.0  299010.0  265856.0  298942.0 *     77.   208. AG    200.  12.1    .0 44.0
 47. WB       McM aprch * 265892.0  299011.0  265880.1  298988.2 *     26.   208. AG    284. 100.0    .0 24.0  .28   1.3
 48. WB       McM depart* 265856.0  298942.0  265752.0  298914.0 *    108.   255. AG    370.  12.1    .0 44.0
 49. WB       McM depart* 265752.0  298914.0  264661.0  299060.0 *   1101.   278. BR    370.  12.1  15.0 44.0
 50. EB      south loop* 265447.0  298923.0  265645.0  298862.0 *    207.   107. AG    760.  12.1    .0 32.0
 51. EB      south loop* 265645.0  298862.0  265771.0  298755.0 *    165.   130. AG    760.  12.1    .0 32.0
 52. EB      south loop* 265771.0  298755.0  265821.0  298673.0 *     96.   149. AG    760.  12.1    .0 32.0
 53. EB      south loop* 265821.0  298673.0  265843.0  298597.0 *     79.   164. AG    760.  12.1    .0 32.0
 54. EB      south loop* 265843.0  298597.0  265839.0  298518.0 *     79.   183. AG    760.  12.1    .0 32.0
 55. EB      south loop* 265839.0  298518.0  265812.0  298456.0 *     68.   204. AG    760.  12.1    .0 32.0
 56. EB      south loop* 265812.0  298456.0  265766.0  298407.0 *     67.   223. AG    760.  12.1    .0 32.0
 57. EB      south loop* 265766.0  298407.0  265713.0  298377.0 *     61.   241. AG    760.  12.1    .0 32.0
 58. EB      south loop* 265713.0  298377.0  265652.0  298363.0 *     63.   257. AG    760.  12.1    .0 32.0
 59. EB      south loop* 265652.0  298363.0  265590.0  298367.0 *     62.   274. AG    760.  12.1    .0 32.0
 60. EB      south loop* 265590.0  298367.0  265531.0  298389.0 *     63.   290. AG    760.  12.1    .0 32.0
 61. EB      south loop* 265531.0  298389.0  265477.0  298437.0 *     72.   312. AG    760.  12.1    .0 32.0
 62. EB      south loop* 265477.0  298437.0  265443.0  298496.0 *     68.   330. AG    760.  12.1    .0 32.0
 63. EB      south loop* 265443.0  298496.0  265425.0  298562.0 *     68.   345. AG    760.  12.1    .0 32.0
 64. EB      south loop* 265425.0  298562.0  265430.0  298755.0 *    193.     1. AG    760.  12.1    .0 32.0
 65. WB       north loop* 265332.0  298608.0  265338.0  299177.0 *    569.     1. AG    293.  12.1    .0 32.0
 66. WB       north loop* 265338.0  299177.0  265353.0  299266.0 *     90.    10. AG    293.  12.1    .0 32.0
 67. WB       north loop* 265353.0  299266.0  265381.0  299332.0 *     72.    23. AG    293.  12.1    .0 32.0
 68. WB       north loop* 265381.0  299332.0  265459.0  299404.0 *    106.    47. AG    293.  12.1    .0 32.0
 69. WB       north loop* 265459.0  299404.0  265525.0  299426.0 *     70.    72. AG    293.  12.1    .0 32.0
 70. WB       north loop* 265525.0  299426.0  265605.0  299422.0 *     80.    93. AG    293.  12.1    .0 32.0
 71. WB       north loop* 265605.0  299422.0  265670.0  299394.0 *     71.   113. AG    293.  12.1    .0 32.0
 72. WB       north loop* 265670.0  299394.0  265724.0  299345.0 *     73.   132. AG    293.  12.1    .0 32.0
 73. WB       north loop* 265724.0  299345.0  265757.0  299282.0 *     71.   152. AG    293.  12.1    .0 32.0
 74. WB       north loop* 265757.0  299282.0  265766.0  299216.0 *     67.   172. AG    293.  12.1    .0 32.0
 75. WB       north loop* 265766.0  299216.0  265750.0  299137.0 *     81.   191. AG    293.  12.1    .0 32.0
 76. WB       north loop* 265750.0  299137.0  265713.0  299078.0 *     70.   212. AG    293.  12.1    .0 32.0
 77. WB       north loop* 265713.0  299078.0  265656.0  299025.0 *     78.   227. AG    293.  12.1    .0 32.0
 78. WB       north loop* 265656.0  299025.0  265590.0  298989.0 *     75.   241. AG    293.  12.1    .0 32.0
 79. WB       north loop* 265590.0  298989.0  265525.0  298971.0 *     67.   255. AG    293.  12.1    .0 32.0
 80. WB       north loop* 265525.0  298971.0  265373.0  298968.0 *    152.   269. AG    293.  12.1    .0 32.0
 81. NB      I-75        * 265311.0  298053.0  265356.0  298545.0 *    494.     5. AG   4892.  12.9    .0 68.0
 82. NB      I-75        * 265356.0  298545.0  265415.0  298994.0 *    453.     7. AG   4892.  12.9    .0 68.0
 83. NB      I-75        * 265415.0  298994.0  265521.0  299559.0 *    575.    11. AG   4892.  12.9    .0 68.0
 84. NB      I-75        * 265521.0  299559.0  265592.0  299877.0 *    326.    13. AG   4892.  12.9    .0 68.0
 85. SB      I-75        * 265415.0  299817.0  265341.0  299495.0 *    330.   193. AG   7674.  12.9    .0 68.0
 86. SB      I-75        * 265341.0  299495.0  265297.0  299275.0 *    224.   191. AG   7674.  12.9    .0 68.0
 87. SB      I-75        * 265297.0  299275.0  265264.0  299008.0 *    269.   187. AG   7674.  12.9    .0 68.0
 88. SB      I-75        * 265264.0  299008.0  265250.0  298765.0 *    243.   183. AG   7674.  12.9    .0 68.0
 89. SB      I-75        * 265250.0  298765.0  265228.0  298107.0 *    658.   182. AG   7674.  12.9    .0 68.0
1
                                                                   PAGE  3
 JOB: Central & McMillan No Bld AM                    RUN: Central & McMillan No Bld AM
 DATE: 08/27/2010   TIME: 09:48:46.92

  ADDITIONAL QUEUE LINK PARAMETERS
  ---------------------------------
  LINK DESCRIPTION    *   CYCLE    RED    CLEARANCE  APPROACH  SATURATION   IDLE   SIGNAL   ARRIVAL
                   *    LENGTH   TIME    LOST TIME    VOL      FLOW RATE   EM FAC   TYPE      RATE
                   *     (SEC)   (SEC)     (SEC)      (VPH)      (VPH)    (gm/hr)
------------------------*--------------------------------------------------------------------------------
  5. NB       Cen thru  *     65      24       2.0       240       1691      73.30     1        3
  7. NB       Cen right *     65      24       2.0        10       1509      73.30     1        3
 11. NB       Cen left  *     65      24       2.0       150        685      73.30     1        3
 20. SB       Cen aprch *     65      24       2.0       720       1630      73.30     1        3
 27. EB       McM thr+lt*     65      34       2.0       910       1650      73.30     1        3
 29. EB       McM right *     65      34       2.0       630       1509      73.30     1        3
 47. WB       McM aprch *     65      47       2.0       200       1678      73.30     1        3

  RECEPTOR LOCATIONS
  ------------------
                   *         COORDINATES (FT)        *
  RECEPTOR             *     X          Y          Z      *
-------------------------*------------------------------------*
 1. SE MID S          *    265957.0   298638.0       5.0   *
 2. SE 164 S          *    265938.0   298713.0       5.0   *
 3. SE 82 S           *    265912.0   298793.0       5.0   *
 4. SE CNR            *    265918.0   298875.0       5.0   *
 5. SE 82 E           *    265934.0   298958.0       5.0   *
 6. SE 164 E          *    265949.0   299039.0       5.0   *
 7. SE MID E          *    265999.0   299214.0       5.0   *
 8. NE MID E          *    265976.0   299319.0       5.0   *
 9. NE 164 E          *    265908.0   299163.0       5.0   *
10. NE 82 E           *    265886.0   299084.0       5.0   *
11. NE CNR            *    265865.0   298999.0       5.0   *
12. NE 82 N           *    265859.0   299083.0       5.0   *
13. NE 164 N          *    265860.0   299164.0       5.0   *
14. NE MID N          *    265871.0   299350.0       5.0   *
1
                                                                   PAGE  4
 JOB: Central & McMillan No Bld AM                    RUN: Central & McMillan No Bld AM

  MODEL RESULTS
  -------------

  REMARKS : In search of the angle corresponding to
            the maximum concentration, only the first
            angle, of the angles with same maximum
            concentrations, is indicated as maximum.
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WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14
0. *	.0	.0	.1	.3	.3	.3	.5	.0	.1	.2	.4	.4	.4	.3
5. *	.0	.0	.1	.2	.3	.4	.5	.0	.0	.1	.3	.3	.3	.2
10. *	.0	.0	.0	.2	.4	.4	.5	.0	.0	.0	.2	.3	.3	.1
15. *	.0	.0	.0	.1	.3	.3	.5	.0	.1	.3	.3	.2	.2	.1
20. *	.0	.0	.0	.1	.2	.3	.5	.0	.2	.3	.5	.3	.1	.1
25. *	.0	.0	.0	.0	.2	.3	.4	.2	.2	.3	.6	.1	.1	.1
30. *	.0	.0	.0	.0	.0	.1	.3	.2	.4	.3	.5	.2	.2	.0
35. *	.0	.0	.0	.0	.0	.0	.2	.2	.4	.4	.7	.2	.1	.0
40. *	.0	.0	.0	.0	.0	.0	.2	.3	.4	.5	.7	.2	.1	.0
45. *	.0	.0	.0	.0	.0	.0	.1	.3	.4	.5	.6	.2	.1	.0
50. *	.0	.0	.0	.0	.0	.0	.1	.3	.4	.3	.8	.2	.1	.0
55. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	.9	.1	.2	.1
60. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	.9	.2	.2	.1
65. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	.9	.2	.2	.1
70. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	.2	.2	.1
75. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.2	1.0	.2	.1	.1
80. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.1	.1	.1
85. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.1	.1	.1
90. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.1	.1	.1
95. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.1	.1	.1	.1
100. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.2	.1	.1
105. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.3	.1	.1
110. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.0	.3	.1	.1
115. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	.3	.1	.1
120. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.9	.3	.2	.1
125. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.8	.2	.2	.1
130. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.7	.2	.1	.1
135. *	.1	.0	.0	.0	.0	.0	.0	.3	.4	.3	.6	.2	.1	.1
140. *	.2	.1	.0	.0	.0	.0	.0	.3	.3	.3	.5	.3	.1	.0
145. *	.4	.1	.1	.0	.0	.0	.0	.3	.3	.3	.5	.3	.1	.1
150. *	.4	.2	.1	.1	.0	.0	.0	.3	.3	.3	.6	.4	.1	.1
155. *	.5	.3	.1	.1	.1	.0	.0	.3	.3	.5	.6	.5	.1	.1
160. *	.5	.3	.3	.1	.1	.1	.0	.3	.5	.5	.6	.5	.2	.2
165. *	.5	.5	.4	.1	.1	.1	.0	.3	.5	.5	.7	.5	.4	.1
170. *	.5	.4	.3	.2	.1	.1	.1	.4	.4	.6	.7	.6	.6	.1
175. *	.6	.5	.4	.2	.2	.1	.1	.5	.4	.6	.9	.6	.5	.1
180. *	.6	.6	.4	.3	.2	.2	.1	.3	.4	.6	.9	.4	.4	.3
185. *	.5	.5	.5	.3	.3	.3	.1	.3	.4	.5	.8	.5	.4	.4
190. *	.5	.4	.4	.2	.2	.4	.2	.3	.5	.5	.8	.5	.4	.4
195. *	.5	.5	.4	.2	.2	.3	.3	.4	.5	.5	.7	.8	.6	.6
200. *	.4	.4	.5	.3	.1	.4	.5	.4	.6	.6	1.0	1.1	.8	.8
205. *	.4	.4	.4	.5	.3	.6	.6	.3	.5	.8	1.1	1.0	1.1	.8

1

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14
210. *	.5	.4	.5	.5	.4	.7	.7	.4	.8	1.0	1.4	1.3	1.1	1.0
215. *	.4	.5	.6	.6	.8	1.0	.8	.5	.9	1.1	1.3	1.3	1.3	1.1
220. *	.5	.7	.9	.7	.8	1.4	1.0	.8	1.0	1.1	1.4	1.5	1.2	1.2
225. *	.7	.9	.9	.8	1.0	1.3	1.0	.9	.9	1.2	1.6	1.6	1.4	1.1
230. *	.9	.9	1.0	.9	1.1	1.7	1.1	.8	1.0	1.5	1.8	1.7	1.2	1.4
235. *	.9	.9	1.2	1.0	1.3	1.8	.9	1.0	.9	1.3	1.9	1.5	1.2	1.5
240. *	1.1	1.0	1.2	1.1	1.3	1.7	1.0	1.0	1.1	1.1	1.7	1.4	1.2	1.4
245. *	1.1	1.2	1.3	1.1	1.4	1.7	1.1	1.1	1.1	.9	1.9	1.4	1.3	1.3
250. *	1.2	1.2	1.2	1.4	1.6	1.6	1.3	1.0	1.1	1.1	1.9	1.4	1.4	1.4
255. *	1.2	1.1	1.1	1.3	1.8	1.5	1.3	1.0	1.0	1.0	1.9	1.3	1.3	1.3
260. *	1.2	1.1	1.2	1.6	1.9	1.6	1.3	.8	1.0	1.1	1.9	1.3	1.3	1.2
265. *	1.1	1.2	1.2	1.6	1.8	1.5	1.3	.9	1.0	1.0	1.6	1.2	1.2	1.2
270. *	1.2	1.2	1.3	1.9	1.5	1.4	1.1	.8	1.1	1.1	1.6	1.3	1.2	1.2
275. *	1.2	1.3	1.3	1.9	1.4	1.4	1.3	.9	.9	1.1	1.5	1.3	1.2	1.3
280. *	1.4	1.2	1.7	1.9	1.3	1.4	1.3	.8	.9	.9	1.5	1.1	1.2	1.3
285. *	1.4	1.4	1.7	1.7	1.5	1.2	1.3	.9	.8	1.0	1.3	1.2	1.2	1.1
290. *	1.4	1.2	1.7	1.7	1.2	1.3	1.2	.8	1.0	1.0	1.2	1.2	1.3	1.3
295. *	1.4	1.4	1.6	1.6	1.4	1.3	1.3	.9	.8	1.0	1.2	1.1	1.3	1.2
300. *	1.4	1.6	1.6	1.1	1.5	1.2	1.2	.8	.9	.9	1.2	1.2	1.1	1.3
305. *	1.5	1.4	1.2	1.1	1.4	1.1	1.3	.8	.9	1.0	1.1	1.1	1.1	1.1
310. *	1.3	1.2	1.4	1.1	1.5	1.1	1.0	.7	.9	1.1	1.2	1.1	1.2	1.1
315. *	1.2	1.2	1.2	1.2	1.4	1.1	1.0	.6	.9	1.1	1.1	1.2	1.1	1.1
320. *	1.1	1.1	1.3	1.2	1.3	1.1	.8	.5	.8	1.0	1.1	1.3	1.1	.9
325. *	.9	1.0	1.3	1.0	1.3	1.0	.7	.5	.7	.8	1.0	1.2	.9	.8
330. *	.9	1.0	1.0	1.1	1.0	.9	.5	.1	.5	.8	1.0	1.0	.9	.7
335. *	.8	.6	1.0	.8	1.0	.8	.4	.1	.5	.7	.9	.8	.8	.6
340. *	.5	.5	.7	.8	.8	.7	.4	.0	.3	.5	.9	.7	.8	.5
345. *	.4	.4	.8	.7	.6	.7	.3	.0	.3	.3	.7	.6	.6	.6
350. *	.1	.1	.3	.5	.5	.6	.4	.0	.2	.3	.5	.6	.6	.4
355. *	.0	.0	.0	.4	.2	.3	.4	.0	.2	.2	.5	.6	.5	.4
360. *	.0	.0	.1	.3	.3	.3	.5	.0	.1	.2	.4	.4	.4	.3
MAX *	1.5	1.6	1.7	1.9	1.9	1.8	1.3	1.1	1.1	1.5	1.9	1.7	1.4	1.5
DEGR. *	305	300	285	275	260	235	260	245	245	230	250	230	250	235

THE HIGHEST CONCENTRATION IS 1.90 PPM AT 250 DEGREES FROM REC11.
THE 2ND HIGHEST CONCENTRATION IS 1.90 PPM AT 275 DEGREES FROM REC4 .
THE 3RD HIGHEST CONCENTRATION IS 1.90 PPM AT 260 DEGREES FROM REC5 .

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 321. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK	DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. NB	Cen aprch	266300.0	298030.0	265981.0	298520.0	585.	327.	AG	1600.	12.1	.0	56.0		
2. NB	Cen aprch	265981.0	298520.0	265930.0	298621.0	113.	333.	AG	1600.	12.1	.0	56.0		
3. NB	Cen th+rt	265930.0	298621.0	265887.0	298770.0	155.	344.	AG	990.	12.1	.0	44.0		
4. NB	Cen thru	265887.0	298770.0	265848.0	298926.0	161.	346.	AG	970.	12.1	.0	44.0		
5. NB	Cen thru	265860.0	298880.0	265896.0	298735.9	149.	166.	AG	184.	100.0	.0	24.0	.57	7.5
6. NB	Cen right	265896.0	298777.0	265889.0	298867.0	90.	356.	AG	20.	12.1	.0	32.0		
7. NB	Cen right	265890.0	298859.0	265890.4	298852.9	6.	176.	AG	92.	100.0	.0	12.0	.03	.3
8. NB	Cen right	265889.0	298867.0	265913.0	298986.0	121.	11.	AG	20.	12.1	.0	32.0		
9. NB	Cen left	265930.0	298621.0	265871.0	298749.0	141.	335.	AG	610.	12.1	.0	44.0		
10. NB	Cen left	265871.0	298749.0	265834.0	298915.0	170.	347.	AG	610.	12.1	.0	44.0		
11. NB	Cen left	265843.0	298876.0	265880.1	298705.5	175.	168.	AG	295.	100.0	.0	24.0	.86	8.9
12. NB	Cen depart	265848.0	298926.0	265835.0	299123.0	197.	356.	AG	1150.	12.1	.0	56.0		
13. NB	Cen depart	265835.0	299123.0	265854.0	299553.0	430.	3.	AG	1150.	12.1	.0	56.0		
14. NB	Cen depart	265854.0	299553.0	265853.0	299734.0	181.	360.	AG	1150.	12.1	.0	56.0		
15. NB	Cen depart	265853.0	299734.0	265840.0	299908.0	174.	356.	AG	1150.	12.1	.0	56.0		
16. SB	Cen aprch	265814.0	299905.0	265829.0	299697.0	209.	176.	AG	820.	12.1	.0	44.0		
17. SB	Cen aprch	265829.0	299697.0	265831.0	299539.0	158.	179.	AG	820.	12.1	.0	44.0		
18. SB	Cen aprch	265831.0	299539.0	265800.0	299112.0	428.	184.	AG	820.	12.1	.0	44.0		
19. SB	Cen aprch	265800.0	299112.0	265807.0	298918.0	194.	178.	AG	820.	12.1	.0	56.0		
20. SB	Cen aprch	265805.0	298976.0	265800.2	299105.8	130.	358.	AG	428.	100.0	.0	36.0	.69	6.6
21. SB	Cen depart	265807.0	298918.0	265870.0	298694.0	233.	164.	AG	910.	12.1	.0	44.0		
22. SB	Cen depart	265870.0	298694.0	265929.0	298554.0	152.	157.	AG	910.	12.1	.0	44.0		
23. SB	Cen depart	265929.0	298554.0	266278.0	298019.0	639.	147.	AG	910.	12.1	.0	44.0		
24. EB	McM aprch	264648.0	299034.0	265403.0	298932.0	762.	98.	BR	660.	12.1	15.0	44.0		
25. EB	McM thru+l	265403.0	298932.0	265612.0	298913.0	210.	95.	BR	430.	12.1	15.0	44.0		
26. EB	McM thru+l	265612.0	298913.0	265821.0	298881.0	211.	99.	AG	430.	12.1	.0	44.0		
27. EB	McM thr+lt	265773.0	298888.0	265684.7	298901.6	89.	279.	AG	249.	100.0	.0	24.0	.37	4.5
28. EB	McM right	265403.0	298932.0	265757.0	298877.0	358.	99.	AG	230.	12.1	.0	32.0		
29. EB	McM right	265751.0	298878.0	265656.6	298892.7	96.	279.	AG	125.	100.0	.0	12.0	.41	4.9
30. EB	McM right	265757.0	298877.0	265798.0	298862.0	44.	110.	AG	230.	12.1	.0	32.0		
31. EB	McM right	265798.0	298862.0	265827.0	298834.0	40.	134.	AG	230.	12.1	.0	32.0		
32. EB	McM depart	265821.0	298884.0	265876.0	298929.0	71.	51.	AG	270.	12.1	.0	44.0		
33. EB	McM depart	265876.0	298929.0	265913.0	298986.0	68.	33.	AG	270.	12.1	.0	44.0		
34. EB	McM depart	265912.0	298988.0	265938.0	299116.0	131.	11.	AG	290.	12.1	.0	44.0		
35. EB	McM depart	265938.0	299116.0	265975.0	299226.0	116.	19.	AG	290.	12.1	.0	44.0		
36. EB	McM depart	265975.0	299226.0	266163.0	299539.0	365.	31.	AG	290.	12.1	.0	44.0		
37. EB	McM depart	266163.0	299539.0	266220.0	299610.0	91.	39.	AG	290.	12.1	.0	44.0		
38. EB	McM depart	266220.0	299610.0	266293.0	299664.0	91.	54.	AG	290.	12.1	.0	44.0		
39. EB	McM depart	266293.0	299664.0	266414.0	299711.0	130.	69.	AG	290.	12.1	.0	44.0		
40. WB	McM aprch	266380.0	299736.0	266244.0	299666.0	153.	243.	AG	610.	12.1	.0	44.0		
41. WB	McM aprch	266244.0	299666.0	266173.0	299596.0	100.	225.	AG	610.	12.1	.0	44.0		
42. WB	McM aprch	266173.0	299596.0	265969.0	299259.0	394.	211.	AG	610.	12.1	.0	44.0		
43. WB	McM aprch	265969.0	299259.0	265933.0	299173.0	93.	203.	AG	610.	12.1	.0	44.0		
44. WB	McM aprch	265933.0	299173.0	265909.0	299091.0	85.	196.	AG	610.	12.1	.0	44.0		

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LINK VARIABLES

LINK	DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. WB	McM aprch	265909.0	299091.0	265892.0	299010.0	83.	192.	AG	610.	12.1	.0	44.0		
46. WB	McM aprch	265892.0	299010.0	265856.0	298942.0	77.	208.	AG	610.	12.1	.0	44.0		
47. WB	McM aprch	265892.0	299011.0	265822.9	298878.5	149.	208.	AG	285.	100.0	.0	24.0	.75	7.6
48. WB	McM depart	265856.0	298942.0	265752.0	298914.0	108.	255.	AG	1340.	12.1	.0	44.0		
49. WB	McM depart	265752.0	298914.0	264661.0	299060.0	1101.	278.	BR	1340.	12.1	15.0	44.0		
50. EB	south loop	265447.0	298923.0	265645.0	298862.0	207.	107.	AG	370.	12.1	.0	32.0		
51. EB	south loop	265645.0	298862.0	265771.0	298755.0	165.	130.	AG	370.	12.1	.0	32.0		
52. EB	south loop	265771.0	298755.0	265821.0	298673.0	96.	149.	AG	370.	12.1	.0	32.0		
53. EB	south loop	265821.0	298673.0	265843.0	298597.0	79.	164.	AG	370.	12.1	.0	32.0		
54. EB	south loop	265843.0	298597.0	265839.0	298518.0	79.	183.	AG	370.	12.1	.0	32.0		
55. EB	south loop	265839.0	298518.0	265812.0	298456.0	68.	204.	AG	370.	12.1	.0	32.0		
56. EB	south loop	265812.0	298456.0	265766.0	298407.0	67.	223.	AG	370.	12.1	.0	32.0		
57. EB	south loop	265766.0	298407.0	265713.0	298377.0	61.	241.	AG	370.	12.1	.0	32.0		
58. EB	south loop	265713.0	298377.0	265652.0	298363.0	63.	257.	AG	370.	12.1	.0	32.0		
59. EB	south loop	265652.0	298363.0	265590.0	298367.0	62.	274.	AG	370.	12.1	.0	32.0		
60. EB	south loop	265590.0	298367.0	265531.0	298389.0	63.	290.	AG	370.	12.1	.0	32.0		
61. EB	south loop	265531.0	298389.0	265477.0	298437.0	72.	312.	AG	370.	12.1	.0	32.0		
62. EB	south loop	265477.0	298437.0	265443.0	298496.0	68.	330.	AG	370.	12.1	.0	32.0		
63. EB	south loop	265443.0	298496.0	265425.0	298562.0	68.	345.	AG	370.	12.1	.0	32.0		
64. EB	south loop	265425.0	298562.0	265430.0	298755.0	193.	1.	AG	370.	12.1	.0	32.0		
65. WB	north loop	265332.0	298608.0	265338.0	299177.0	569.	1.	AG	493.	12.1	.0	32.0		
66. WB	north loop	265338.0	299177.0	265353.0	299266.0	90.	10.	AG	493.	12.1	.0	32.0		
67. WB	north loop	265353.0	299266.0	265381.0	299332.0	72.	23.	AG	493.	12.1	.0	32.0		
68. WB	north loop	265381.0	299332.0	265459.0	299404.0	106.	47.	AG	493.	12.1	.0	32.0		
69. WB	north loop	265459.0	299404.0	265525.0	299426.0	70.	72.	AG	493.	12.1	.0	32.0		
70. WB	north loop	265525.0	299426.0	265605.0	299422.0	80.	93.	AG	493.	12.1	.0	32.0		
71. WB	north loop	265605.0	299422.0	265670.0	299394.0	71.	113.	AG	493.	12.1	.0	32.0		
72. WB	north loop	265670.0	299394.0	265724.0	299345.0	73.	132.	AG	493.	12.1	.0	32.0		
73. WB	north loop	265724.0	299345.0	265757.0	299282.0	71.	152.	AG	493.	12.1	.0	32.0		
74. WB	north loop	265757.0	299282.0	265766.0	299216.0	67.	172.	AG	493.	12.1	.0	32.0		
75. WB	north loop	265766.0	299216.0	265750.0	299137.0	81.	191.	AG	493.	12.1	.0	32.0		

76.	WB	north loop*	265750.0	299137.0	265713.0	299078.0	*	70.	212.	AG	493.	12.1	.0	32.0
77.	WB	north loop*	265713.0	299078.0	265656.0	299025.0	*	78.	227.	AG	493.	12.1	.0	32.0
78.	WB	north loop*	265656.0	299025.0	265590.0	298989.0	*	75.	241.	AG	493.	12.1	.0	32.0
79.	WB	north loop*	265590.0	298989.0	265525.0	298971.0	*	67.	255.	AG	493.	12.1	.0	32.0
80.	WB	north loop*	265525.0	298971.0	265373.0	298968.0	*	152.	269.	AG	493.	12.1	.0	32.0
81.	NB	I-75 *	265311.0	298053.0	265356.0	298545.0	*	494.	5.	AG	7893.	12.9	.0	68.0
82.	NB	I-75 *	265356.0	298545.0	265415.0	298994.0	*	453.	7.	AG	7893.	12.9	.0	68.0
83.	NB	I-75 *	265415.0	298994.0	265521.0	299559.0	*	575.	11.	AG	7893.	12.9	.0	68.0
84.	NB	I-75 *	265521.0	299559.0	265592.0	299877.0	*	326.	13.	AG	7893.	12.9	.0	68.0
85.	SB	I-75 *	265415.0	299817.0	265341.0	299495.0	*	330.	193.	AG	6030.	12.9	.0	68.0
86.	SB	I-75 *	265341.0	299495.0	265297.0	299275.0	*	224.	191.	AG	6030.	12.9	.0	68.0
87.	SB	I-75 *	265297.0	299275.0	265264.0	299008.0	*	269.	187.	AG	6030.	12.9	.0	68.0
88.	SB	I-75 *	265264.0	299008.0	265250.0	298765.0	*	243.	183.	AG	6030.	12.9	.0	68.0
89.	SB	I-75 *	265250.0	298765.0	265228.0	298107.0	*	658.	182.	AG	6030.	12.9	.0	68.0

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JOB: Central & McMillan No Bld PM RUN: Central & McMillan No Bld PM
DATE: 08/27/2010 TIME: 09:49:04.49

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
5. NB Cen thru *	120	56	2.0	970	1691	73.30	1	3
7. NB Cen right *	120	56	2.0	20	1509	73.30	1	3
11. NB Cen left *	120	90	2.0	610	1638	73.30	1	3
20. SB Cen aprch *	120	87	2.0	820	1630	73.30	1	3
27. EB McM thr+lt*	120	76	2.0	430	1732	73.30	1	3
29. EB McM right *	120	76	2.0	230	1687	73.30	1	3
47. WB McM aprch *	120	87	2.0	610	1682	73.30	1	3

RECEPTOR LOCATIONS

RECEPTOR *	COORDINATES (FT) X	Y	Z *
1. SE MID S *	265957.0	298638.0	5.0 *
2. SE 164 S *	265938.0	298713.0	5.0 *
3. SE 82 S *	265912.0	298793.0	5.0 *
4. SE CNR *	265918.0	298875.0	5.0 *
5. SE 82 E *	265934.0	298958.0	5.0 *
6. SE 164 E *	265949.0	299039.0	5.0 *
7. SE MID E *	265999.0	299214.0	5.0 *
8. NE MID E *	265976.0	299319.0	5.0 *
9. NE 164 E *	265908.0	299163.0	5.0 *
10. NE 82 E *	265886.0	299084.0	5.0 *
11. NE CNR *	265865.0	298999.0	5.0 *
12. NE 82 N *	265859.0	299083.0	5.0 *
13. NE 164 N *	265860.0	299164.0	5.0 *
14. NE MID N *	265871.0	299350.0	5.0 *

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JOB: Central & McMillan No Bld PM RUN: Central & McMillan No Bld PM

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14
	CONCENTRATION (PPM)													
0. *	.1	.2	.5	.3	.3	.5	.3	.0	.1	.4	.9	.8	.8	.8
5. *	.0	.0	.2	.2	.2	.5	.4	.0	.2	.3	.8	.8	.7	.6
10. *	.0	.0	.1	.0	.1	.2	.4	.1	.2	.2	.7	.6	.6	.5
15. *	.0	.0	.0	.0	.2	.1	.4	.1	.3	.6	.6	.4	.4	.3
20. *	.0	.0	.0	.0	.0	.1	.4	.1	.4	.5	.8	.3	.3	.2
25. *	.0	.0	.0	.0	.0	.1	.2	.2	.4	.5	.7	.5	.3	.1
30. *	.0	.0	.0	.0	.0	.0	.2	.3	.5	.6	.8	.4	.3	.1
35. *	.0	.0	.0	.0	.0	.0	.2	.4	.5	.6	.8	.4	.2	.1
40. *	.0	.0	.0	.0	.0	.0	.1	.4	.5	.6	.8	.4	.3	.1
45. *	.0	.0	.0	.0	.0	.0	.0	.5	.6	.4	.8	.2	.4	.1
50. *	.0	.0	.0	.0	.0	.0	.0	.5	.6	.4	1.0	.2	.4	.2
55. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.3	1.1	.2	.3	.2
60. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.1	.1	.2	.1
65. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.0	.1	.1	.1
70. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.3	1.1	.2	.1	.1
75. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.3	1.1	.2	.1	.1
80. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.1	.2	.2	.1
85. *	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.2	.3	.3	.1
90. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.4	1.1	.3	.2	.1
95. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.1	.2	.1	.1
100. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.1	.2	.1	.1
105. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	1.1	.3	.1	.1
110. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	1.2	.4	.1	.1
115. *	.0	.0	.0	.0	.0	.0	.0	.3	.4	.3	1.4	.4	.1	.1
120. *	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.4	.4	.1	.1
125. *	.1	.0	.0	.0	.0	.0	.0	.3	.3	.3	1.4	.4	.2	.1
130. *	.2	.0	.0	.0	.0	.0	.0	.3	.3	.4	1.4	.4	.2	.1
135. *	.2	.1	.0	.0	.0	.0	.0	.3	.4	.4	1.4	.5	.2	.1

```
140. *   .5   .1   .1   .0   .0   .0   .0   .3   .4   .4  1.4   .5   .2   .2
145. *   .6   .4   .2   .1   .0   .0   .0   .3   .4   .4  1.4   .3   .3   .2
150. *   .7   .4   .5   .1   .1   .0   .0   .3   .3   .5  1.6   .6   .3   .2
155. *  1.0   .4   .5   .2   .1   .1   .0   .3   .4   .6  2.1   .7   .6   .2
160. *  1.1   .8   .6   .3   .2   .1   .0   .3   .5   .6  2.1  1.2   .5   .1
165. *  1.0   .7   .8   .4   .2   .2   .1   .4   .6  1.0  2.6  1.4   .8   .3
170. *  1.1   .9   .9   .5   .2   .2   .1   .5   .7  1.2  2.9  1.6  1.1   .6
175. *  1.0   .8   .9   .8   .5   .2   .1   .5   .8  1.3  3.0  1.7  1.3   .8
180. *   .9   .8  1.1   .9   .5   .3   .1   .4  1.1  1.3  3.0  2.0  1.6  1.0
185. *  1.0   .9  1.0  1.0   .4   .4   .1   .5  1.1  1.6  2.9  1.9  1.8  1.3
190. *   .9   .9  1.3   .9   .6   .5   .2   .6  1.2  1.6  2.9  1.9  1.7  1.3
195. *   .8   .8  1.4  1.3   .8   .7   .3   .8  1.5  1.9  2.8  1.8  1.9  1.5
200. *   .8   .9  1.3  1.2  1.0   .9   .5   .9  1.4  1.5  2.7  2.1  1.9  1.8
205. *   .9   .9  1.6  1.3  1.0  1.0   .8  1.1  1.3  1.9  2.5  2.0  2.2  1.6
1
                                                                  PAGE  5
   JOB: Central & McMillan No Bld PM                RUN: Central & McMillan No Bld PM

WIND  * CONCENTRATION
ANGLE *      (PPM)
(DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14
------*--------------------------------------------------------------------------------
210. *   .8   .9  1.8  1.5  1.2  1.6  1.0  1.3  1.6  1.9  2.6  2.4  2.4  1.7
215. *   .9   .9  2.0  1.6  1.4  1.8  1.1  1.4  1.9  1.9  2.4  2.5  2.5  2.0
220. *   .8  1.1  2.1  1.7  1.4  1.7  1.4  1.3  1.9  2.2  2.5  2.6  2.3  1.8
225. *  1.1  1.1  2.4  1.9  1.5  2.0  1.6  1.2  1.8  2.2  2.7  2.6  2.2  1.8
230. *  1.2  1.3  2.5  2.0  1.7  2.3  1.5  1.3  1.7  2.2  2.4  2.8  2.0  1.8
235. *  1.4  1.3  2.4  2.0  1.9  2.3  1.8  1.2  1.7  2.3  2.6  2.6  2.1  1.8
240. *  1.4  1.5  2.5  2.0  1.9  2.3  1.6  1.2  1.6  2.2  2.6  2.5  1.9  1.8
245. *  1.4  1.6  2.5  2.1  2.2  2.2  1.6  1.2  1.8  2.2  2.2  2.6  1.8  1.7
250. *  1.7  1.6  2.5  2.1  2.2  2.3  1.5  1.2  1.7  2.1  2.3  2.6  1.7  1.7
255. *  1.5  1.7  2.5  2.2  2.3  2.1  1.4  1.4  1.5  2.2  2.4  2.5  1.7  1.6
260. *  1.5  1.6  2.5  2.2  2.5  2.1  1.4  1.1  1.3  2.2  2.4  2.5  1.6  1.5
265. *  1.6  1.8  2.5  2.2  2.5  1.9  1.4  1.1  1.3  2.0  2.3  2.4  1.8  1.6
270. *  1.5  1.7  2.6  2.4  2.3  2.0  1.3  1.1  1.3  1.8  2.5  2.3  1.8  1.6
275. *  1.5  1.6  2.6  2.4  2.2  1.9  1.3  1.2  1.2  1.8  2.4  2.3  1.7  1.7
280. *  1.4  2.0  2.9  2.2  2.3  1.9  1.4  1.1  1.2  1.6  2.3  2.1  1.8  1.6
285. *  1.6  2.2  2.9  2.4  2.2  1.7  1.4  1.1  1.2  1.6  2.4  2.1  1.7  1.7
290. *  1.8  2.1  3.0  2.3  2.1  1.6  1.2  1.1  1.3  1.6  2.3  2.0  1.8  1.5
295. *  1.8  2.3  3.0  2.4  2.1  1.6  1.5  1.1  1.2  1.7  2.3  1.8  1.6  1.6
300. *  1.8  2.6  3.3  2.2  2.0  1.6  1.5  1.0  1.4  1.4  2.3  1.9  1.6  1.5
305. *  2.1  2.6  3.1  2.0  2.2  1.3  1.3   .9  1.3  1.3  2.3  1.8  1.6  1.6
310. *  1.8  2.6  3.0  1.9  1.9  1.4  1.2  1.0  1.3  1.4  2.3  1.8  1.6  1.5
315. *  2.3  2.8  3.1  1.8  2.0  1.5  1.1   .8  1.1  1.4  2.3  1.8  1.6  1.5
320. *  2.4  2.9  2.8  2.0  2.1  1.3  1.1   .8  1.1  1.2  2.4  1.8  1.5  1.3
325. *  2.5  2.5  2.7  2.0  1.9  1.3   .9   .5   .9  1.4  2.4  1.6  1.5  1.4
330. *  2.3  2.4  2.5  1.7  1.2  1.1   .7   .4   .9  1.2  2.1  1.6  1.4  1.2
335. *  2.0  2.2  2.2  1.7  1.1  1.1   .6   .3   .8  1.1  1.9  1.4  1.5  1.1
340. *  1.9  2.2  2.2  1.5  1.1   .7   .6   .3   .6  1.0  1.8  1.5  1.2  1.2
345. *  1.5  1.5  1.6  1.1   .7   .6   .3   .1   .5   .8  1.6  1.1  1.1  1.1
350. *   .9   .8  1.1   .8   .5   .5   .3   .1   .4   .5  1.2  1.2  1.0  1.0
355. *   .8   .7   .9   .6   .4   .3   .3   .0   .3   .6  1.0  1.1  1.0   .9
360. *   .1   .2   .5   .3   .3   .5   .3   .0   .1   .4   .9   .8   .8   .8
------*--------------------------------------------------------------------------------
MAX   *  2.5  2.9  3.3  2.4  2.5  2.3  1.8  1.4  1.9  2.3  3.0  2.8  2.5  2.0
DEGR. *  325  320  300  275  260  230  235  215  215  235  175  230  215  215

THE HIGHEST CONCENTRATION IS    3.30 PPM AT  300 DEGREES FROM REC3 .
THE 2ND HIGHEST CONCENTRATION IS    3.00 PPM AT  175 DEGREES FROM REC11.
THE 3RD HIGHEST CONCENTRATION IS    2.90 PPM AT  320 DEGREES FROM REC2 .
1                CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000          PAGE  1

   JOB: Brent Spence Bridge T1altIpm.dat              RUN: Kyles Lane & Dixie Hwy-Trunc
   DATE: 08/31/2010   TIME: 08:03:18.51


   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   .0 CM/S      VD =   .0 CM/S      Z0 = 175. CM
    U =  1.0 M/S       CLAS =   4  (D)    ATIM =  60. MINUTES     MIXH =  1000. M   AMB =   .0 PPM

   LINK VARIABLES
   --------------
    LINK DESCRIPTION     *        LINK COORDINATES (FT)        *   LENGTH  BRG TYPE  VPH    EF     H  W    V/C QUEUE
                      *   X1       Y1       X2       Y2     *    (FT)  (DEG)         (G/MI)  (FT) (FT)      (VEH)
   ------------------------*---------------------------------------*--------------------------------------------------------
   1. 01 Dixie  NB Appr   * 264099.0  275553.0  264162.0  275726.0 *    184.    20. AG    760.  11.5    .0 44.0
   2. 02 Dixie  NB Appr   * 264162.0  275726.0  264197.0  275813.0 *     94.    22. AG    760.  11.5    .0 44.0
   3. 03 Dixie  NB Appr   * 264197.0  275813.0  264240.0  275916.0 *    112.    23. AG    760.  11.5    .0 44.0
   4. 04 Dixie  NB Queue  * 264228.0  275888.0  263898.8  275071.9 *    880.   202. AG    295. 100.0    .0 24.0 1.20  44.7
   5. 05 Dixie  NB @ Kyles* 264240.0  275916.0  264280.0  276013.0 *    105.    22. AG    540.  11.5    .0 44.0
   6. 06 Dixie  NB Depart * 264280.0  276013.0  264303.0  276071.0 *     62.    22. AG    465.  11.5    .0 44.0
   7. 07 Dixie  NB Depart * 264303.0  276071.0  264360.0  276209.0 *    149.    22. AG   1295.  11.5    .0 44.0
   8. 08 Dixie  NB Depart * 264360.0  276209.0  264406.0  276278.0 *     83.    34. AG   1295.  11.5    .0 44.0
   9. 09 Dixie  NB Depart * 264406.0  276278.0  264446.0  276325.0 *     62.    40. AG   1295.  11.5    .0 44.0
  10. 10 Dixie  NB Depart * 264446.0  276325.0  264529.0  276400.0 *    112.    48. AG   1295.  11.5    .0 44.0
  11. 11 Dixie  SB Appr   * 264499.0  276415.0  264439.0  276361.0 *     81.   228. AG   1600.  11.5    .0 44.0
  12. 12 Dixie  SB Appr   * 264439.0  276361.0  264381.0  276288.0 *     93.   218. AG   1600.  11.5    .0 44.0
  13. 13 Dixie  SB Appr   * 264381.0  276288.0  264351.0  276234.0 *     62.   209. AG   1600.  11.5    .0 44.0
  14. 14 Dixie  SB Appr   * 264351.0  276234.0  264252.0  275994.0 *    260.   202. AG   1600.  11.5    .0 44.0
  15. 15 Dixie  SB QTRUNC * 264276.0  276054.0  264351.0  276234.0 *    195.    23. AG    197. 100.0    .0 24.0
  16. 16 Dixie  SB QTRUNC * 264351.0  276234.0  264365.0  276261.0 *     30.    27. AG    197. 100.0    .0 24.0
  17. 17 Dixie  SB @ Kyles* 264252.0  275994.0  264236.0  275956.0 *     41.   203. AG    965.  11.5    .0 40.0
  18. 18 Dixie  SB Depart * 264236.0  275956.0  264179.0  275824.0 *    144.   203. AG   1345.  11.5    .0 44.0
  19. 19 Dixie  SB Depart * 264179.0  275824.0  264143.0  275732.0 *     99.   201. AG   1345.  11.5    .0 44.0
  20. 20 Dixie  SB Depart * 264143.0  275732.0  264083.0  275564.0 *    178.   200. AG   1345.  11.5    .0 44.0
  21. 21 Dixie  NB Rt.    * 264240.0  275916.0  264284.0  275929.0 *     46.    74. AG    310.  11.5    .0 32.0
  22. 22 Kyles  EB @ Dixie* 264252.0  275994.0  264284.0  275929.0 *     72.   154. AG    650.  11.5    .0 32.0
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    23. 23 Kyles  EB Depart * 264284.0  275929.0  264483.0  275522.0 *     453.   154. AG    960.  11.5    .0 44.0
    24. 24 Kyles  WB Appr   * 264516.0  275540.0  264468.0  275639.0 *     110.   334. AG   1240.  11.5    .0 56.0
    25. 25 Kyles  WB Appr   * 264468.0  275639.0  264359.0  275852.0 *     239.   333. AG   1240.  11.5    .0 56.0
    26. 26 Kyles  WB  Rt.   * 264359.0  275852.0  264347.0  275900.0 *      49.   346. AG    830.  11.5    .0 32.0
    27. 27 Kyles  WB Rt.    * 264347.0  275900.0  264300.0  276003.0 *     113.   335. AG    830.  11.5    .0 32.0
    28. 28 Kyles  WB  Rt. Qu* 264313.0  275975.0  265453.3  273432.6 *    2786.   156. AG    116. 100.0    .0 12.0 1.40 141.6
    29. 29 Kyles  WB Rt. @ D* 264300.0  276003.0  264303.0  276071.0 *      68.     3. AG    830.  11.5    .0 32.0
    30. 30 Kyles  WB Appr   * 264359.0  275852.0  264296.0  275980.0 *     143.   334. AG     30.  11.5    .0 32.0
    31. 31        WB Kyles L* 264307.0  275957.0  264311.3  275948.3 *      10.   154. AG    116. 100.0    .0 12.0  .04    .5
    32. 32 Kyles  WB @ Dixie* 264296.0  275980.0  264280.0  276013.0 *      37.   334. AG     15.  11.5    .0 32.0
    33. 33 Kyles  WB Lt.    * 264296.0  275980.0  264252.0  275994.0 *      46.   288. AG     15.  11.5    .0 32.0
    34. 34 Kyles  WB Lt.    * 264359.0  275852.0  264325.0  275892.0 *      53.   320. AG    380.  11.5    .0 32.0
    35. 35 Kyles  WB Lt.    * 264325.0  275892.0  264287.0  275965.0 *      82.   333. AG    380.  11.5    .0 32.0
    36. 36 Kyles  WB Lt. Que* 264295.0  275951.0  264350.2  275838.5 *     125.   154. AG    116. 100.0    .0 12.0  .76   6.4
    37. 37 Kyles  WB Lt. @ D* 264287.0  275965.0  264236.0  275956.0 *      52.   260. AG    380.  11.5    .0 32.0
1
                                                                      PAGE  2
    JOB: Brent Spence Bridge T1altIpm.dat                RUN: Kyles Lane & Dixie Hwy-Trunc
    DATE: 08/31/2010   TIME: 08:03:18.51

     ADDITIONAL QUEUE LINK PARAMETERS
     --------------------------------
       LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION    IDLE    SIGNAL    ARRIVAL
                            *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE   EM FAC    TYPE      RATE
                            *    (SEC)   (SEC)     (SEC)      (VPH)      (VPH)    (gm/hr)
    ------------------------*--------------------------------------------------------------------------------
     4. 04 Dixie  NB Queue  *     100       75       2.0       760       1511      73.30      1        3
    28. 28 Kyles  WB  Rt. Qu*     100       59       2.0       830       1599      73.30      1        3
    31. 31        WB Kyles L*     100       59       2.0        30       1881      73.30      1        3
    36. 36 Kyles  WB Lt. Que*     100       59       2.0       380       1357      73.30      1        3

     RECEPTOR LOCATIONS
     ------------------
                            *        COORDINATES (FT)         *
       RECEPTOR             *      X          Y          Z    *
    ------------------------*----------------------------------*
     1. R1 SB Mid           *    264384.0   276323.0       5.0  *
     2. R2 SB 164           *    264321.0   276211.0       5.0  *
     3. R3 SB 82            *    264290.0   276136.0       5.0  *
     4. R4 SB Corner        *    264262.0   276069.0       5.0  *
     5. R5 SB Corner        *    264230.0   275990.0       5.0  *
     6. R6 SB 82            *    264193.0   275900.0       5.0  *
     7. R7 SB 164           *    264151.0   275798.0       5.0  *
     8. R8 SB Mid           *    264103.0   275678.0       5.0  *
     9. R9 NB Mid           *    264155.0   275655.0       5.0  *
    10. R10 NB 164          *    264184.0   275729.0       5.0  *
    11. R11 NB 82           *    264215.0   275805.0       5.0  *
    12. R12 NB Corner       *    264242.0   275872.0       5.0  *
    13. R13 EB Corner       *    264272.0   275903.0       5.0  *
    14. R14 EB 82           *    264340.0   275765.0       5.0  *
    15. R15 EB 164          *    264378.0   275678.0       5.0  *
    16. R16 EB Mid          *    264408.0   275600.0       5.0  *
    17. R17 WB Mid          *    264455.0   275722.0       5.0  *
    18. R18 WB 164          *    264399.0   275833.0       5.0  *
    19. R19 WB 82           *    264362.0   275906.0       5.0  *
    20. R20 WB Corner       *    264330.0   275971.0       5.0  *
    21. R21 NB Corner       *    264319.0   276046.0       5.0  *
    22. R22 NB 82           *    264343.0   276114.0       5.0  *
    23. R23 NB 164          *    264376.0   276189.0       5.0  *
    24. R24 NB Mid          *    264447.0   276280.0       5.0  *
1
                                                                      PAGE  3
    JOB: Brent Spence Bridge T1altIpm.dat                RUN: Kyles Lane & Dixie Hwy-Trunc

     MODEL RESULTS
     -------------

     REMARKS : In search of the angle corresponding to
               the maximum concentration, only the first
               angle, of the angles with same maximum
               concentrations, is indicated as maximum.

  WIND ANGLE RANGE:   0.-360.

  WIND  * CONCENTRATION
  ANGLE *      (PPM)
  (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18
REC19 REC20
  ------*------------------------------------------------------------------------------------------------------------
    0.  *    .1    .1    .2    .3    .2    .2    .3    .2   2.3   2.4   2.0   1.3   1.6   1.3   1.2    .9    .1    .2    .4    .9
    5.  *    .1    .3    .4    .4    .4    .3    .3    .3   2.3   2.3   2.1   1.3   1.5   1.4   1.0    .9    .1    .0    .4    .7
   10.  *    .1    .3    .6    .6    .5    .5    .6    .6   2.2   2.2   2.0   1.3   1.5   1.3   1.0    .9    .1    .0    .1    .7
   15.  *    .2    .7    .8   1.0   1.0    .9    .8   1.0   2.2   1.9   1.8   1.2   1.6   1.1    .9    .9    .1    .0    .0    .5
   20.  *    .2    .9   1.4   1.4   1.2   1.1   1.2   1.3   1.8   1.7   1.5   1.2   1.3   1.0    .9    .9    .1    .0    .0    .3
   25.  *    .4   1.1   1.7   2.0   1.4   1.3   1.5   1.6   1.4   1.4   1.3   1.1   1.2    .9    .9    .7    .1    .0    .0    .0
   30.  *    .5   1.6   2.1   2.2   1.5   1.4   1.6   1.9   1.1   1.0    .9   1.0   1.2    .9    .8    .7    .0    .0    .0    .0
   35.  *    .7   1.9   2.4   2.4   1.7   1.4   1.7   1.9    .7    .7    .8    .8    .9    .8    .8    .7    .0    .0    .0    .0
   40.  *    .8   2.1   2.7   2.6   1.6   1.4   1.5   2.0    .5    .5    .6    .6    .9    .8    .7    .6    .0    .0    .0    .0
   45.  *    .9   2.3   2.5   2.3   1.6   1.3   1.8   2.0    .5    .5    .5    .7    .9    .8    .7    .7    .0    .0    .0    .0
   50.  *   1.0   2.2   2.4   2.2   1.4   1.3   1.8   1.9    .4    .3    .5    .7    .9    .8    .7    .7    .0    .0    .0    .0
   55.  *   1.2   2.2   2.1   2.1   1.3   1.3   2.0   1.9    .4    .4    .4    .7   1.0    .8    .8    .6    .0    .0    .0    .0
   60.  *   1.2   2.3   2.1   2.0   1.3   1.1   2.0   2.0    .4    .3    .3    .6   1.0    .8    .8    .7    .0    .0    .0    .0
   65.  *   1.3   2.2   1.9   1.9   1.1   1.3   2.0   1.9    .4    .3    .4    .5   1.0    .8    .8    .7    .0    .0    .0    .0
   70.  *   1.4   1.9   1.8   1.7   1.1   1.3   1.7   1.8    .3    .3    .4    .5    .9    .8    .8    .7    .0    .0    .0    .0
   75.  *   1.3   1.8   1.8   1.8   1.0   1.3   1.9   1.8    .3    .3    .3    .6    .9    .8    .7    .6    .0    .0    .0    .0
   80.  *   1.2   1.8   1.8   1.9    .9   1.3   1.7   1.7    .3    .3    .3    .5    .9    .8    .7    .7    .0    .0    .0    .0
   85.  *   1.1   1.7   1.6   1.6   1.0   1.2   1.7   1.6    .3    .3    .3    .5    .9    .8    .7    .7    .0    .0    .0    .0
   90.  *   1.1   1.6   1.6   1.6   1.0   1.1   1.6   1.6    .3    .3    .3    .6   1.0    .8    .7    .7    .0    .0    .0    .0
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95.	*	1.1	1.6	1.6	1.5	1.1	1.2	1.6	1.6	.3	.3	.4	.6	1.0	.8	.8	.7	.0	.0	.0	.0
100.	*	1.0	1.7	1.6	1.6	1.0	1.4	1.6	1.5	.2	.3	.4	.6	1.0	.8	.9	.7	.1	.0	.0	.0
105.	*	1.0	1.6	1.6	1.6	1.2	1.5	1.6	1.5	.2	.3	.5	.5	1.1	.9	.9	.7	.1	.1	.0	.0
110.	*	.9	1.6	1.6	1.5	1.2	1.5	1.6	1.5	.2	.4	.5	.6	1.1	.9	.9	.8	.1	.1	.0	.1
115.	*	.9	1.6	1.6	1.5	1.3	1.5	1.6	1.4	.1	.3	.4	.5	1.2	1.0	.9	.8	.1	.1	.0	.1
120.	*	.9	1.6	1.6	1.4	1.4	1.6	1.6	1.4	.1	.2	.4	.5	1.3	1.0	1.0	.7	.1	.1	.0	.1
125.	*	.9	1.6	1.6	1.4	1.6	1.7	1.5	1.4	.1	.2	.3	.6	1.1	1.1	1.0	.6	.1	.1	.0	.1
130.	*	.9	1.6	1.6	1.4	1.7	1.7	1.5	1.4	.1	.1	.3	.6	1.1	1.2	1.0	.6	.1	.1	.0	.1
135.	*	.9	1.6	1.6	1.4	1.7	1.7	1.4	1.4	.1	.1	.2	.5	1.2	1.1	.9	.6	.1	.2	.2	.2
140.	*	1.0	1.6	1.6	1.5	1.8	1.6	1.5	1.4	.1	.1	.2	.5	1.1	1.1	.8	.4	.4	.3	.2	.4
145.	*	.9	1.8	1.9	1.7	1.7	1.7	1.6	1.6	.1	.1	.2	.5	1.0	1.0	.7	.4	.4	.5	.5	.5
150.	*	1.0	1.9	2.1	1.7	1.6	1.7	1.6	1.5	.1	.1	.1	.2	1.0	.9	.7	.3	.6	.9	.8	1.1
155.	*	1.1	1.9	2.3	2.0	1.7	1.6	1.5	1.5	.1	.0	.1	.2	.8	.8	.5	.3	.9	1.0	1.0	1.3
160.	*	1.1	2.2	2.4	1.9	1.6	1.6	1.7	1.7	.1	.0	.0	.2	.6	.5	.3	.2	1.0	1.2	1.4	1.5
165.	*	1.3	2.4	2.5	2.0	1.2	1.8	1.9	1.7	.1	.0	.0	.1	.4	.4	.2	.1	1.1	1.3	1.3	1.6
170.	*	1.3	2.5	2.8	1.9	1.2	1.9	1.9	1.7	.1	.0	.1	.1	.2	.2	.1	.0	1.2	1.4	1.4	1.6
175.	*	1.9	2.4	2.6	1.8	1.2	1.9	2.0	1.7	.2	.2	.2	.2	.1	.1	.1	.0	1.3	1.2	1.4	1.7
180.	*	1.7	2.5	2.4	1.6	1.3	2.2	2.1	1.7	.2	.2	.2	.2	.1	.1	.0	.0	1.1	1.2	1.5	1.8
185.	*	2.1	2.6	2.5	1.6	1.6	2.2	2.1	1.8	.4	.4	.4	.4	.2	.1	.0	.0	1.1	1.3	1.4	1.7
190.	*	2.2	2.6	2.3	1.7	1.7	2.1	2.0	1.6	.6	.8	.9	.8	.2	.1	.0	.0	1.1	1.1	1.4	1.5
195.	*	2.2	2.3	2.1	1.8	1.6	2.0	1.8	1.4	1.1	1.2	1.1	1.3	.4	.0	.0	.0	1.0	1.0	1.4	1.5
200.	*	2.2	2.0	1.6	1.7	1.5	1.8	1.5	1.3	1.4	1.6	1.5	1.7	.9	.1	.0	.0	1.0	1.0	1.4	1.6
205.	*	2.0	1.6	1.4	1.3	1.4	1.5	1.4	.9	1.8	2.0	2.0	2.0	1.2	.1	.0	.0	1.0	1.1	1.4	1.8

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WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210.	*	1.6	1.3	1.1	.8	.9	.9	1.0	.6	2.0	2.2	2.1	2.3	1.5	.2	.1	.0	1.0	1.1	1.4	2.2
215.	*	1.5	.8	.7	.5	.5	.7	.6	.4	2.1	2.4	2.4	2.4	1.6	.2	.1	.1	.9	1.2	1.5	2.3
220.	*	.9	.4	.5	.4	.3	.5	.4	.3	2.3	2.4	2.5	2.5	1.5	.3	.2	.1	.9	1.1	1.6	2.0
225.	*	.7	.3	.2	.2	.2	.2	.2	.1	2.2	2.3	2.4	2.4	1.5	.4	.2	.1	1.0	1.3	1.8	2.0
230.	*	.4	.2	.2	.1	.1	.2	.2	.1	2.1	2.1	2.3	2.4	1.3	.5	.2	.2	1.0	1.3	1.8	1.8
235.	*	.3	.1	.1	.1	.0	.1	.1	.1	2.0	2.0	2.1	2.2	1.4	.5	.2	.2	1.1	1.4	1.7	1.7
240.	*	.1	.1	.1	.1	.0	.1	.1	.1	2.1	2.0	2.0	2.1	1.3	.5	.2	.2	1.1	1.4	1.7	1.6
245.	*	.1	.1	.1	.1	.0	.1	.1	.1	1.9	1.8	1.8	2.0	1.1	.5	.3	.2	1.1	1.5	1.8	1.6
250.	*	.1	.1	.1	.1	.0	.1	.1	.1	1.8	1.9	1.8	1.9	1.0	.5	.3	.2	1.2	1.5	1.9	1.5
255.	*	.1	.1	.1	.1	.0	.1	.1	.1	1.7	1.8	1.7	1.7	.9	.6	.4	.2	1.1	1.3	1.5	1.3
260.	*	.1	.1	.1	.1	.0	.1	.1	.1	1.7	1.8	1.7	1.7	.7	.6	.4	.2	1.1	1.3	1.6	1.2
265.	*	.1	.1	.1	.1	.0	.1	.1	.0	1.6	1.7	1.7	1.7	.6	.6	.4	.3	1.1	1.3	1.6	1.1
270.	*	.1	.0	.0	.0	.0	.1	.1	.0	1.6	1.6	1.5	1.6	.6	.5	.4	.3	1.2	1.5	1.5	1.1
275.	*	.1	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.6	.7	.5	.3	.4	1.2	1.4	1.5	1.0
280.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.6	.5	.3	.4	1.2	1.4	1.3	1.0
285.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.7	.6	.4	.3	1.3	1.4	1.3	1.0
290.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.6	.6	.3	.3	1.2	1.6	1.4	1.1
295.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	.6	.5	.3	.3	1.3	1.5	1.6	.8
300.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.5	.6	.5	.3	.3	1.3	1.3	1.5	.8
305.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.5	1.4	.6	.5	.4	.3	1.3	1.3	1.4	1.0
310.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.3	.5	.5	.4	.3	1.3	1.3	1.3	1.1
315.	*	.0	.0	.0	.0	.0	.0	.1	.0	1.6	1.6	1.6	1.2	.5	.5	.4	.2	1.3	1.3	1.3	1.0
320.	*	.0	.1	.1	.1	.0	.1	.1	.1	1.6	1.7	1.7	1.2	.6	.5	.3	.3	1.2	1.1	1.0	.9
325.	*	.0	.1	.1	.1	.0	.1	.1	.1	1.7	1.7	1.7	1.1	.8	.6	.4	.3	1.2	1.0	1.0	1.0
330.	*	.0	.1	.1	.1	.0	.1	.1	.1	1.7	1.7	1.7	1.0	.9	.5	.5	.4	1.0	.9	1.0	1.2
335.	*	.1	.1	.1	.1	.0	.1	.1	.1	1.9	1.8	1.8	1.0	.9	.7	.7	.5	.9	.9	1.0	1.2
340.	*	.1	.1	.1	.1	.0	.1	.1	.1	2.0	2.0	1.8	1.0	.9	.7	.9	.6	.6	.8	.9	1.1
345.	*	.1	.1	.1	.1	.0	.1	.1	.1	2.1	2.1	1.8	1.2	1.1	1.0	1.0	.8	.5	.6	.9	1.1
350.	*	.1	.1	.1	.1	.1	.1	.1	.1	2.2	2.1	1.9	1.1	1.1	1.1	1.1	.9	.4	.4	.7	1.0
355.	*	.1	.1	.2	.2	.1	.1	.3	.1	2.4	2.3	2.0	1.1	1.4	1.3	1.1	1.0	.1	.4	.5	.9
360.	*	.1	.1	.2	.3	.2	.2	.3	.2	2.3	2.4	2.0	1.3	1.6	1.3	1.2	.9	.1	.2	.4	.9
MAX	*	2.2	2.6	2.8	2.6	1.8	2.2	2.1	2.0	2.4	2.4	2.5	2.5	1.6	1.4	1.2	1.0	1.3	1.6	1.9	2.3
DEGR.	*	190	185	170	40	140	180	180	40	355	215	220	220	0	5	0	355	315	290	250	215

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	*	REC21	REC22	REC23	REC24
0.	*	1.6	1.7	1.3	.9
5.	*	1.7	1.7	1.3	.9
10.	*	1.6	1.5	1.3	.8
15.	*	1.4	1.5	1.3	.8
20.	*	1.1	1.4	1.1	.7
25.	*	.7	1.2	1.1	.7
30.	*	.4	.8	.7	.5
35.	*	.2	.4	.7	.5
40.	*	.1	.4	.5	.4
45.	*	.0	.1	.3	.2
50.	*	.0	.1	.2	.1
55.	*	.0	.1	.1	.1
60.	*	.0	.1	.0	.0

65.	*	.0	.1	.0	.0
70.	*	.0	.1	.0	.0
75.	*	.0	.1	.0	.0
80.	*	.0	.0	.0	.0
85.	*	.0	.0	.0	.0
90.	*	.0	.0	.0	.0
95.	*	.0	.0	.0	.0
100.	*	.0	.0	.0	.0
105.	*	.0	.0	.0	.0
110.	*	.0	.0	.0	.0
115.	*	.0	.0	.0	.0
120.	*	.0	.0	.0	.0
125.	*	.0	.0	.0	.0
130.	*	.0	.0	.0	.0
135.	*	.0	.0	.0	.0
140.	*	.0	.0	.0	.0
145.	*	.2	.0	.0	.0
150.	*	.3	.2	.0	.0
155.	*	.5	.3	.2	.0
160.	*	.6	.5	.2	.1
165.	*	.9	.5	.3	.1
170.	*	1.0	.5	.4	.1
175.	*	.9	.6	.4	.1
180.	*	1.0	.6	.4	.3
185.	*	.9	.8	.6	.3
190.	*	.9	.9	.6	.4
195.	*	1.4	1.1	.8	.3
200.	*	1.5	1.3	1.1	.5
205.	*	1.6	1.4	1.4	.6

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WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24
210.	*	1.8	1.5	1.6	.7
215.	*	1.7	1.5	1.7	.9
220.	*	1.5	1.7	1.8	1.0
225.	*	1.2	1.6	1.8	1.2
230.	*	1.3	1.5	1.7	1.3
235.	*	1.3	1.6	1.7	1.2
240.	*	1.2	1.6	1.7	1.2
245.	*	.9	1.5	1.6	1.3
250.	*	1.0	1.4	1.5	1.0
255.	*	1.0	1.4	1.4	1.2
260.	*	1.0	1.4	1.4	1.1
265.	*	1.1	1.4	1.4	.9
270.	*	1.1	1.4	1.4	1.0
275.	*	1.1	1.4	1.4	.9
280.	*	1.1	1.4	1.4	.9
285.	*	1.2	1.4	1.4	.9
290.	*	1.3	1.4	1.4	.8
295.	*	1.3	1.4	1.4	.7
300.	*	1.3	1.4	1.5	.8
305.	*	1.5	1.4	1.3	.8
310.	*	1.4	1.4	1.3	.9
315.	*	1.4	1.4	1.4	.9
320.	*	1.5	1.4	1.4	.8
325.	*	1.5	1.4	1.5	.8
330.	*	1.5	1.5	1.4	.8
335.	*	1.5	1.5	1.4	.8
340.	*	1.6	1.5	1.4	.9
345.	*	1.6	1.5	1.4	.9
350.	*	1.7	1.7	1.4	.8
355.	*	1.7	1.9	1.4	.9
360.	*	1.6	1.7	1.3	.9
MAX	*	1.8	1.9	1.8	1.3
DEGR.	*	210	355	225	230

THE HIGHEST CONCENTRATION IS 2.80 PPM AT 170 DEGREES FROM REC3 .
THE 2ND HIGHEST CONCENTRATION IS 2.60 PPM AT 40 DEGREES FROM REC4 .
THE 3RD HIGHEST CONCENTRATION IS 2.60 PPM AT 185 DEGREES FROM REC2 .

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DATE: 08/31/2010 TIME: 08:03:18.51

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

* CO/LINK (PPM)
* ANGLE (DEGREES)

	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	*	190	185	170	40	140	180	180	40	355	215	220	220	0	5	0	355	315	290	250	215
1	*	.0	.0	.0	.0	.0	.0	.2	.1	.4	.4	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
2	*	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0
3	*	.0	.0	.0	.0	.0	.2	.0	.1	.0	.0	.0	.3	.0	.0	.0	.0	.0	.1	.1	.1
4	*	.1	.1	.0	.0	.0	.9	.9	.7	1.3	1.5	1.5	1.5	.0	.0	.0	.0	.0	.1	.3	.5
5	*	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
6	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

7	*	.2	.4	.3	.4	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0
8	*	.3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	*	.5	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	*	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	*	.3	1.0	.9	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.1	.1	.1	.0	.0	.0	.0
15	*	.2	.8	.8	.9	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.0	.0	.0	.0	.0
16	*	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	*	.0	.0	.0	.0	.4	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
18	*	.0	.0	.0	.0	.1	.7	.0	.1	.1	.0	.0	.2	.0	.0	.0	.0	.1	.1	.1	.1
19	*	.0	.0	.0	.0	.0	.2	.6	.2	.2	.0	.3	.2	.0	.0	.0	.0	.0	.0	.1	.1
20	*	.0	.0	.0	.0	.0	.1	.3	.6	.3	.4	.2	.1	.0	.0	.0	.0	.0	.0	.0	.1
21	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
22	*	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
23	*	.1	.1	.1	.0	.3	.0	.0	.1	.0	.0	.0	.0	.2	.5	.5	.4	.2	.2	.2	.2
24	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	*	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.3	.6	.4	.0	.0
26	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.2	.0
27	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.2	.4
28	*	.0	.1	.2	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.3	.3	.3	.4
29	*	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
30	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
32	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
35	*	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
36	*	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.2	.2	.2
37	*	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	* CO/LINK (PPM)			
	* ANGLE (DEGREES)			
	* REC21	REC22	REC23	REC24
LINK # *	210	355	225	230
1 *	.0	.0	.0	.0
2 *	.0	.0	.0	.0
3 *	.1	.0	.0	.0
4 *	.4	.0	.1	.0
5 *	.1	.0	.0	.0
6 *	.1	.0	.0	.0
7 *	.0	.7	.7	.2
8 *	.0	.1	.0	.3
9 *	.0	.0	.0	.1
10 *	.0	.0	.0	.0
11 *	.0	.0	.0	.0
12 *	.0	.0	.0	.0
13 *	.0	.1	.0	.1
14 *	.1	.5	.6	.3
15 *	.0	.4	.4	.2
16 *	.0	.1	.0	.1
17 *	.1	.0	.0	.0
18 *	.2	.0	.0	.0
19 *	.1	.0	.0	.0
20 *	.1	.0	.0	.0
21 *	.0	.0	.0	.0
22 *	.1	.0	.0	.0
23 *	.0	.0	.0	.0
24 *	.0	.0	.0	.0
25 *	.0	.0	.0	.0
26 *	.0	.0	.0	.0
27 *	.1	.0	.0	.0
28 *	.0	.0	.0	.0
29 *	.3	.0	.0	.0
30 *	.0	.0	.0	.0
31 *	.0	.0	.0	.0
32 *	.0	.0	.0	.0
33 *	.0	.0	.0	.0
34 *	.0	.0	.0	.0
35 *	.0	.0	.0	.0
36 *	.0	.0	.0	.0
37 *	.0	.0	.0	.0