The Entryway

Air Quality Technical Memorandum

US 24 West

CDOT Project No. NH 0242-040

Project Control No. 187824

Colorado Department of Transportation

February 2010

US 24 West Environmental Assessment: Air Quality

.PREPARED FOR: Colorado Department of Transportation

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DATE: February 11, 2010

1.0 Introduction

Air quality is a required consideration for transportation projects in the Pikes Peak Region, where violations of National Ambient Air Quality Standard for carbon monoxide were last recorded two decades ago, in 1989. Motor vehicle use is a major contributor of air pollutants in the region. In the foreseeable future, the total number of vehicle miles traveled per day in the Pikes Peak Region is expected to nearly double, going from 11.8 million in 2005 to about 22.1 million in 2035, according to the Pikes Peak Area Council of Governments (PPACG), which is the region's designated transportation and air quality planning agency.

The US 24 West Proposed Action is less than five miles long, and the existing expressway's busiest stretch carries average weekday traffic of approximately 50,000 vehicles per day. In total, the five miles of US 24 currently carry about 1% of the average weekday vehicle-miles of travel in the region. Although the Proposed Action would accommodate more vehicle traffic than the No-Action Alternative, it would provide better traffic flow and thus reduce the amount of idling emissions associated with traffic congestion.

Interagency consultation identified the scope of the analysis required for the US 24 West EA. Quantitative microscale modeling was conducted for carbon monoxide. Other pollutants are addressed in a qualitative manner. Modeled concentrations of carbon monoxide at key US 24 signalized intersections for three future years are predicted to be in the range of 5.5 to 6.9 parts per million (ppm) for an 8-hour average, which is well within the national health standard of 9.0 ppm. The National Ambient Air Quality Standards are listed in Exhibit 1 on the following page.

The Pikes Peak Region is narrowly in compliance with the current ozone standard that took effect in 2008. In January 2010, the U.S. Environmental Protection Agency announced that it is proposing to promulgate a new, tighter standard in the latter half of 2010. Long-term State and national projections suggest that ozone concentrations will decline in the future, despite increased regional vehicle miles traveled (VMT). Consistent with the latest approved PPACG Regional Transportation Plan, air quality modeling for 2020 reflects the assumption that the only part of the US 24 West Proposed Action open for use by that time would be the improved interchanges at Interstate 25 and 8th Street, and the widening of US 24 from I-25 to 8th Street. Thus the US 24 project has only localized opportunity to influence short-term ozone concentrations.

EXHIBIT 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 [a]	None	
	35 ppm (40 mg/m^3)	1-hour [a]		
Ozone	0.075 ppm (2008 standard)	8-hour [b]	Same as Primary	
	0.12 ppm	1-hour [c] (Applies only in limited areas)	Same as Primary	
Particulate Matter (PM_{10})	150 $\mu g/m^3$	24-hour [d]	Same as Primary	
Particulate Matter ($PM_{2.5}$)	15.0 $\mu g/m^3$	Annual [e] (Arithmetic Mean)	Same as Primary	
	35 $\mu g/m^3$	24-hour [f]	Same as Primary	
Nitrogen Dioxide	0.053 ppm (100 $\mu g/m^3$)	Annual (Arithmetic Mean)	Same as Primary	
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Mean)	0.5 ppm (1300 $\mu g/m^3$)	3-hour [a]
	0.14 ppm	24-hour [a]		
Lead	0.15 $\mu g/m^3$ [g]	Rolling 3-Month Average	Same as Primary	
	1.5 $\mu g/m^3$	Quarterly Average	Same as Primary	

Source: U.S. Environmental Protection Agency (EPA), 2009a.

[a] Not to be exceeded more than once per year.

[b] 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)

[c] (1) 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.
(2) As of June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the Denver and Northern Front Range nonattainment area. [The Pikes Peak Region is not included.]

[d] Not to be exceeded more than once per year on average over 3 years.

[e] 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.

[f] 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).

[g] Final rule signed October 15, 2008.

National Ambient Air Quality Standards (NAAQs) have been established by the U.S. Environmental Protection Agency for six principal pollutants, called "criteria" pollutants, as detailed in the exhibit above. Units of measure for the standards are parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m^3), and micrograms per cubic meter of air ($\mu g/m^3$). The NAAQS include both primary and secondary standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare and the environment, including protection against decreased visibility, and harm to animals, crops, vegetation and buildings.

2.0 No Action Alternative

The No Action Alternative consists of existing transportation facilities and committed transportation projects that would occur regardless of whether the Proposed Action is constructed. The No Action Alternative would not make any improvements to the existing condition beyond those which are already planned and funded. The projects listed below are shown in existing adopted transportation plans and are locally funded projects.

- **8th Street Intersection Improvements.** Lengthens turn lanes and acceleration and deceleration lanes on US 24, and widens 8th Street north and south of US 24.
- **8th Street Bridge Replacement.** Replaces the existing four-lane bridge structure over Fountain Creek at 8th Street.
- **21st Street Roadway Improvements.** Includes the widening of 21st Street south of US 24 to four 12-foot travel lanes with dedicated turn lanes, extended acceleration lane, and curb and gutter. Geometric improvements to the US 24/21st Street Intersection will also be constructed.
- **25th Street Bridge Replacement.** Replaces the existing two-lane bridge structure over Fountain Creek at 25th Street.
- **Midland Trail Extension.** Extends Midland Trail between 21st Street and Manitou Avenue to connect with Manitou Springs' Creekside Trail.

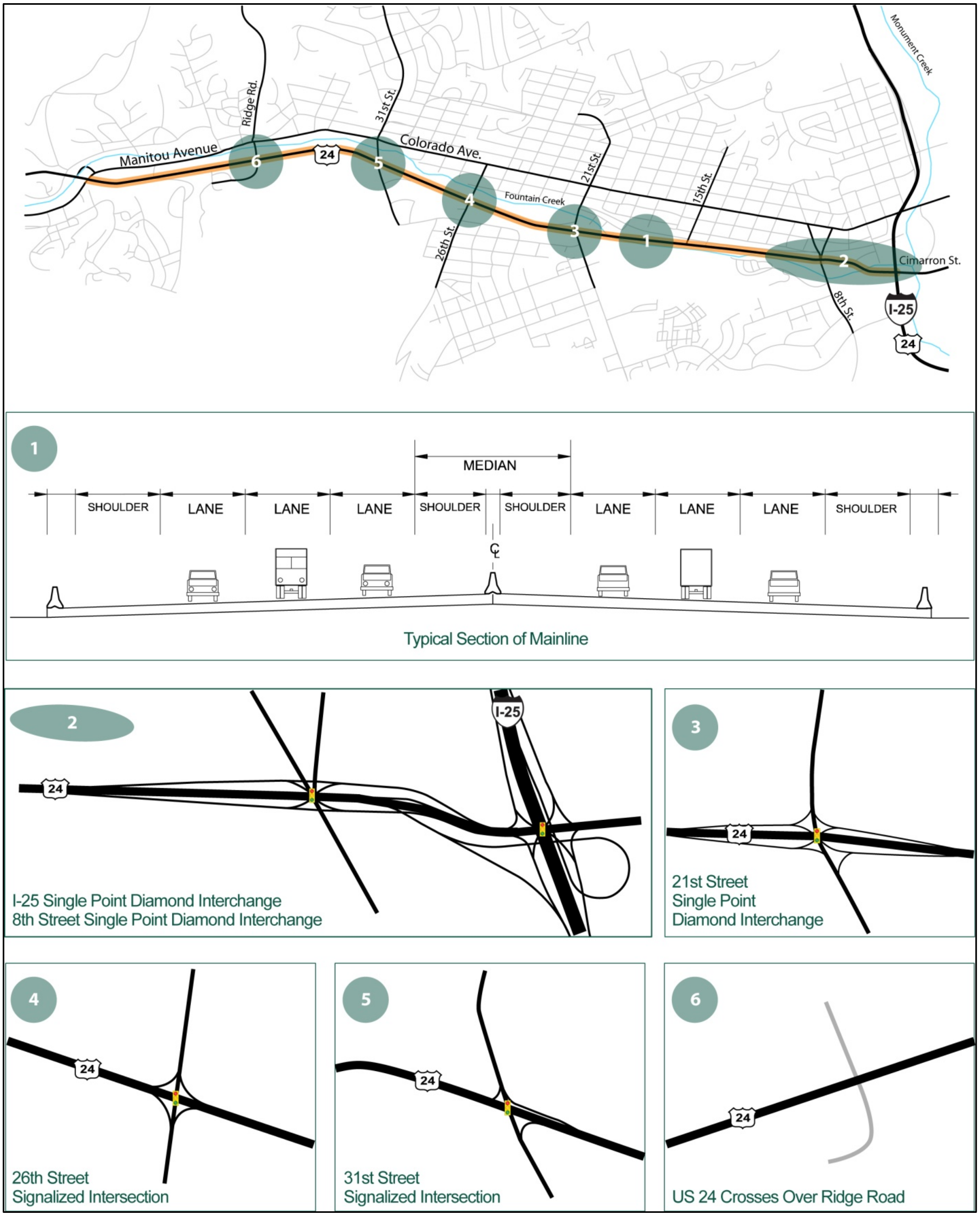
Under the No Action Alternative, improvements to intelligent transportation systems (for example, variable message signs) would be implemented as part of the congestion management program. Existing bus routes and service would continue as they are today, and bike and pedestrian facilities would only be extended or improved as local funds and grants allow.

3.0 Proposed Action

The Proposed Action would provide additional capacity on US 24 by building additional travel lanes, two new interchanges, and one new overpass. The Proposed Action includes rebuilding several cross-streets, replacing bridges over Fountain Creek, and modifying Fountain Creek's channel at each bridge crossing. Sidewalks would be built at all intersections and interchanges. The Proposed Action would also accommodate a park and ride facility and two future local access points along the route, which would be built by others. The Proposed Action is illustrated in Exhibit 2**.**

A single-point diamond interchange is proposed at the Cimarron Interchange. This interchange design differs from what was originally presented in the *I-25 Improvements through the Colorado Springs Urbanized Area EA* (CDOT, 2004). Since the I-25 EA was

EXHIBIT 2
Proposed Action



approved, new opportunities have been identified to improve existing and future traffic operations, making this improved design now feasible.

US 24 in the project area would be built to have eight through-lanes, four in each direction, east of 8th Street, and six through-lanes, three in each direction, from 8th Street to a point west of 31st Street. New interchanges are proposed at 8th and 21st Streets.

Intersection upgrades are proposed at 26th Street. The intersection of US 24 and 31st Street would be widened, as would the intersection with Colorado Avenue to the north. South of US 24, 31st Street would be rebuilt to align with the highway intersection.

At the west end of the corridor, an overpass would be built to carry US 24 over Ridge Road. Ridge Road would be widened between High Street and Colorado Avenue. The west end of the Proposed Action is approximately 1,800 feet west of the Ridge Road overpass where the overpass connects to the existing highway. Because there is not an existing or future congestion problem between Ridge Road and Manitou Avenue, no changes are proposed west of Ridge Road.

Accommodations would be made for the following features that will be built by others in the future:

- At 15th Street, an overpass would be constructed to carry 15th Street over US 24 and Fountain Creek and connect to the street network of Old Colorado City and Gold Hill Mesa. This overpass would include ramps on the east side to connect to the 8th Street Intersection. Between the ramps and Colorado Avenue, 15th Street would be reconstructed to provide pedestrian features such as sidewalks.
- At Ridge Road, ramps providing direct access to US 24 would be constructed to convert the overpass to a tight diamond interchange.
- At 31st Street, a park and ride facility would be constructed in the northeast quadrant of the intersection, with access from Colorado Avenue.

As described in Chapter 4 of the EA, the Proposed Action also includes various mitigation measures such as the construction of portions of the planned greenway and the extension of some trails.

4.0 Methodology

Prior to undertaking the air quality analysis, interagency consultation was conducted among staff of the Colorado Department of Transportation, Colorado Department of Public Health and Environment (Air Pollution Control Division) and the Pikes Peak Area Council of Governments. This consultation meeting was held on March 12, 2009, and subsequent clarification of some modeling questions took place via electronic mail. Exhibit 3 indicates the results of the consultation process, in terms of how each air quality issue was to be addressed. The analysis was undertaken using transportation and socio-economic forecasts consistent with the PPACG 2035 Regional Transportation Plan. Traffic forecasts for intermediate modeled years (i.e., 2020 and 2030) were developed through interpolation, as agreed upon through interagency consultation.

EXHIBIT 3
Air Quality Analytical Scope Determined by Consultation

Issue	Status	How Addressed
1. Carbon monoxide (CO)	An EPA-approved 1999 CO Plan (last revised in 2009) remains in effect, although no violation has been recorded since 1989.	As required by federal regulations, a carbon monoxide modeling analysis was conducted.
2. Ozone (O_3)	The Pikes Peak Region has no adopted ozone plan is in effect, as the region has not had a violation since 1983. The region is narrowly in compliance with an 8-hour standard that was established in 2008. A new, tighter standard could be issued in 2010.	Qualitative discussion, incorporating pertinent information from Denver region quantitative analysis
3. Particulate Matter • Fine Particulate Matter, smaller than 2.5 microns ($PM_{2.5}$); and • Coarse Particulate Matter, smaller than 10 microns (PM_{10})	The Pikes Peak Region has not adopted an air quality plan for particulate matter, since no violations have been recorded. Monitored readings in the region are about 50% of allowable levels with no upward trend.	Qualitative discussion
4. Other Criteria Pollutants • Lead (Pb); • Sulfur Dioxide (SO_2) • Nitrogen Dioxide (NO_2)	No plans for these three criteria pollutants are in effect. Monitored readings have been very low and stable for years. Monitoring of SO_2 and NO_2 was discontinued in 2008.	Qualitative discussion
5. Mobile Source Air Toxics	Future traffic volumes with the Proposed Action (124,000 vehicles/day) will be well below the threshold (150,000) that requires quantitative analysis.	Qualitative discussion
6. Regional haze and visibility	Not a problem in this region. No protected wilderness areas are nearby.	Qualitative discussion.
7. Greenhouse gases and global climate change	These are global issues difficult to quantify at the project level, and are addressed in accordance with current FHWA policy.	Qualitative discussion

EPA-approved MOBILE 6.2 emission factors and other inputs needed for carbon monoxide modeling were provided by the Air Pollution Control Division (APCD) of the Colorado Department of Health and Public Environment. A computer program called the CAL3QHC line dispersion model was used to predict microscale CO concentrations. The APCD also provided assumed background concentrations for use in the analysis.

Prediction of microscale ("hotspot") concentrations is a project-level requirement in CO nonattainment areas. In accordance with CDOT's *Air Quality Analysis and Documentation Procedures* (CDOT, 2006), intersections that are expected to experience congested traffic (Level of Service D, E, or F) under the Proposed Action were considered as potential candidates for hotspot modeling. Level of Service is a grading system for traffic flow, where A represents uncongested conditions and F represents extreme congestion.

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Project-specific traffic analysis has indicated that by project completion in 2035, two intersections would operate at Level of Service D, which is the criterion for considering intersections as candidates for Microscale modeling. These intersections were:

- I-25 at Cimarron, single-point interchange
- US 24 at 8th Street, single-point intersection

Of these two, the intersection at I-25 has the higher total traffic volume, including the freeway traffic that passes over the intersections. As agreed in the agency consultation process, both intersections were modeled in the US 24 air quality analysis.

5.0 Existing Conditions

Air quality in the Pikes Peak Region is considered good, as there has been no violation of a National Ambient Air Quality Standard since 1989 —a period of almost two decades. However, the region is barely in compliance for the newly tightened 2008 standard for ozone pollution, as is discussed below. Presented first, however, is an overview of the local climate and meteorological setting, because these play an important physical role that affects what happens to air pollutant emissions after they are released into the air.

Local Topography, Climate and Meteorology

The Colorado Springs metropolitan area is located at the eastern base of Pikes Peak, and thus at the foot of the Piedmont east of the Front Range of the Rocky Mountains. It is in the subdrainage basin of the Monument and Fountain Creeks, which flow southward into the Arkansas River in Pueblo. The elevation along US 24 declines from west to east as it follows Fountain Creek from Manitou Springs (elevation 6,412 feet above sea level) to the confluence with Fountain Creek just west of downtown Colorado Springs (elevation 6,035 feet).

The Pikes Peak Region is known for its cool summer weather, high percentage of clear sunny days and relatively dry climate. The meteorological classification of the area is an alpine dessert with about 250 days of sunshine per year. The temperatures within the region varies from highs of over a 100° F in the summer to winter lows of minus 30° F at the higher elevations. As indicated in Exhibit 3, the annual mean temperature in the Pikes Peak Region is approximately 48.5° F, with a summer (ozone) seasonal average temperature of 68.0°F.

The mountain-plains climate is characterized by periodic high winds called Chinook winds. These warm, dry winds tend to moderate winter temperatures and facilitate snow melt. In the summertime, vigorous thunderstorms produce cloudbursts, lightning and hail. The region also experiences a low relative humidity, and wide ranges in temperature between sun and shade, between day and night, and sometimes from day to day. Average monthly temperatures and precipitation for the Colorado Springs area are detailed in Exhibit 4.

EXHIBIT 4
Colorado Springs Mean Monthly Temperatures, Precipitation and Wind Speeds

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
Mean Daily Temp. (^oF)	28.8	32.0	37.3	46.4	55.4	65.0	70.8	68.3	60.4	49.9	37.8	29.8	48.5
Mean Daily High (^oF)	41.4	44.6	50.0	59.8	68.7	79.0	84.4	81.3	73.6	63.5	50.7	42.2	61.6
Mean Daily Low (^oF)	16.1	19.3	24.6	33.0	42.1	51.1	57.1	55.2	47.1	36.3	24.9	17.4	35.4
Mean Monthly Precipitation (inches)	0.3	0.4	0.9	1.2	2.1	2.2	2.0	3.0	1.3	0.8	0.5	0.5	1.3
Mean Monthly Speed (mph)	9.4	10.0	11.1	11.6	11.2	10.4	9.3	8.9	9.4	9.6	9.5	9.4	10.0

Sources: PPACG, 2008; NCDC, 2009.

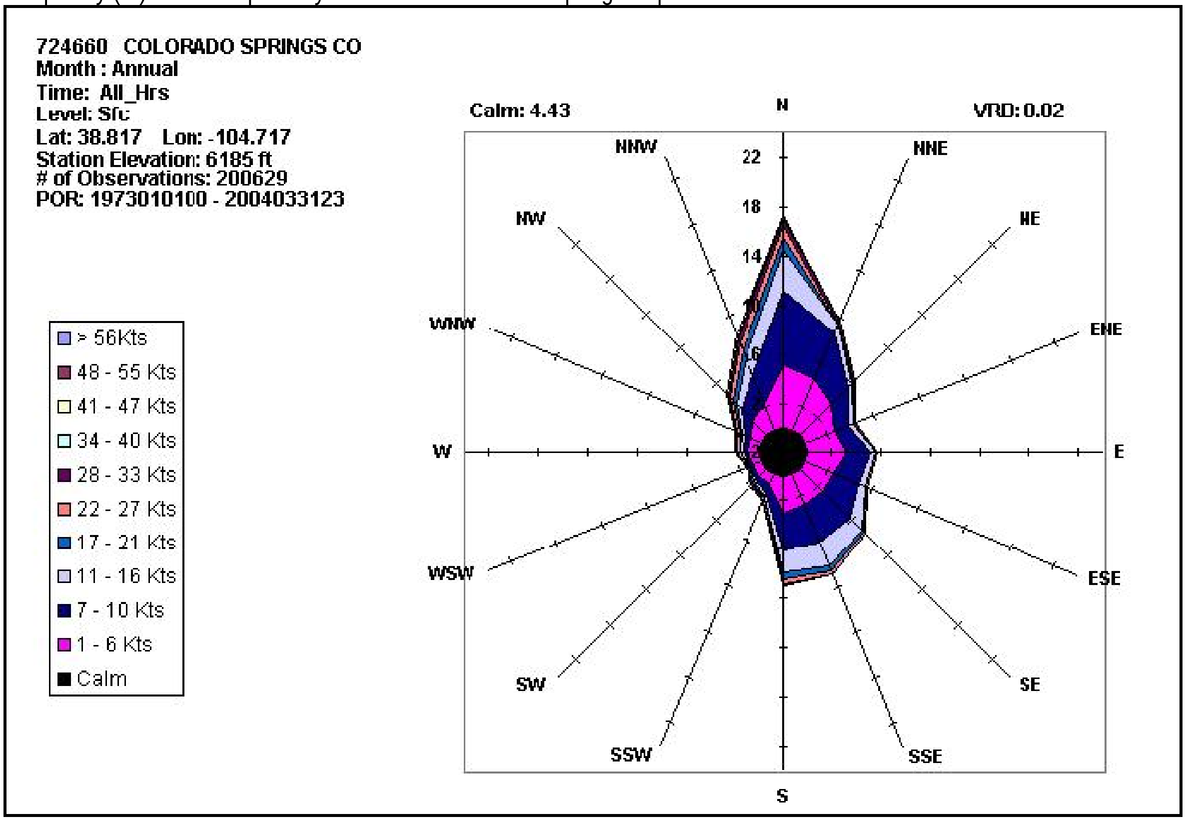
Temperature and topography strongly influence concentrations of carbon monoxide. In winter, surface temperatures at sunset cool more rapidly than the air above, in a phenomenon called a thermal inversion. The inversion is reinforced by the physical “bowl” effect created by the mountains to the west and the Palmer Divide to the north. The cool surface air and the pollutants it contains (e.g., evening rush hour and nighttime fireplace use) remain trapped until surface warming occurs the following morning, or even longer.

Average precipitation for the region is between 15 and 16 inches annually. However, within the region, the precipitation varies considerably because of elevation and major wind currents. Winter storms, typically from the northwest, tend to lose their snow to the west making for a dry winter climate. Heavy snowfall from these storms accounts for roughly one fourth of the annual precipitation while late spring and summer showers account for the rest.

Colorado Springs is a fairly windy place, with an annual average wind speed of 10 miles per hour. Wind helps to flush out air contaminants that have accumulated in the region, but also can kick up dust particles into the air, contributing to PM_{10} pollution.

Exhibit 5 indicates the frequency of wind speed by direction at the Colorado Springs Airport, located about 11 miles east of the US 24 West corridor. The wind speeds are presented in knots. As a conversion ratio, 6 knots is roughly equivalent to 7 miles per hour.

EXHIBIT 5
Frequency (%) of Wind Speed by Direction for Colorado Springs Airport



Source: U.S. Air Force

Over the 200,000 observations represented in this wind rose, winds were calm (i.e., less than 1 mph) about 4.43% of the time. The area shaded in each color indicates the relative frequency of winds in a given speed range. Low to moderate wind speeds are very common, and higher speeds are less common. The most prevalent wind direction is from the south to the north.

The Colorado Air Quality Control Commission Report to the Public 2007-2008 summarizes the sources of pollution in the region as follows:

> *Pollutants in the Pikes Peak Region originate primarily from stationary and mobile sources. Major sources in the region include power plants, ready-mix concrete plants, electronics manufacturing facilities, quarries and extensive military operations. Other sources include motor vehicle emissions, residential burning, street sanding operations, PM_{10} emissions from unpaved roads and construction activities. (ACQQ, 2008).*

A useful source for air quality information in the region is a periodic air quality monitoring report prepared by PPACG. The most recent report, entitled *Air Quality in the Pikes Peak Region Monitoring and Trends Report 2008*. Information from that report was used to compile the following discussion on recent trends for carbon monoxide, ozone and particulate matter.

The region's network of air quality monitoring stations is located in close proximity to the U.S. 24 West corridor. The region's carbon monoxide monitor is located along US 24 just north and east of 8th Street. Ozone is monitored in Manitou Springs, near the west end of the EA study corridor, and particulate matter is monitored at Colorado College, near I-25 and Uintah Street interchange, about two miles north of the interchange of US 24 with I-25.

Carbon Monoxide

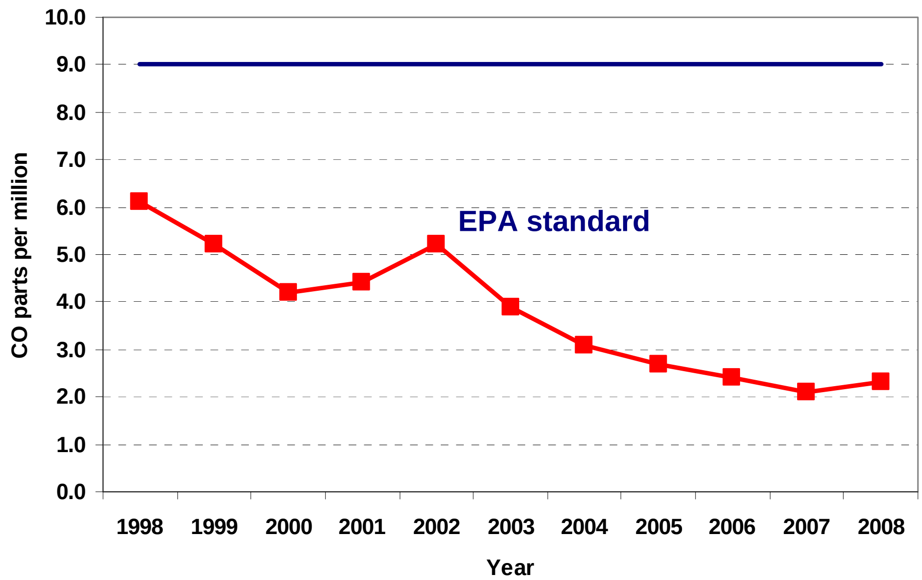
Carbon monoxide is a colorless, odorless, poisonous gas produced by the incomplete burning of carbon fuels. Motor vehicle use is the predominant generator of CO in most cities. Wood-burning for home heating also produces CO, but is not a major source. CO is produced every day, year-round, but is a potential health concern primarily during winter months, when thermal inversion conditions trap air close to the ground, not allowing pollutants to disperse and become more diluted in the atmosphere. Fueled by the evening rush hour, CO concentrations can build up overnight before dispersion occurs with warming from the sunrise.

At the region's network of air quality monitors, measured carbon monoxide concentrations were more than 100% of the allowable standard in 1989, but for the past 11 years have not surpassed 70%, and most recently were about 26% of the allowable value. In 2008, the second highest concentration recorded for an 8-hour average was just 2.3 CO molecules per million molecules of air. The national health-based standard is violated only if the second highest 8-hour average in a year exceeds 9.0 parts per million more than once in a single year. Exhibit 6shows the dramatic improvement in monitored CO concentrations from 1998 to 2008.

There is also a one-hour health standard for CO, and monitored values in the Colorado Springs area have been far below it as well. The standard is 35 ppm, and the highest reading in 2008 was 3.5 ppm, just one tenth of the amount allowable.

Looking to the future, PPACG predicts that total regional CO emissions from motor vehicles by the year 2035 will be 17% less than the CO emissions in 2005. This reduction will occur despite an 87% increase in total vehicle miles traveled, going from 11.8 million in 2005 to 22.1 million in 2035. Continuing reductions in overall CO emission rates are attributable in large part to fleet turnover. Every year, older, more highly polluting vehicles are retired from the vehicle fleet and are replaced with newer, cleaner vehicles due to normal vehicle consumption.

EXHIBIT 6
Carbon Monoxide Concentrations* in the Pikes Peak Region, 1998 to 2008



**Second-highest 8-hour average CO concentration recorded at any monitor in the Pikes Peak Region. The EPA standard is 9.0 art ps per million.*
Sources: PPACG, 2008b; EPA, 2009b.

PPACG's CO projections were prepared in 2007 using State-provided emission factors that did not predict or reflect the effects of the 2008-2009 national recession. A major decline in purchases of new vehicles during this recession may have slowed fleet turnover, temporarily delaying expected further emission reductions, although this effect may have been offset to some degree by the federal "Cash for Clunkers" program. The projections also do not take into account the Obama administration's announced plans to require that automakers produce more fuel-efficient vehicles in the future. Thus, future emission reductions in the near term may be less than currently projected, but in the long term could be greater than projected by PPACG.

Ozone

Ozone is a pollutant that has been of increased regional concern than carbon monoxide, because monitored ozone concentrations are only slightly below the recently tightened national air quality standard. Carbon monoxide trends were discussed first in this report because the Pikes Peak region still has an attainment plan in place for that pollutant.

Ozone (O_3), a molecule composed of three oxygen atoms, is a constituent of urban smog during summer days when intense sunshine provides the energy needing to trigger photochemical reactions in the atmosphere. Ozone is not directly emitted from motor vehicles but its formation involves primarily volatile hydrocarbons and oxides of nitrogen, which are both motor vehicle emissions. These pollutants that lead to ozone formation are called precursor pollutants. Industrial uses, dry cleaners and even household use of chemicals such as cleaning solvents and paints also produce precursor emissions that contribute to ozone formation. Ozone in the atmospheric layer high above the Earth protects us from damaging radiation, but “ground-level” ozone is harmful to humans, plants, animals and even buildings.

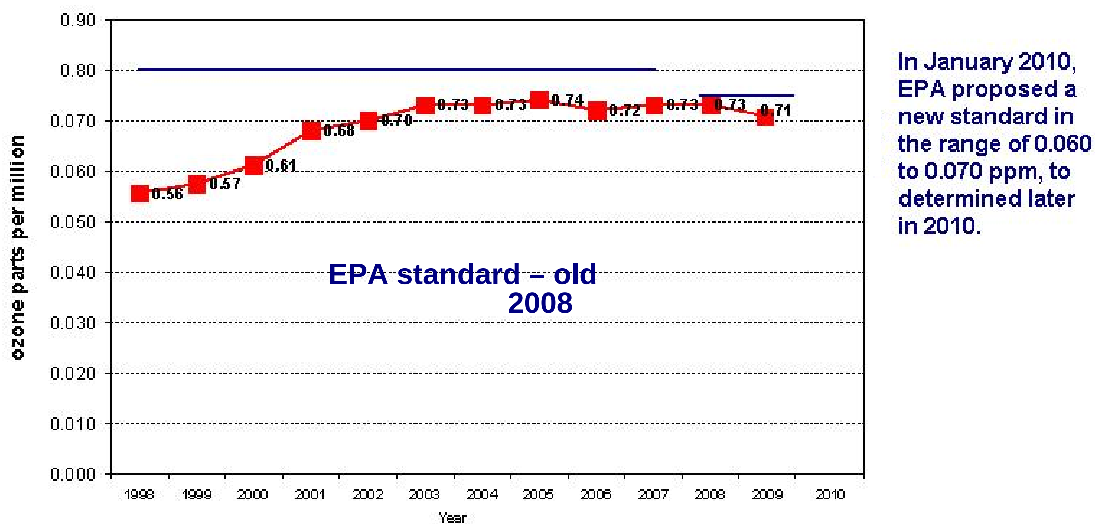
For decades, the 8-hour average National Ambient Air Quality Standard for ozone was 0.8 parts per million for the fourth highest reading in a three-year period). Recorded concentrations in the Colorado Springs area were substantially better than that standard, not reaching 90% of the national standard.

In March 2008, however, the U.S. Environmental Protection Agency established a new, tighter standard of 0.75 parts per million. The monitored ozone concentrations in the Colorado Springs area have been more than 95% of this level for the past five years.

In early 2010, the US EPA announced that a revised 8-hour ozone standard between the values of 0.70 ppm and 0.60 ppm will be forthcoming. A final primary and secondary NAAQS for 8-hour ozone is expected by August 2010.

As shown in Exhibit 7, there appears to have been an upward trend until 2003, and monitored concentrations have leveled off since that time. According to PPACG, lower readings recorded in 2009 have reduced the region’s three-year average concentration to 0.070 ppm.

EXHIBIT 7
Ozone Concentrations* in the Pikes Peak Region, 1998 to 2009



**Three-year average of fourth-highest 8-hour average ozone concentration recorded at any monitor in the Pikes Peak Region. The new EPA standard is 0.75 parts per million.*
Sources: PPACG, 2008b; EPA, 2009b.

Despite the minimal margin of current compliance, there is a reason for optimism that the region will not violate the 2008 ozone standard. The Denver Metropolitan Area, about 60 miles north of Colorado Springs, has higher ozone concentrations and is in nonattainment of the 2008 standard. Various efforts being undertaken there are expected to help the Colorado Springs area in its efforts to avoid nonattainment. For example, low-volatility summertime fuels required to be sold in Denver are also sold in Colorado Springs, since both metro areas receive fuel from the same Texas refineries and pipeline system.

It was noted above that future emissions of carbon monoxide in the Pikes Peak Region are expected to be less than the amount emitted today, because improvements in vehicle technology (through gradual fleet turnover) are still outpacing growth in motor vehicle use. The same is true of the vehicular emissions that lead to ozone formation, specifically volatile organic compounds (VOC) and oxides of nitrogen (NO_x). If the region can stay within the standard for the next several years, the prospects for long-term attainment are good. However, PPACG has not developed estimates of future emissions of ozone precursors.

Particulate Matter

Particulate matter is the term given to the tiny particles of solid or semi-solid material suspended in the atmosphere. The primary sources of PM_{10} are blowing dust from unpaved roads, street sanding, and dust from construction; and, the second highest source is woodburning. Other sources include fly ash from power plants, automobiles, and diesel engines.

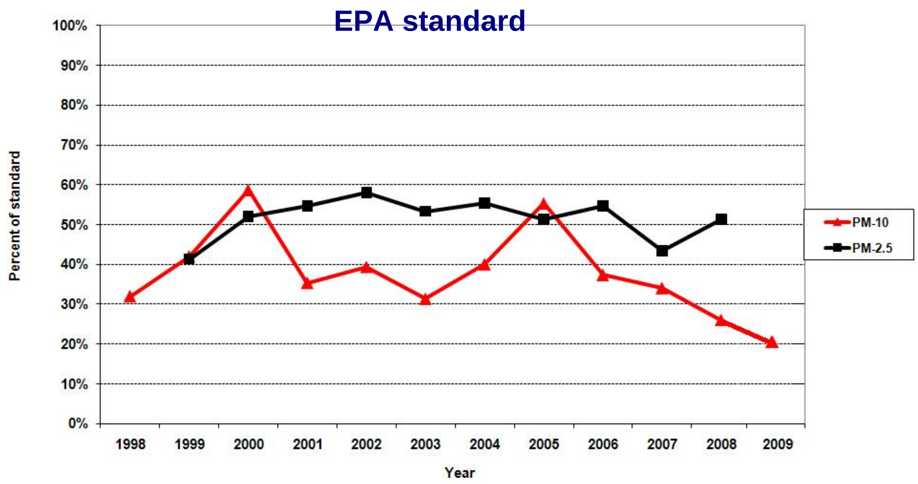
There are separate EPA health standards for particulate matter of two different sizes. The PM_{10} standard is for particles that are ten microns or smaller in diameter. The more recent $PM_{2.5}$ standard is for a subset of these particles – those smaller than 2.5 microns. The smaller particles tend to come from fuel combustion, especially diesel fuel, while the larger particles include dust from unpaved roads, construction, or "re-entrained dust" which is dust that lands on a paved road and is then kicked back up into the air by the movement of vehicles. Both PM_{10} and $PM_{2.5}$ particles are small enough to be inhaled by humans. The smaller particles are somewhat more dangerous because they get deeper into the lungs.

Exhibit 8, on the following page, shows that for both standards, measured concentrations in the Pikes Peak Region have been only about half the allowable standard over the past decade and show no clear trend of increase, despite rapid metropolitan growth during the same time period.

Other Criteria Pollutants

National Ambient Air Quality standards exist for three additional pollutants not discussed above: lead, sulfur dioxide (SO_2), and nitrogen dioxide (NO_2). In the past two decades of monitoring (1988 to 2007), concentrations of these air pollutants were well below allowable levels and showed no upward trends. NO_2 concentrations were half of the standard or less, SO_2 decreased from about 15% of allowable levels to negligible levels, and lead concentrations were about 5% of allowable levels. With the approval of the Colorado Department of Public Health and Environment (CDPHE), monitoring of all three pollutants has recently been discontinued in the Pikes Peak Region, which has no State Implementation Plan element for any of these criteria pollutants.

EXHIBIT 8
Particulate Matter (PM2.5 and PM10) Concentrations in the Pikes Peak Region, 1998 to 2009



Sources: PPACG, 2008b; EPA, 2009b.

Mobile Source Air Toxics (MSATs)

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

Diesel vehicles are an important contributor for some types of MSATs. No data specifically regarding diesel vehicle traffic on US 24 is available, but available data does provide some insight into this issue. US 24 is a designated truck route for (and by) the City of Colorado Springs. Heaviest truck volumes are found on the portion of US 24 between I-25 and 8th Street. From there, truck volumes diminish rapidly going from the eastern end of the corridor to the western end. CDOT traffic data suggest that trucks account for about 6.1% of traffic volume on this stretch. About 72% of these are classified as “single trucks” and 28% are classified as “combination trucks.” Some of the “single trucks” are likely gasoline-powered and some are diesel-powered. “Combination trucks” are mostly diesel-powered, tractor-trailer rigs. From this information it is reasonable to estimate that the highest diesel truck volumes on US 24 West are between I-25 and 8th Street and amount to about 1,500 diesel trucks per day.

No National Ambient Air Quality Standards have been established by EPA for MSATs, and MSAT concentrations are not routinely monitored in the Pikes Peak Region.

There is one potentially sensitive air quality receptor within 500 feet on US 24 in the project corridor. This is a pre-school facility, the Community Partnership for Childhood Development at 2330 Robinson Street, is located two blocks west of 21st Street.

Regional Haze and Visibility

Emissions from mobile sources including highway motor vehicles, trains, aircraft and non-road vehicles, such as snowmobiles and all-terrain vehicles, contribute to visibility degradation through the country. Although the relative contribution of mobile sources is not as great as contributions from other sources, direct emissions and re-entrained road dust from motor vehicles contribute to urban plumes that are transported for long distances.

The Clean Air Act requires states to protect visibility and reduce visibility impairments in 156 "Class I" areas in the United States. Class I areas are defined as national parks and wilderness areas, over a certain size, that were in existence as of August 1977. There are 12 Class I areas in Colorado. The two Class I areas that are closest to the US 24 West corridor are the Great Sand Dunes National Park and Rocky Mountain National Park. Both are at least 80 miles away and not downwind from the corridor.

Rocky Mountain National Park's southeastern corner is approximately 105 miles north by northwest of downtown Colorado Springs. The closest edge of Great Sand Dunes National Park is 80 miles away, but to the southwest of the corridor. Both parks are on the western side of 12,000 to 14,000 foot peaks along the Front Range of the Rocky Mountains, while the US24 corridor is on the eastern side of this mountain range. Due to the distance, location and terrain between the parks and the US 24 West corridor, the Proposed Action is not expected to affect visibility or regional haze in these areas.

Visibility within the Colorado Springs area is sometimes affected by smoke transport from wildfires from surrounding grasslands, forested areas in Colorado's mountains, and major fires from other western states. These fires can be caused by lightning strikes or human activity. Grass fires sometimes occur on the 138,000 acre Fort Carson property southwest of Colorado Springs, where munitions are used by the U.S. Army. Smoke from fires in the Colorado Springs area can be transported by prevailing winds to other parts of Colorado and beyond.

Greenhouse Gases and Global Climate Change

The issue of global climate change is an important national and global concern that is being addressed in several ways by the Federal government. The transportation sector is the second largest source of total greenhouse gases (GHGs) in the U.S., and the greatest source of carbon dioxide (CO_2) emissions - the predominant GHG. In 2004, the transportation sector was responsible for 31% of all U.S. CO_2 emissions. The principal anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which account for approximately 80% of anthropogenic emissions of carbon worldwide. Almost all (98%) of transportation-sector emissions result from the consumption of petroleum products such as gasoline, diesel fuel and aviation fuel.

Recognizing this concern, FHWA is working nationally with other modal administrations through the DOT Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportation's contribution to greenhouse gases —particularly CO_2 emissions—and to assess the risks to transportation systems and services from climate changes.

At the state level, there are also several programs underway in Colorado to address transportation GHGs. The Governor's *Climate Change Action Plan*, adopted in November 2007, includes measures to adopt vehicle CO_2 emission standards and to reduce vehicle travel through transit, flex time, telecommuting, ridesharing and broadband communications.

6.0 Impacts and Mitigation

Consistent with the Methodology and Existing Conditions discussed above, impacts and mitigation are discussed here for the following seven air pollution topics:

- Carbon monoxide
- Ozone
- Particulate matter
- Other criteria pollutants
- Mobile source air toxics
- Regional haze and visibility
- Greenhouse gases and global climate change

This section describes the impacts of the Proposed Action based on the methodology described above. Permanent, long-term effects for each pollutant are discussed below. Temporary impacts to air quality from construction activities are discussed as part of the Impacts from the Proposed Action section.

Carbon Monoxide

Impacts of the No-Action Alternative

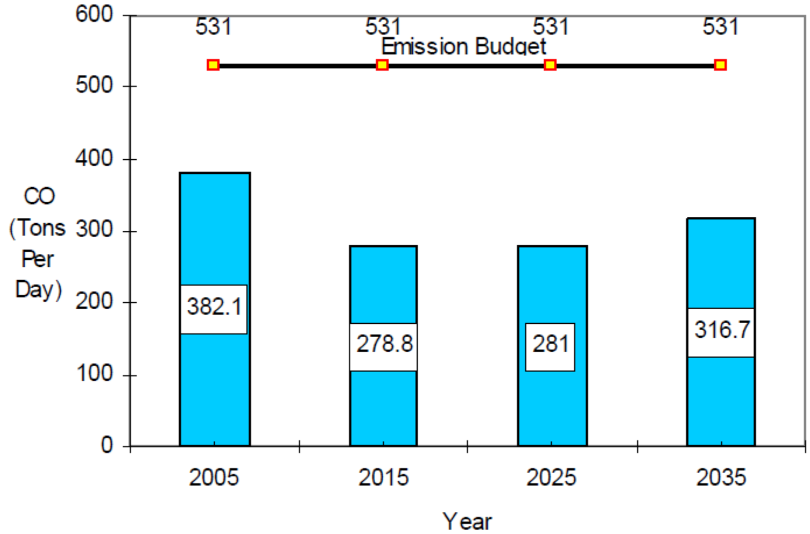
Traffic on the existing expressway is expected to increase by an average of 49% corridor-wide by the year 2035 under the No-Action Alternative. Corridor-wide (I-25 to Manitou Avenue), US 24 VMT would increase from about 170,000 per day currently to about 255,000 per day in 2035. PPACG predicts approximately 22.1 million VMT in 2035, and US 24 West corridor would account for about 1% of the regional total.

Under the No-Action Alternative, four of the existing signalized intersections on the expressway would operate at Level of Service E or F, indicating extremely congested conditions. Heavy, stop-and-go traffic of this type reflects inefficient travel that results in excessive idling emissions.

It was noted earlier that the Pikes Peak Region has an emissions budget for just one pollutant, which is carbon monoxide. The conformity analysis for the PPACG 2035 Regional Transportation Plan indicates that current emissions of CO are well within (i.e., below) this budget. For example, the estimated daily emissions of CO for 2005 were 382.1 tons, which represents just 72% of the allowable level that was set as a safeguard to ensure no future violations of the CO standard. Due to continued improvements in vehicle technology (and gradual abandonment of older, more polluting vehicles), regional CO emissions in the future are projected to decline significantly, despite the fact that the amount of vehicle travel in the region will nearly double.

Projected future CO emissions and the EPA-approved regional CO emissions budget are presented in Exhibit 9. Implementation of the PPACG 2035 Regional Transportation Plan includes US 24 West corridor improvements, which would affect regional CO projections in 2020 and years beyond.

EXHIBIT 9
Projected Daily CO Emissions with Implementation of the PPACG 2035 Regional Transportation Plan



Source: PPACG, 2008a.

The No-Action Alternative would result in less VMT on US 24 West than the Proposed Action, but the traffic would be more congested, with slower speeds and higher emission rates per mile traveled. The regional VMT contribution of US 24 West (about 1.4%) is small enough, and the future margin of compliance (more than 200 tons per day) is large enough that clearly the No-Action Alternative would undoubtedly meet the emissions budget requirement for all years through 2035.

Given the future margin of safety with respect to regional CO emissions budget, it is not surprising that projected future CO concentrations along US 24 will be well within the national standard for the No-Action Alternative. The highest 8-hour concentration predicted for either modeled intersection for any future year was 5.72 parts per million which is well within compliance of the national health standard of 9 parts per million.

The derivation of the predicted CO concentrations for the No-Action Alternative is presented in the following tables. Exhibit 10 presents model results of the US 24 West intersection at I-25. Exhibit 11 presents the model results for the US24 intersection at 8th Street.

EXHIBIT 10
Predicted CO Concentrations at the US24 Intersection with I-25 for the No-Action Alternative

Microscale Concentration Attribute	2020 No-Action, PM Peak	2030 No-Action, PM Peak	2035 No-Action, PM Peak
CAL3QHC modeled intersection contribution for 1-hour average, parts per million*	6.5	6.7	7.2
CDPHE-supplied background concentration for 1-hour average, ppm**	3.06	2.75	2.70
Total predicted 1-hour concentration, ppm	9.56	9.45	9.90
Predicted 1-hour concentration as a percentage of the 35 ppm standard	27%	27%	28%
Equivalent intersection concentration for an 8-hour average (using 0.57 persistence factor), ppm	3.71	3.82	4.10
CDPHE-supplied background concentration for 8-hour average, ppm	1.84	1.65	1.62
Total predicted 8-hour concentration, ppm	5.55	5.47	5.72
Predicted 8-hour concentration as a percentage of the 9 ppm standard	75%	61%	63%

* Modeled using region-specific MOBILE 6.2 emission rates reflecting region-specific fleet characteristics and altitude. Emission rates and meteorological parameters provided by CDPHE.

** 2030 background concentrations were interpolated from 2025 and 2035 values.

EXHIBIT 11
Predicted CO Concentrations at the US24 Intersection with 8th Street for the No-Action Alternative

Microscale Concentration Attribute	2020 No-Action, PM Peak	2030 No-Action, PM Peak	2035 No-Action, PM Peak
CAL3QHC modeled intersection contribution for 1-hour average, parts per million*	5.1	5.2	5.4
CDPHE-supplied background concentration for 1-hour average, ppm	3.06	2.75	2.70
Total predicted 1-hour concentration, ppm	8.16	7.95	8.10
Predicted 1-hour concentration as a percentage of the 35 ppm standard	23%	23%	23%
Equivalent intersection concentration for an 8-hour average (using 0.57 persistence factor), ppm	2.91	2.96	3.08
CDPHE-supplied background concentration for 8-hour average, ppm	1.84	1.65	1.62
Total predicted 8-hour concentration, ppm	4.75	4.61	4.70
Predicted 8-hour concentration as a percentage of the 9 ppm standard	53%	51%	52%

Each table begins with worst-case one-hour concentrations as produced by the microscale model and adds the future background concentration to yield a total one-hour concentration that can be compared to the one-hour CO standard of 35 ppm. Then, using a CDPHE-supplied persistence factor, the one-hour modeled result is converted to an 8-hour concentration. This intersection contribution is added to an 8-hour background concentration to yield the total concentration that is compared to the 8-hour standard of 9.0 ppm.

Impacts of the Proposed Action

Emissions resulting from the US 24 West Proposed Action are included in the total regional emissions estimated in the conformity analysis for the PPACG 2035 Regional Transportation Plan. Exhibit 9, presented earlier in the discussion of No-Action Alternative, demonstrated that this would meet the CO Regional Emission budget for all years evaluated in the 2005 to 2035 timeframe.

Exhibit 12 presents the predictions of future CO concentrations at the US 24 interchange at I-25. At this location, the concentrations predicted for the Proposed Action are comparable (i.e., within 0.1 parts per million) to those predicted for the No-Action Alternative. The Proposed Action would handle a much larger volume of traffic at the same location but would do so with better traffic flow.

EXHIBIT 12
Predicted CO Concentrations at the US24 Intersection with I-25 for the Proposed Action

Microscale Concentration Attribute	2020 Proposed Action, PM Peak	2030 Proposed Action, PM Peak	2035 Proposed Action, PM Peak
CAL3QHC modeled intersection contribution for 1-hour average, parts per million*	6.7	6.8	7.1
CDPHE-supplied background concentration for 1-hour average, ppm**	3.06	2.75	2.70
Total predicted 1-hour concentration, ppm	9.76	9.55	9.80
Predicted 1-hour concentration as a percentage of the 35 ppm standard	28%	27%	28%
Equivalent intersection concentration for an 8-hour average (using 0.57 persistence factor), ppm	3.82	3.88	4.05
CDPHE-supplied background concentration for 8-hour average, ppm	1.84	1.65	1.62
Total predicted 8-hour concentration, ppm	5.66	5.53	5.67
Predicted 8-hour concentration as a percentage of the 9 ppm standard	63%	61%	63%

**2030 background concentrations were interpolated from 2025 and 2035 values.

Exhibit 13 presents the predictions of future CO concentrations at the US 24 interchange with 8th Street. At this location, the concentrations predicted for the Proposed Action are lower by 0.3 to 0.45 ppm than those predicted for the No-Action Alternative. The Proposed Action would handle a much larger volume of traffic at the same location but would do so with better traffic flow.

EXHIBIT 13
Predicted CO Concentrations at the US24 Intersection with 8th Street for the Proposed Action

Microscale Concentration Attribute	2020 Proposed Action, PM Peak	2030 Proposed Action, PM Peak	2035 Proposed Action, PM Peak
CAL3QHC modeled intersection contribution for 1-hour average, parts per million*	4.3	4.4	4.8
CDPHE-supplied background concentration for 1-hour average, ppm**	3.06	2.75	2.70
Total predicted 1-hour concentration, ppm	7.36	7.15	7.50
Predicted 1-hour concentration as a percentage of the 35 ppm standard	21%	20%	21%
Equivalent intersection concentration for an 8-hour average (using 0.57 persistence factor), ppm	2.45	2.51	2.74
CDPHE-supplied background concentration for 8-hour average, ppm	1.84	1.65	1.62
Total predicted 8-hour concentration, ppm	4.29	4.16	4.36
Predicted 8-hour concentration as a percentage of the 9 ppm standard	48%	46%	48%

For the Proposed Action, all predicted future CO concentrations along US 24 are well within the national health standards for this pollutant.

Ozone

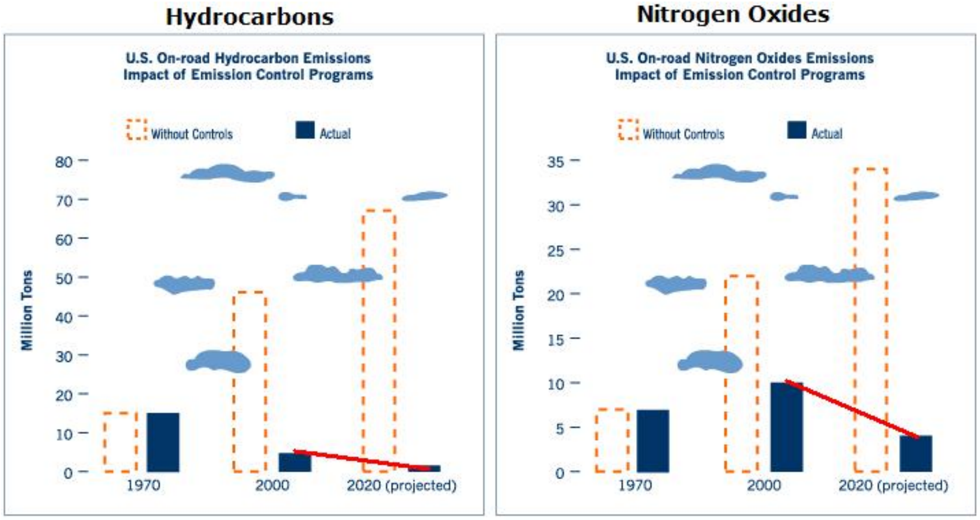
Ozone concentrations in the Pikes Peak Region appear to have stabilized over the past five years, with no discernable upward or downward trend. Concentrations are expected to be lower in the future as older cars get replaced with newer cars, improvements in vehicle technology and vehicle fuels, new fuel efficiency standards, lower future on-road emission rates (e.g., grams per mile), and more stringent state wide regulations on volatile organic compounds (VOC) and nitrogen oxide ($NO_{x)}$ sources as part of Denver's Maintenance Plan. Also, testing by CDPHE of gasoline delivered in the area shows that the Pikes Peak Region receives lower Reid Vapor Pressure (RVP) gasoline as a result of the requirements contained in Denver's Maintenance Plan.

These emission reductions will continue to outpace increased vehicle use and despite an increase in population, emissions in the region are still expected to decrease. Exhibit 14 illustrates EPA's estimates of total national on-road emissions of hydrocarbons (surrogate for VOC) and NO_x, for the past, present and future.

Denver and the Pikes Peak Region are in two separate airsheds. Since the Pikes Peak Region is an attainment area for ozone, it has no regional ozone plan and no adopted forecasts of future ozone precursor emissions. However, useful information is available from the extensive analysis that has been done for the Denver Metropolitan Area, some 60 miles north of Colorado Springs, with a similar climate.

EXHIBIT 14

Trends in Nationwide On-Road Emissions of Ozone Precursors



Source: U.S. Environmental Protection Agency

Due to high ozone concentrations, Denver has been found to be in violation of the old ozone standard of 0.084 ppm and has developed a plan to reduce ozone concentrations. Denver is also in non-attainment for the new ozone standard of 0.075 ppm and is working on a plan for compliance. The Denver Region has various other emission sources that Colorado Springs does not have (e.g., oil and gas industry), but the projected trends in Denver Region on-road emissions of ozone precursors are pertinent for the Pikes Peak Region. Exhibit 15 shows the El Paso County Emissions Inventory for VOCs and NO_x for 2002, 2007 and 2012.

EXHIBIT 15

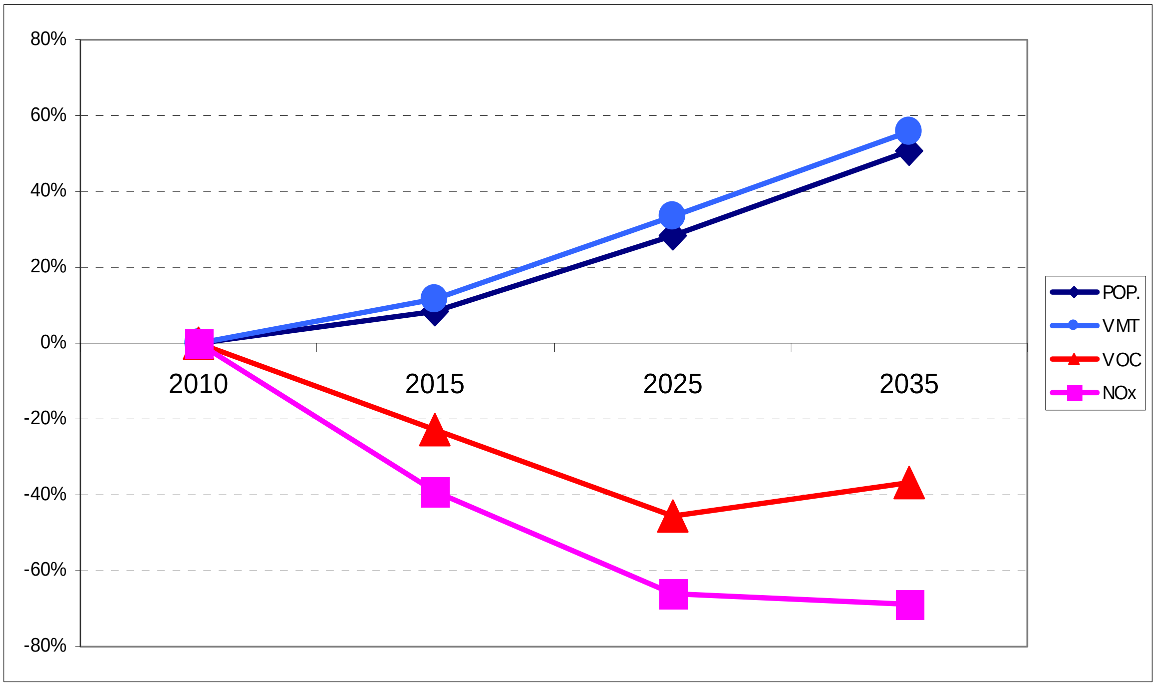
El Paso County Emission Inventory for Ozone Precursors

Source Category	VOC (tons per day)			NO_x (tons per day)		
Year	2002	2007	2012	2002	2007	2012
Mobile Sources	29.920	25.122	18.521	27.690	24.053	16.832
Point Sources	7.991	7.196	7.907	23.502	25.353	28.135
Area Sources	21.071	22.611	24.414	3.089	3.317	3.582
Non Road Sources	11.363	8.719	7.991	12.784	12.046	10.919
Total	70.346	63.648	58.833	67.065	64.769	59.467
Mobile as a % of Total	42.5%	39.5%	31.5%	41.3%	37.1%	28.3%
Mobile Sources Change from 2002	No change	16% reduction	38% reduction	No change	13% reduction	39% reduction

Source: PPACG, 2007

Exhibit 16, below, indicates that despite growth of more than 50% in population and vehicle miles of travel, the Denver Region is expected to see roughly a 40% reduction in VOC emissions and more than a 60% reduction in NO_x emissions between 2010 and 2035. Based on these projections for the Denver area, it is reasonable to assume that comparable reductions in mobile source emissions will occur by 2035 in the Pikes Peak Region. These probable reductions over the next 25 years would be in addition to major reductions beyond those reflected in El Paso County's inventory for 2002 to 2012 (Exhibit 15, above).

EXHIBIT 16
Projected Change in Denver Regional Population, Vehicle Use and Ozone Precursor Emissions, 2010 to 2035



Source: DRCOG, 2009.

It may take a few years for further emission reductions to bring down the three-year rolling average of ozone concentrations in the Pikes Peak Region, but the long-term outlook is good. Despite increased vehicle travel, the region can expect to experience reductions in on-road emissions of ozone precursors for the foreseeable future.

Given EPA's January 2010 proposal to tighten the 8-hour ozone to a new standard of between 0.70ppm to 0.60ppm, it would be prudent to address some of the ramifications if the Colorado Springs Urbanizing Area were to find itself in violation of the ozone standards:

- It would become necessary to identify, analyze and implement regulatory strategies to reduce ozone concentrations;
- It would become necessary to develop an emissions inventory for hydrocarbons and nitrogen oxide to determine ozone source areas;
- Nonattainment status would affect the ability to permit new stationary sources and make modifications to existing sources in the region; and
- Depending on the severity of the ozone problem, federal highway funding could also be withheld for a failure to implement ozone reduction strategies.

Particulate Matter

Concentrations of $PM_{2.5}$ and PM_{10} in the Pikes Peak Region have been stable for the past decade, despite increased regional population and vehicle miles of travel. These concentrations are generally about half of allowable levels. Particulate matter concentrations in the region are not expected to change much in the future with continued population and VMT growth. Localized concentrations of particulate matter along the US 24 West Corridor could increase because compared with existing conditions, traffic volumes would increase by an average of 49% with the No-Action Alternative and by even more with the Proposed Action. Also, US 24 is a designated truck route.

The Proposed Action would result in additional lane-miles of state highway on a major route that will have priority for snow and ice removal during and after snow events. For snow and ice control, chemical deicers are used more predominantly in the Pikes Peak Region than sand products, but sand may sometimes be used and can result in re-entrained dust, which is particulate matter in the air.

Other Criteria Pollutants

Concentrations of lead, sulfur dioxide, and nitrogen dioxide in the Pikes Peak region are expected to remain well below the national ambient air quality standards for these pollutants.

Lead and SO_2 concentrations have been almost negligible in recent years, despite the fact that the region's population and vehicle miles traveled continually increase. Concentrations of NO_2 are not negligible, but are well below the standard and show not upward trend. Further decreases in NO_2 are expected as a result of EPA national programs. For example, the figure in the ozone discussion immediately above indicates that Denver-area emissions of oxides of nitrogen (NO_x)—the family of gases that includes NO_2—are projected to decrease by about 70% between 2010 and 2035. The effect of the US 24 West Proposed Action and No-Action Alternative on monitored concentrations of these three criteria pollutants would be negligible and would not alter the ongoing regional trends.

Mobile Source Air Toxics (MSATs)

As is discussed in detail in Attachment A to this Technical Report, FHWA believes technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of this transportation project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the transportation project level, it is possible to qualitatively assess the levels of future MSAT emissions under the project. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions—if any—from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at: http://www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm.

For the US 24 West No-Action and Proposed Action alternatives, the amount of MSATs emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative.

The VMT estimated for the Proposed Action is slightly higher than that for the No-Action Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. The increase in VMT would lead to higher MSAT emissions for the Proposed Action along the highway corridor, together with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds. According to EPA's MOBILE6.2 emissions model, emissions of all of the priority MSATs except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emissions decreases will offset VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models.

Because the estimated VMT under either alternative is nearly the same, it is expected there would be no appreciable difference in overall MSAT emissions. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57% to 87% between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-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.

The interchange ramps and frontage roads contemplated as part of the Proposed Action would have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, there may be localized areas where ambient concentrations of MSATs could be higher under the Proposed Action than the No-Action Alternative. As detailed earlier, there is one sensitive receptor—a pre-school facility—located within 500 feet of the existing expressway.

The localized increases in MSAT concentrations would likely be most pronounced along the section of US24 between I-25 and 21st Street , where traffic volumes are highest today and will experience the most growth. It this stretch, the Proposed Action would carry between 7,500 and 11,000 more vehicles per day than the No-Action Alternative. However, as discussed above, the magnitude and the duration of these potential increases in MSAT concentrations compared to the No-Action Alternative cannot be accurately quantified due to the inherent deficiencies of current models. In sum, when a highway is widened and, as a result, moves closer to receptors, the localized level of MSAT emissions for the Proposed Action could be higher relative to the No-Action Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Regional Haze and Visibility

The Clean Air Act and U.S. EPA's 1999 Regional Haze Rule require states to develop plans to improve visibility in 10-year increments, with the goal of reaching natural background conditions within 60 years.

The Colorado Department of Public Health and Environment is currently developing its first 10-year plan and is coordinating with CDOT and urban area metropolitan planning organizations to ensure that these agencies' long-range travel forecasts are incorporated into the plan.

With respect to the Proposed Action, emissions from travel on US 24 West in future years will be incorporated into the state's visibility plan, which is required by federal law to demonstrate the necessary visibility improvements in Class I areas. Given the small incremental impact of this project and the large-scale nature of the transport of the constituents of regional haze, it is not practical to attempt to model the visibility impacts of the project alternatives. However, EPA-mandated improvements in vehicle emissions technology and fuels over the next 20 years, and ongoing dust control measures, will reduce emissions regardless of the alternative chosen, resulting in visibility improvements state-wide.

Global Climate Change

CDOT issued a Policy Directive on Air Quality in May 2009. This Policy Directive 1901 was developed with input from a number of agencies, including the State of Colorado's Department of Public Health and Environment, the U.S. Environmental Protection Agency , the Federal Highway Administration, the Federal Transit Administration , the Denver Regional Transportation District , and the Denver Regional Air Quality Council . This Policy Directive addresses unregulated mobile source air toxics (MSAT) and greenhouse gases(GHG) produced from Colorado's state highways, interstates, and construction activities.

As part of CDOT's continuing commitment to addressing MSATs and GHGs, some of CDOT's program-wide activities include:

1. Developing truck routes with the goal of limiting truck traffic in proximity to facilities, including schools, with sensitive receptor populations.
2. Continue researching pavement durability opportunities with the goal of reducing the frequency or resurfacing and/or reconstruction projects.
3. Developing air quality educational materials, specific to transportation issues, for citizens, elected officials, and schools.
4. Offering outreach to communities to integrate land use and transportation decisions to reduce growth in vehicle miles traveled (VMT), such as smart growth technologies, buffer zones, transit-oriented development, walkable communities, access management plans, etc.
5. Committing to research additional concrete additives that would reduce the demand for cement.
6. Expanding Transportation Demand Management (TDM) efforts statewide to better utilize the existing transportation mobility network.
7. Continuing to diversify the CDOT fleet by retrofitting vehicles, specifying the types of vehicles and equipment contractors may use, purchasing low-emission vehicles, such as hybrids, and purchasing cleaner burning fuels through bidding incentives where feasible. Incentivizing is the approach likely to be used for this.
8. Exploring congestion and/or right-lane only restrictions for motor carriers.
9. Funding truck parking electrification (note: mostly via external grant opportunities)

10. Researching additional ways to improve freight movement and efficiency statewide.

11. Committing to incorporating ultra-low sulfur diesel (ULSD) for non-road equipment statewide before June 2010 – likely using incentives during bidding.

12. Developing a low-VOC emitting tree landscaping specification.

With regard to the first measure listed above, it should be noted that US24 is a designated truck route. Channeling truck traffic onto this route keeps it off of other routes, such as Colorado Avenue, which pass closer to neighborhoods, schools, and other sensitive receptors.

Because climate change is a global issue, and the emission changes due to project alternatives are very small compared to global totals, the GHG emissions associated with the alternatives were not calculated. Because GHGs are directly related to energy use, the changes in GHG emissions would be similar to the changes in energy consumption presented in the US 24 West EA. The relationship of current and projected Colorado highway emissions to total global emissions of carbon dioxide is presented in Exhibit 17.

EXHIBIT 17
Comparison of Annual Global, Colorado and Project-Level CO_2 Emissions

Global CO_2 emissions, 2005, in million metric tons (MMT)[1]	Colorado highway CO_2 emissions, 2005, in MMT[2]	Projected Colorado 2035 highway CO_2 emissions, 2035, in MMT[2]	Colorado highway CO_2 emissions, % of global total, 2005[2]	US 24 West corridor VMT, % of statewide VMT, 2005
27,700	29.9	31.3	0.108%	0.23%

[1]EIA, International Energy Outlook, 2007
[2]Calculated by FHWA Resource Center

Colorado highway emissions are expected to increase by 4.7% between 2005 and 2035. The benefits of the fuel economy and renewable fuels programs in the Energy Independence and Security Act of 2007 are offset by growth in VMT. Colorado's 2035 statewide transportation plan predicts that VMT will double between 2000 and 2035. This table also indicates the amount of travel in the project corridor relative to total Colorado motorized travel.

Impacts During Construction

This Technical Memorandum has focused primarily on the long-term air quality emissions and issues associated with future use of US 24 West by motor vehicles, but another air quality impact of the Proposed Action would be "temporary" emissions associated construction of the project. Construction of a new grade-separated interchange could take 18 to 24 months to complete. During this time period, construction activities and conditions would vary from day to day and therefore the resulting emissions would constantly vary both in type and in magnitude.

The most noticeable effect of construction on air quality would be generation of dust due to demolition activities and the hauling, filling and grading work that requires earth movement. EPA's 2002 National Emissions Inventory Data and Documentation indicates that as a general estimate, highway construction generates 0.42 tons (840 pounds) of PM_{10} that includes 0.08 tons (160 pounds) of $PM_{2.5}$ from one acre of construction over the course of a month (EPA, 2209d). Assuming 21 work days in a month, this would equate to daily emissions of 40 pounds of PM_{10} per acre under construction.

Additionally, construction vehicles and equipment burn gasoline or diesel fuel, resulting in emissions of carbon monoxide, hydrocarbons, oxides of nitrogen, fine particulate matter and other pollutants. Also, traffic delays and congestion during construction could increase vehicle emissions due to lower traffic speeds and increased idling.

All of these air quality impacts are considered to be short-term. For all pollutants, ambient air quality levels are expected to remain well below allowable limits.

Mitigation

The No-Action Alternative would not result in air quality impacts requiring mitigation. The Proposed Action would not require mitigation of long-term air quality effects, but would require mitigation of temporary effects arising during construction.

A Fugitive Particulate Emissions Control Plan will be developed and implemented and a Dust Abatement Permit will be obtained at the time of construction in accordance with Colorado Air Quality Control Regulation Number 1. The Fugitive Particulate Emissions Control Plan will require the following:

- Contractors will be required to acquire necessary air quality permits (Air Pollutant Emission Notices, or APENs) and use dust suppression techniques (such as wetting or application of dust palliative compounds) to control fugitive emissions within permitted levels. Trucks carrying fill material will be either wetted down or covered with tarps to prevent the blowing of dirt and dust from the trucks.
- The disturbed area for any haul roads will be minimized, and hauls roads will be wetted to suppress dust.
- Fills, cuts, slopes and other exposed areas will be re-vegetated and mulched within a reasonable time after disturbance.
- Off-site tracking of mud and debris will be minimized by washing construction equipment in contained areas and providing well-maintained tracking beds.

Dust suppression practices will be used as mandated by Federal, State and local agencies. These practices are reasonably effective under normal weather conditions but cannot completely control dust on very windy days.

CDOT will require contractors to maintain their construction equipment in good operating condition in order to minimize exhaust emissions from diesel vehicles, compressors, and other heavy machinery.

7.0 References

AQCC, 2008. Colorado Air Quality Control Commission. Report to the Public, 2007-2008. http://www.cdphe.state.co.us/ap/down/RTTP07-08web.pdf

CDPHE, 2003. Colorado Department of Public Health and Environment. Revised Carbon Monoxide Maintenance Plan for the Colorado Springs Attainment/Maintenance Area. December 2003. http://www.cdphe.state.co.us/ap/down/SIPcolspgsCO.pdf

CDOT, 2006. Colorado Department of Transportation, Air Quality Analysis and Documentation Procedures, 2006. http://www.dot.state.co.us/environmental/CulturalResources/AirQuality/AirQuality06Revisions.pdf

CDOT, 2008. Colorado Department of Transportation, CDOT NEPA Manual, Version 2, December 2008. http://www.dot.state.co.us/environmental/NEPA_Manual/

DRCOG, 2009. Denver Regional Council of Governments (DRCOG), 2008 Amendment Cycle 2 Denver-North Front Range Joint Interim 8-Hour Ozone Conformity Determination, January 21, 2009. http://drcog.org/documents/ /Joint%20Interim%20Conformity%20Determination%202008%20Cycle%202.pdf

EPA, 2009a. United States Environmental Protection Agency. National Ambient Air Quality Standards (NAAQS) http://www.epa.gov/air/criteria.html, accessed July 7, 2009.

EPA, 2009b. United States Environmental Protection Agency (EPA). Monitor Values Report – Criteria Pollutants. http:/ /iaspub.epa.gov/airsdata/ adaqs.monvals?geotype=co&geocode=08041&geoinfo=co%7E08041%7EEl+Paso+Co%2C+Colorado&pol=CO&year=1998&fld=monid&fld=siteid&fld=address&fld=city&fld=county&fld=stabbr&fld=regn&rpp=25. Accessed June 2, 2009.

EPA, 2009c. United States Environmental Protection Agency (EPA), Mobile Source Emissions – Past, Present and Future. http:/ /www.epa.gov/otaq/invntory/ overview/results/onroad.htm. Accessed on June 2, 2009.

EPA, 2009d. United States Environmental Protection Agency (EPA), 2002 National Emissions Inventory and Documentation. Accessed on June 2, 2009. http://www.epa.gov/ttn/chief/net/2002inventory.htm#documentation

NCDC, 2009. National Climate Data Center, U.S. Department of Commerce. Comparative Climatic Data, Wind – Average Wind Speed. Accessed on June 2, 2009. http://lwf.ncdc.noaa.gov/oa/climate/online/ccd/avgwind.html

PPACG, 2007. Pikes Peak Area Council of Governments, Ozone White Paper. (Appendix B) http://www.ppacg.org/cms/images/stories/pdf_files/ozone_white_paper_0607.pdf

PPACG, 2008a. Pikes Peak Area Council of Governments, Moving Forward: 2035 Regional Transportation Plan, February 2008 http:/ /www.ppacg.org/cms/ index.php?option=com_content&task=view&id=159&Itemid=51

PPACG, 2008b. Pikes Peak Area Council of Governments. Air Quality in the Pikes Peak Region, Monitoring and Trends Report, July 2008. http:/ /www.ppacg.org/cms/ /index.php?option=com_remository&Itemid=27&func=fileinfo&id=461

PPACG, 2008c. Pikes Peak Area Council of Governments FY 2008 through 2013 Transportation Improvement Program for the Colorado Springs Urbanizing Area, March 12,

2008. http: //www.ppacg.org/cms/
index.php?option=com_content&task=view&id=47&Itemid=51

U.S. Air Force. United States Air Force, Air University, Captain Randy C. Combs, An Evaluation of Wind Turbine Technology at Peterson Air Force Base, 2005.”
http://stinet.dtic.mil/dticrev/PDFs/ada434397.pdf

ATTACHMENT A

Mobile Source Air Toxics – Supplemental Information

On February 3, 2006, the FHWA released its interim guidance on when and how to analyze Mobile Source Air Toxics in the NEPA process for highways. The following discussion is in accordance with the interim guidance.

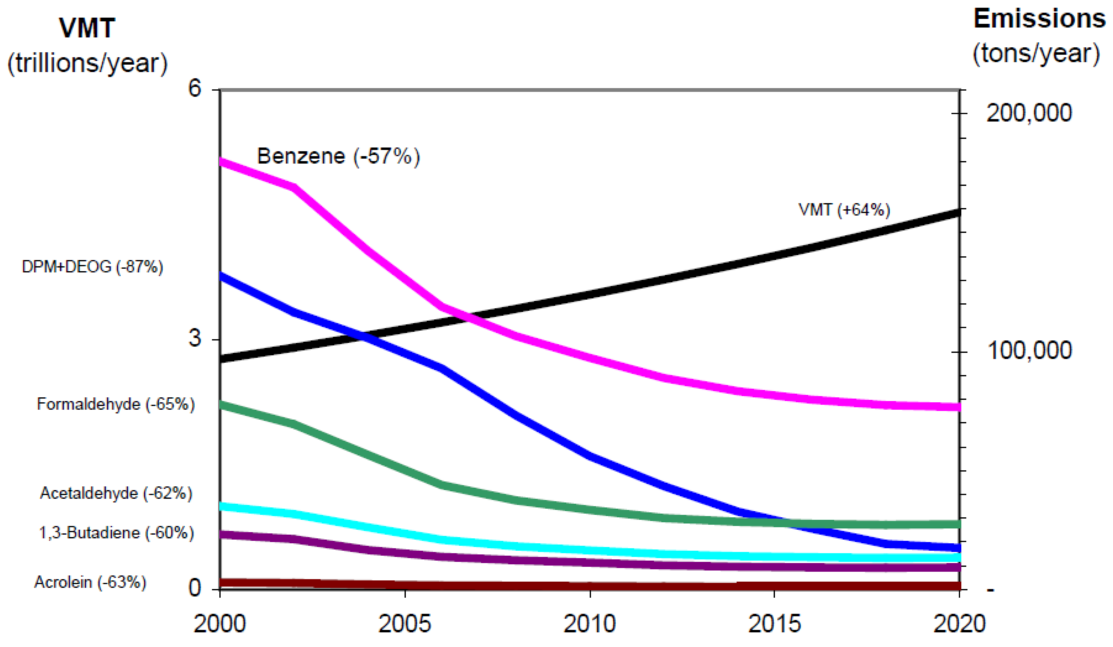
In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS), the EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries). The FHWA has prepared guidance (dated February 3, 2006) on the analysis of mobile source air toxics for highway projects.

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. See document No. EPA420-R-00-023 (December 2000).

The EPA is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs. The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources at 66 FR 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the Clean Air Act. In its rule, EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Between 2000 and 2020, FHWA predicts that even with a 64% increase in VMT, these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57% to 65%, and will reduce on-highway diesel PM emissions by 87%, as shown in Figure A-1.

As a result, EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to further control MSATs. The agency is preparing another rule under authority of CAA Section 202(l) that will address these issues and could make adjustments to the full 21 and the primary six MSATs.

FIGURE A-1
U.S. Annual Vehicle Miles Traveled (VMT) vs. Mobile Source Air Toxic Emissions, 2000-2020



Notes: For on-road mobile sources. Emissions factors were generated using MOBILE6.2. MTBE proportion of market for oxygenates is held constant, at 50%. Gasoline RVP and oxygenate content are held constant. VMT: *Highway Statistics 2000*, Table VM-2 for 2000, analysis assumes annual growth rate of 2.5%. "DPM + DEOG" is based on MOBILE6.2-generated factors for elemental carbon, organic carbon and SO4 from diesel-powered vehicles, with the particle size cutoff set at 10.0 microns.

Unavailable Information for Project Specific MSAT Impact Analysis

This Technical Memorandum includes a basic analysis of the likely MSAT emission impacts of this project. In FHWA's view, the lack of a national consensus on an acceptable level of risk and other air quality criteria assumed to protect the public health and welfare, as well as the reliability of available technical tools, do not enable us to predict with confidence the project-specific health impacts of the emission changes associated with the alternatives evaluated for this EA. The outcome of such an assessment would be influenced more by the uncertainty introduced into the process by the assumptions made rather than any real insight into the actual health impacts from MSAT exposure directly attributable to the Proposed Action. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information.

Information that is Unavailable or Incomplete

Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements; chief among them is what constitutes an "acceptable level" of risk. Incremental risk levels from a new source which are projected to be less than 1 in 1 million are generally considered to be negligible, while incremental risk levels greater than 100 in 1 million are generally considered to be unacceptable.

Indeed, the EPA prevailed in a recent U.S. Court of Appeals for the District of Columbia decision (Natural Resources Defense Council v. Environmental Protection Agency, No. 07-1053, June 8, 2008) that its 2006 hazardous organic NESHAPs (National Emission Standards for Hazardous Air Pollutants) rule reduced emissions to levels that present "an acceptable level of risk and protect public health with an ample margin of safety" at risks less than 100 in 1 million. EPA's benzene NESHAPs is also based on reducing risks to less than 100 in 1 million.

There is also no national consensus on dose-response values for MSATs. For instance, the EPA provides ranges of air concentrations at specific risk levels for lifetime exposure to benzene, with uncertainty spanning perhaps an order of magnitude. The practical uncertainty is even greater, because the California Air Resources Board (CARB) puts the air concentration risk levels for benzene at an order of magnitude less than equivalent EPA values. In addition, most notably, CARB has implemented an air concentration risk level for diesel PM, whereas the EPA has not. EPA states in their risk assessment of diesel PM entitled, "Health Assessment Document for Diesel Exhaust", (Office of Research and Development, EPA/600/8-90/057F, May 2002, pp 8-15, http://www.epa.gov/risk/basicinformation.htm#g) that:

> "An exploratory risk analysis shows that environmental cancer risks possibly range from 10-5 to nearly 10-3, while a consideration of numerous uncertainties and assumptions also indicates that lower risk is possible and zero risk cannot be ruled out. These risk findings are only general indicators of the potential significance of the lung cancer hazard and should not be viewed as a definitive quantitative characterization of risk or be used to estimate an exposure-specific population impact".

In contrast to EPA's risk assessment for diesel PM, there is little-to-no documentation as to precisely how the CARB unit risk value for diesel PM was obtained, nor precisely on what it is based. The uncertainties in the unit risk value for diesel PM are exceptionally large, since epidemiological studies of diesel engine exhaust do not consistently find that exposure to diesel PM causes cancer (cohorts of underground miners exposed to the highest concentrations of Diesel PM, for example, appear to have no excess risk of lung cancer). Thus, the EPA has found that the available epidemiological data do not support the development of any unit risk value for diesel PM.

An association between an incremental increase in traffic volumes and the risk level generally considered unacceptable is implied in a screening-level risk analysis included in the National Cooperative Highway Research Program (NCHRP) report entitled, "Analyzing, Documenting, and Communicating the Impacts of Mobile Source Air Toxic Emissions in the NEPA Process", (NCHRP 25-25 Task 18, March 2007). For freeways, an incremental increase in traffic volumes of 125,000 to 443,000 AADT is linked with an incremental 1 in 1 million risk level, based on EPA's range of unit risk values for benzene. The analysis was conducted for an overly simplified exposure condition, assuming that emission levels associated with a 2010 vehicle fleet would persist for 70 years, discounting the recognized significant mitigation associated with EPA's Tier 2 and heavy-duty truck emissions standards and the 2007 MSAT rule. By extension, based on the same over-simplification, an incremental increase in freeway traffic volumes of 1,250,000 to 4,430,000 AADT are associated with a 10 in 1 million risk level and an incremental increase in freeway traffic volumes of 12,500,000 to 44,300,000 AADT are associated with a 100 in 1 million risk level – the level above which is generally considered unacceptable. The inherent assumption is that EPA is correctly estimating benzene and diesel PM air concentration risk levels and CARB's estimates are incorrect. Different results and conclusions would be obtained if the reverse is true or if neither EPA nor CARB is correct. Consequently, FHWA finds that there is considerable uncertainty associated with estimates of adverse residual risk after implementation of EPA's 2007 MSAT rule and other control programs.

According to EPA in their Air Toxics Risk Assessment Reference Library, risk and hazard estimates are typically reported as one significant figure. Based on the NCHRP screening-level risk analysis model, the ability to discern between a 1 in 1 million risk level and a 2 in 1 million risk level is associated with a freeway traffic volume increase of 125,000 to 443,000 AADT. In FHWA's view, risk assessment methodologies applied to highway projects are a blunt instrument.

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are also encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

1. Emissions. EPA characterizes their MOBILE6.2 emission factor model as a regional model and not a project-level model. It is a trip-based model, where emission factors are projected based on a "typical" trip of 7.5 miles and vehicle speeds averaged over the trip. MOBILE6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this, it has limited applicability at the project level. EPA will be addressing this limitation in its MOVES model, a replacement to MOBILE6.2. The implication of this limitation is illustrated and noted by UC-Davis in Figure A-2, i.e., "Smooth flow reduces emissions by a factor of nearly 20", which cannot be reflected in a trip-based or link-based model. Similar results have been found in analyses by UC Riverside (Barth, for CO_2) and NC State (Frey, for multiple pollutants).

   Even within the confines of regional emissions modeling, EPA and CARB have a different view of what MSAT emissions would look like from a future vehicle fleet required to meet identical vehicle emission standards. Although the same basic concepts were used in developing their respective mobile source emission factor models, widely disparate results are produced for MSATs. EPA's MOBILE6.2 model generally predicts higher emission factors for benzene compared to CARB's Emfac2007 model. Emfac2007 generally predicts higher emission factors for diesel PM compared to MOBILE6.2. Figure A-3 provides a comparison of emission factors produced by the models for benzene and diesel particulate matter for the 2030 calendar year. Notice that diesel PM emission factors from MOBILE6.2 do not vary with speed; in Emfac2007 they do.

FIGURE A-2
HC Emissions: Exploratory Results

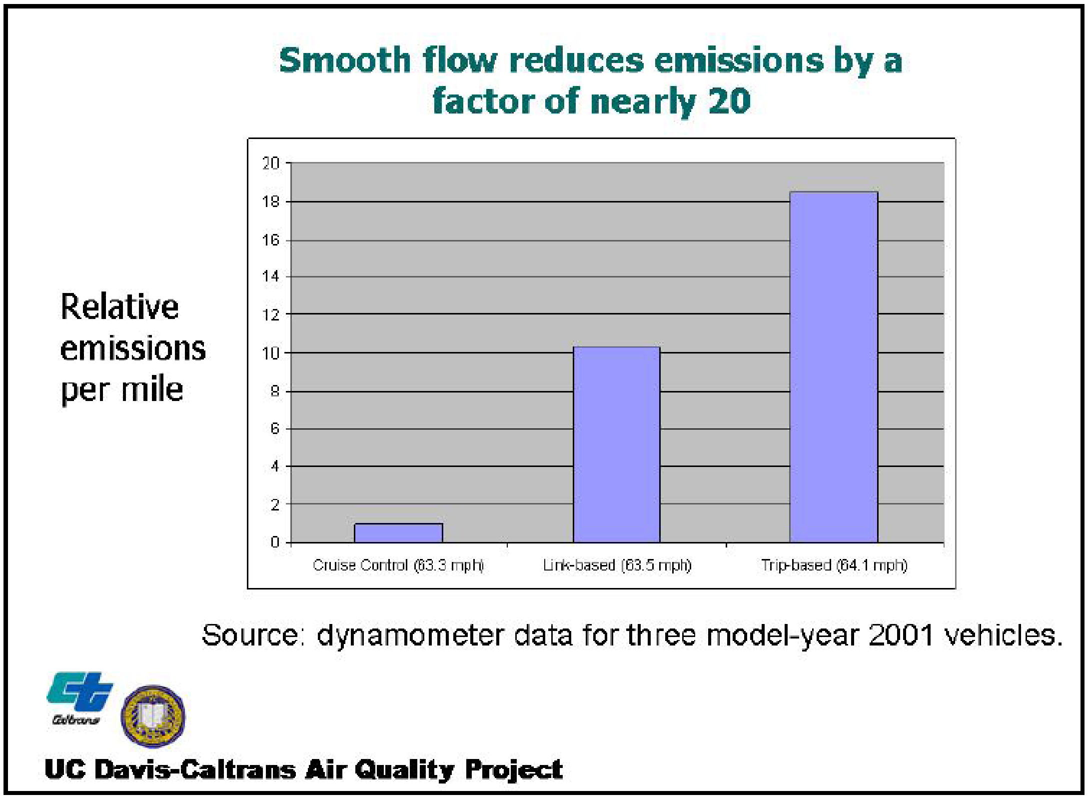
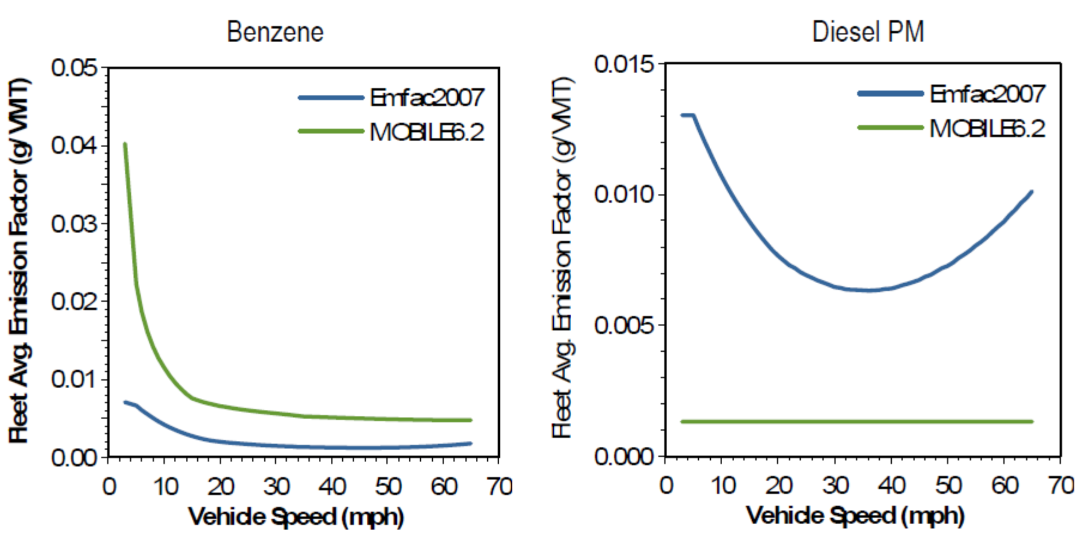


Figure A-3.
Comparison of Benzene and Diesel Particulate Matter Emission Factors for Calendar Year 2030



In part, because of this, EPA has concluded that (71 FR 12498):

> "We continue to believe that appropriate tools and guidance are necessary to ensure credible and meaningful $PM_{2.5}$ and PM_{10} hot spot analyses. Before such analyses can be performed, technical limitations in applying existing motor vehicle emission factor models must be addressed, and proper federal guidance for using dispersion models for PM hot spot analysis must be issued. With the release of MOBILE6.2, state and local transportation agencies now have an approved model for estimating regional $PM_{2.5}$ and PM_{10} emission factors in SIP [State Implementation Plan] inventories and regional emissions analyses for transportation conformity. However, MOBILE6.2 has significant limitations that make it unsatisfactory for use in microscale analysis of $PM_{2.5}$ and PM_{10} emissions as necessary for quantitative hot-spot analysis."

The limitations noted by EPA equally apply to diesel PM emission factors.

1. Dispersion. The tools to predict how MSATs disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated with emission rates from the MOBILE4 model more than a decade ago. Based on updated emission rates to MOBILE5, an extensive evaluation of the CAL3QHC model was conducted in an NCHRP study as part of the development of the HYROAD model. The study report documents poor model performance at ten sites across the country, 3 where intensive CO monitoring was conducted plus an additional 7 with less intensive monitoring. The report is available online from EPA at www.epa.gov/scram001/dispersion_alt.htm#hyroad.

2. Exposure Levels and Health Effects. Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude us from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to reliably forecast long-term concentrations of MSATs near roadways, and to determine the portion of time that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for lifetime, 70-year risk assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by the Health Effects Institute (HEI).

   For example, consider the exposure-response relationship for alcoholic beverages. Alcoholic beverages are established causes of cancer in humans; about

> 3% of all cancers world-wide are thought to be caused by over-consumption of alcoholic beverages. There is a clear dose-response relationship for alcoholic beverages, with risk of cancer death increasing (essentially) linearly for exposures ranging from 2 drinks per day through 6-plus drinks per day. But there is neither evidence nor reason to suppose that, for example, 1 or 0.5 drinks per day also increase people's risk of cancer death. Indeed, the exposure-response data, interestingly enough, show a "J-shaped" dose response relationship, such that people consuming 1 drink per day are significantly less likely to die of cancer than those who drink no alcoholic beverages. If one were to make the standard "regulatory style" assumption about low-level exposure to alcohol, one would both vastly overestimate the cancer risk, and also miss entirely what turns out to be a low-level protective effect. In such a case, it would hardly be "erring on the side of public health" to estimate that exposures that are orders of magnitude smaller than the 2 drinks-per-day cancer-effect-level put people at risk of cancer. This is not to say, of course, that very-low-level exposures to MSAT emissions prevent cancer; nor is it to assert that such exposures are demonstrably or obviously safe. It is only to point out that extrapolation beyond observable exposures and responses are at best an uncertain business and become increasingly uncertain the farther one strays from the empirical data.

Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against project benefits (e.g., relief of traffic congestion) that are better suited for quantitative analysis.

<u>Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs</u>

Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of EPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or state level.

The EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at http://www.epa.gov/iris. The following toxicity information for the six prioritized MSATs was taken from the IRIS database

Weight of Evidence Characterization summaries. This information is taken verbatim from EPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- **Benzene** is characterized as a known human carcinogen.
- The potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- **Diesel exhaust (DE)** is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.
- **Diesel exhaust** also represents chronic respiratory effects, possibly the primary non-cancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes – particularly respiratory problems.[1] Many health studies use an epidemiological approach to relate the possibility of harm due to the proximity to the roadway. FHWA has concerns about reaching conclusions regarding health impacts from highway emissions based on proximity studies in areas known to exceed ambient air quality standards, such as the recent study by Dr. James Gauderman, et al., entitled "Effect of Exposure to Traffic on Lung development from 10 to 18 Years of Age: A Cohort Study". These studies do not measure specific pollutants but only roadway proximity, so any reported negative health impacts may be due to either the criteria pollutants or MSATs.

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[1] South Coast Air Quality Management District, Multiple Air Toxic Exposure Study-II (2000); South Coast Air Quality Management District, Multiple Air Toxic Exposure Study-III (2007); Highway Health Hazards, The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality); NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.

Epidemiological studies suffer from the limitation that they cannot by their very nature establish causality. They may indicate statistical associations, but other confounding factors may be missed and may represent the true cause of the impact. Furthermore, not all studies show a negative impact. For example, the "Long term Effects of Traffic-Related Air Pollution on Mortality", Beelen et al., only found weak associations between proximity to major roadways and health effects.

This fact was also reported as a major shortcoming in health studies of this nature in, "Does Traffic-Related Air Pollution Contribute to Respiratory Disease Formation in Children", M. Jerritt, ERJ 2007, Vol. 29. In his review, Jerritt also points out another shortcoming in recent health studies dealing with determining the effect of proximity. He points out that most of these studies utilize a basic measure of distance to roadway as a proxy of exposure; however, because of the variable nature of particles and gaseous pollutants, the true variability of air pollutants within the neighborhood scale needs to be captured to identify the health effects of specific components of the air pollution mixture. Additionally, he states "exposures assigned on distance to traffic or traffic counts near the home are prone to . . . errors . . . and biased results".

Because analytical methodologies vary greatly between individual health studies, and all studies have limitations, it is not practical to draw definitive conclusions based solely on individual studies. Rather the total body of literature needs to be consulted before conclusions can be made. To that end, the Health Effects Institute, a non-profit organization funded by EPA, FHWA, and industry, has undertaken a major series of studies to research near roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The first study was completed and the findings published in Special Report 16 – *Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects*, (HEI, November 2007) available online at http://pubs.healtheffects.org/get file.php?u=384. For each of the MSATs reviewed, the analysis answers three questions:

1. To what extent are motor vehicles a significant source of exposure?
2. Does it affect human health?
3. Does it affect human health at environmental concentrations?

HEI concludes that exposure to many MSATs comes from sources other than vehicles and that mobile sources are the primary sources of exposure for only a few of the 21 MSATs listed by the EPA in its 2001 Rule. For many of the MSATs reviewed, HEI concluded that there is insufficient data for an assessment of ambient exposures on human health.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of Impacts Based Upon Theoretical Approaches or Research Methods Generally Accepted in the Scientific Community

Given the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be reliably made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

In this document, FHWA has provided a qualitative analysis of MSAT emissions relative to the various alternatives, and acknowledges that the No-Action and the Proposed Action alternatives may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be reliably estimated.

Project Level MSAT Discussion

As discussed above, FHWA believes technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of this transportation project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the transportation project level, it is possible to qualitatively assess the levels of future MSAT emissions under the project. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions—if any—from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at: http://www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm.

For the US 24 West No-Action and Proposed Action alternatives, the amount of MSATs emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative.

The VMT estimated for the Proposed Action is slightly higher than that for the No-Action Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. The increase in VMT would lead to higher MSAT emissions for the Proposed Action along the highway corridor, together with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds. According to EPA's MOBILE6.2 emissions model, emissions of all of the priority MSATs except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emissions decreases will offset VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models.

Because the estimated VMT under either alternative is nearly the same, it is expected there would be no appreciable difference in overall MSAT emissions. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57% to 87% between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-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.

The interchange ramps and frontage roads contemplated as part of the Proposed Action would have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, there may be localized areas where ambient concentrations of MSATs could be higher under the Proposed Action than the No-Action Alternative.

The localized increases in MSAT concentrations would likely be most pronounced along the section of US 24 between I-25 and 21st Street, where traffic volumes are highest today and will experience the greatest (absolute) increase in volume by 2035 under the Proposed Action. However, as discussed above, the magnitude and the duration of these potential increases in MSAT concentrations compared to the No-Action Alternative cannot be accurately quantified due to the inherent deficiencies of current models. In sum, when a highway is widened and, as a result, moves closer to receptors, the localized level of MSAT emissions for the Proposed Action could be higher relative to the No-Action Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Mitigation

Motor vehicle emissions in the study area would not result in any exceedance of the NAAQS; therefore, no direct project air quality mitigation is necessary.

Coordination

Capacity improvements to US 24 West, in the form of upgrading and widening the existing expressway, have been included in the PPACG 2035 fiscally-constrained, conforming Regional Transportation Plan. This project has been coordinated with CDOT and the APCD of the CDPHE.

ATTACHMENT B

CAL3QHC Modeling Documentation

Twelve runs of the CAL3QHC model were conducted. This consists of two alternatives for three different years for two different locations Documentation from each run is provided in this attachment.

US24 at intersection with Interstate 25 ramps

1. No-Action Alternative for 2020 PM Peak Period
   See pages B-2 to B-19
2. No-Action Alternative for 2030 PM Peak Period
   See pages B-20 to B-37
3. No-Action Alternative for 2035 PM Peak Period
   See pages B-38 to B-55
4. Proposed Action for 2020 PM Peak Period
   See pages B-56 to B-77
5. Proposed Action for 2030 PM Peak Period
   See pages B-78 to B-99
6. Proposed Action for 2035 PM Peak Period
   See pages B-100 to B-121

US 24 at intersection with 8th Street

7. No-Action Alternative for 2020 PM Peak Period
   See pages B-122 to B-139
8. No-Action Alternative for 2030 PM Peak Period
   See pages B-140 to B-157
9. No-Action Alternative for 2035 PM Peak Period
   See pages B-158 to B-175
10. Proposed Action for 2020 PM Peak Period
    See pages B-176 to B-197
11. Proposed Action for 2030 PM Peak Period
    See pages B-198 to B-215
12. Proposed Action for 2035 PM Peak Period
    See pages B-216 to B-233

1. No-Action Alternative (Existing Interchange) for 2020 PM Peak Period

Location: US 24 at Interstate 25 ramps

Configuration: At-grade signalized intersection with freeway overhead

1-hour Result:	Worst case average of 6.50 parts per million as indicated on Page 6 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	3.71 ppm
Assumed Background:	1.84 ppm
Total Concentration:	**5.55 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: I25/US 24-No Action                RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 11:34:25

The MODE flag has been set to C for calculating CO averages.

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. I-25 NB Appr    *  -26.9  -804.0   -64.0  -1000.0 *   199.  191. AG
5050. 17.5  .0 56.0
    2. I-25 NB Appr    *   98.1  -142.8   -26.9  -804.0 *   673.  191. FL
3962. 17.5 18.0 56.0
    3. I-25 NB Appr    *  114.4   -56.7   98.1  -142.8 *   88.  191. BR
3962. 17.5 27.0 56.0
    4. I-25 NB Dptr    *  154.1   153.4   114.4   -56.7 *   214.  191. BR
3962. 17.5 27.0 56.0
    5. I-25 NB Dptr    *  314.2  1000.0   154.1   153.4 *   862.  191. FL
3962. 17.5 18.0 56.0
    6. I-25 SB Appr    *   93.7   181.6   250.2  1000.0 *   833.  11. FL
4994. 17.5 18.0 56.0
    7. I-25 SB Appr    *   53.7   -27.4   93.7   181.6 *   213.  11. BR
4994. 17.5 27.0 56.0
    8. I-25 SB Dptr    *   37.2  -113.5   53.7   -27.4 *   88.  11. BR
4994. 17.5 27.0 56.0
    9. I-25 SB Dptr    *   14.5  -232.5   37.2  -113.5 *   121.  11. FL
4994. 17.5 18.0 68.0
   10. I-25 SB Dptr    *  -83.7  -777.6   14.5  -232.5 *   554.  10. FL
4383. 17.5 18.0 56.0
   11. I-25 SB Dptr    *  -126.2  -1000.0   -83.7  -777.6 *   226.  11. AG
5548. 17.5  .0 68.0
   12. NB off Ramp NB Appr *   79.3  -463.4   -26.9  -804.0 *   357.  197.
AG  1088. 15.8  .0 32.0
   13. NB off Ramp NB Appr *  194.1   -95.1   79.3  -463.4 *   386.  197.
AG  1088. 15.8  .0 44.0
   14. NB off Ramp NB LQ  *  183.6  -128.9  -1254.9  -4742.2 *  4832.
197. AG  162. 100.0  .0 12.0 1.67 245.5
   15. NB off Ramp NB RQ  *  183.6  -128.9   180.5  -138.6 *   10.  197.
AG  100. 100.0  .0 12.0 .04  .5
   16. NB off Ramp NB Dptr *  255.4   463.8   194.1   -95.1 *   562.  186.
AG  925. 15.8  .0 44.0
```

```
   17. NB off Ramp NB Dptr *  338.5  1000.0   255.4   463.8 *   543.  189.
AG  925. 15.8  .0 32.0
   18. NB offRamp WB Appr *  808.7  -373.7  1000.0  -465.9 *   212.  116.
AG  1210. 15.8  .0 32.0
   19. NB offRamp WB Appr *  196.0   -78.2   808.7  -373.7 *   680.  116.
AG  1210. 15.8  .0 56.0
   20. NB offRamp WB TQ  *  199.2   -79.7   356.9  -155.8 *   175.  116.
AG  284. 100.0  .0 24.0 .61  8.9
   21. NB offRamp WB RQ  *  206.9   -63.6   255.4   -87.0 *   54.  116. AG
64. 100.0  .0 12.0 .26  2.7
   22. NB offRamp WB Dptr *   11.9   14.7   196.0   -78.2 *   206.  117.
AG  1948. 15.8  .0 44.0
   23. NB offRamp EB Appr *  188.2  -114.1   -5.8   -22.1 *   215.  295.
AG  1348. 15.8  .0 56.0
   24. NB offRamp EB LQ  *  187.7   -92.3   -37.7    8.9 *   247.  294. AG
432. 100.0  .0 24.0 .97 12.6
   25. NB offRamp EB TQ  *  181.2  -106.6   -35.1   -10.8 *   237.  294.
AG  118. 100.0  .0 12.0 .83 12.0
   26. NB offRamp EB Dptr *  1000.0  -501.5   189.4  -110.3 *   900.  296.
AG  773. 15.8  .0 44.0
   27. SB offRamp NB Appr *  -271.9  -247.4   14.5  -232.5 *   287.  87.
AG  613. 16.0  .0 32.0
   28. SB offRamp NB Appr *  -202.5   96.1  -271.9  -247.4 *   350.  191.
AG  613. 16.0  .0 44.0
   29. SB offRamp NB Q   *  -211.1   53.6  -244.6  -112.5 *   169.  191.
AG  400. 100.0  .0 24.0 .74  8.6
   30. SB offRamp WB Appr *  -191.7   117.5   11.9   14.7 *   228.  117.
AG  1948. 15.8  .0 44.0
   31. SB off Ramp WB Q  *  -191.7   117.5   16.9   12.2 *   234.  117. AG
160. 100.0  .0 24.0 .89 11.9
   32. SB offRamp WB Dptr *  -278.6   156.1  -193.4   115.0 *   95.  116.
AG  2474. 15.8  .0 56.0
   33. SB offRamp EB Appr *  -206.6   76.0  -294.0   118.2 *   97.  296.
AG  1255. 15.8  .0 56.0
   34. SB off Ramp EB Q  *  -207.7   85.3  -290.1   125.0 *   91.  296. AG
240. 100.0  .0 36.0 .38  4.6
   35. SB offRamp EB Dptr *   -5.8   -22.1  -206.6   76.0 *   223.  296.
AG  1348. 15.8  .0 56.0
   36. SB on Ramp SB Dptr *  -309.3  -307.8  -410.3   180.6 *   499.  348.
AG  1155. 16.0  .0 44.0
   37. SB on Ramp SB Dptr *  -83.7  -777.6  -309.3  -307.8 *   521.  334.
AG  1155. 16.0  .0 32.0
   38. SB on Ramp EB Appr *  -410.3   180.6  -766.8   550.2 *   514.  316.
AG  2258. 15.8  .0 44.0
   39. SB on Ramp EB Dptr *  -294.0   118.2  -410.3   180.6 *   132.  298.
AG  1255. 15.8  .0 56.0
   40. SB on Ramp WB Appr *  -395.1   212.3  -278.6   156.1 *   129.  116.
AG  1948. 15.8  .0 56.0
   41. SB on Ramp WB LQ  *  -395.1   200.0  -365.0   185.5 *   33.  116.
AG   80. 100.0  .0 12.0 .14  1.7
   42. SB on Ramp WB Q   *  -395.1   212.3  -393.0   211.2 *    2.  116.
AG   0. 100.0  .0 24.0 .57  .1
   43. SB on Ramp WB Dptr *  -752.2   578.3  -395.1   212.3 *   511.  136.
AG  1795. 15.8  .0 44.0
```

JOB: I25/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 11:34:25

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
14. NB off Ramp NB LQ	140	81	2.0	1051	1600	104.50	1	3
15. NB off Ramp NB RQ	140	50	2.0	37	1600	104.50	1	3
20. NB offRamp WB TQ	140	71	2.0	903	1600	104.50	1	3
21. NB offRamp WB RQ	140	32	2.0	308	1600	104.50	1	3
24. NB offRamp EB LQ	140	108	2.0	618	1600	104.50	1	3
25. NB offRamp EB TQ	140	59	2.0	730	1600	104.50	1	3
29. SB offRamp NB Q	140	100	2.0	613	1600	104.50	1	3
31. SB off Ramp WB Q	140	40	2.0	1948	1600	104.50	1	3
34. SB off Ramp EB Q	140	40	2.0	1255	1600	104.50	1	3
41. SB on Ramp WB LQ	140	40	2.0	153	1600	104.50	1	3
42. SB on Ramp WB Q	140	0	.0	1795	1600	104.50	1	3

RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
1. Rec 1	-321.3	106.7	6.0
2. Rec 2	-355.4	216.4	6.0
3. Rec 3	-319.4	199.0	6.0
4. Rec 4	-283.4	181.7	6.0
5. Rec 5	-247.3	164.3	6.0
6. Rec 6	-229.3	155.6	6.0
7. Rec 7	-211.3	146.9	6.0
8. Rec 8	-202.3	142.6	6.0
9. Rec 9	-193.3	138.2	6.0
10. Rec 10	-285.3	89.4	6.0
11. Rec 11	-267.3	80.7	6.0
12. Rec 12	-249.3	72.0	6.0
13. Rec 13	-240.3	67.6	6.0
14. Rec 14	-231.3	63.3	6.0

15. Rec 15	*	-175.3	129.6	6.0	*
16. Rec 16	*	-166.3	125.2	6.0	*
17. Rec 17	*	-157.2	120.9	6.0	*
18. Rec 18	*	-139.2	112.2	6.0	*
19. Rec 19	*	-121.2	103.5	6.0	*
20. Rec 20	*	-85.2	86.1	6.0	*
21. Rec 21	*	-191.0	43.9	6.0	*
22. Rec 22	*	-181.9	39.5	6.0	*
23. Rec 23	*	-172.9	35.2	6.0	*
24. Rec 24	*	-154.9	26.5	6.0	*
25. Rec 25	*	-136.9	17.8	6.0	*
26. Rec 26	*	-100.8	.4	6.0	*
27. Rec 27	*	-184.3	133.9	6.0	*
28. Rec 28	*	-199.9	48.2	6.0	*
29. Rec 29	*	-222.2	59.0	6.0	*
30. Rec 30	*	189.8	-23.9	6.0	*
31. Rec 31	*	188.7	-33.9	6.0	*
32. Rec 32	*	218.0	13.2	6.0	*
33. Rec 33	*	215.9	-6.7	6.0	*
34. Rec 34	*	213.7	-26.6	6.0	*

JOB: I25/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 11:34:25

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
35. Rec 35	212.6	-36.5	6.0
36. Rec 36	211.5	-46.4	6.0
37. Rec 37	144.2	-20.7	6.0
38. Rec 38	160.5	-32.3	6.0
39. Rec 39	169.5	-36.6	6.0
40. Rec 40	178.5	-41.0	6.0
41. Rec 41	125.5	-108.7	6.0
42. Rec 42	143.5	-117.4	6.0
43. Rec 43	152.5	-121.7	6.0
44. Rec 44	161.5	-126.1	6.0
45. Rec 45	205.6	-131.8	6.0
46. Rec 46	214.6	-136.1	6.0
47. Rec 47	223.6	-140.5	6.0
48. Rec 48	241.6	-149.1	6.0
49. Rec 49	259.6	-157.8	6.0
50. Rec 50	295.7	-175.2	6.0
51. Rec 51	309.5	-104.1	6.0
52. Rec 52	273.5	-86.8	6.0
53. Rec 53	255.4	-78.1	6.0
54. Rec 54	237.4	-69.4	6.0
55. Rec 55	228.4	-65.1	6.0
56. Rec 56	219.4	-60.7	6.0
57. Rec 57	170.5	-130.4	6.0
58. Rec 58	196.6	-127.4	6.0
59. Rec 59	187.5	-45.3	6.0
60. Rec 60	210.4	-56.4	6.0

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JOB: I25/US 24-No Action                 RUN: 2020 PM Peak

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: 10.-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
 ------*------------------------------------------------------------
------------------------------------------------------
 10. *  1.2  .0  .1  .1  .0  .1  .1  .1  .2  2.0  2.0  2.0  2.0  2.0  .1
.1  .1  .1  .3  .4
 20. *  1.4  .0  .0  .1  .1  .3  .3  .3  .4  2.2  2.3  2.4  2.3  2.5  .4
.4  .6  .6  .7  1.0
 30. *  1.7  .2  .3  .4  .6  .6  .7  .8  .8  2.4  2.7  2.6  2.9  3.0  .9
.9  1.2  1.3  1.4  1.8
 40. *  2.2  .6  .7  .8  1.2  1.2  1.2  1.2  1.2  2.8  3.0  3.2  3.2  3.2
1.4  1.4  1.4  1.6  1.6  1.9
 50. *  2.6  .9  1.0  1.1  1.2  1.3  1.4  1.3  1.2  3.1  3.0  3.2  3.3
3.3  1.4  1.4  1.4  1.6  1.7  2.0
 60. *  2.8  .9  1.0  1.0  1.2  1.2  1.3  1.3  1.3  3.1  3.3  3.3  3.4
3.2  1.4  1.5  1.5  1.5  1.6  1.8
 70. *  3.0  1.0  1.1  1.0  1.2  1.3  1.2  1.1  1.1  3.5  3.5  3.4  3.3
3.3  1.3  1.4  1.4  1.5  1.5  1.7
 80. *  3.2  1.0  1.1  1.0  1.3  1.3  1.3  1.1  1.3  3.7  3.6  3.5  3.3
3.2  1.3  1.4  1.5  1.5  1.5  1.6
 90. *  3.7  1.2  1.3  1.2  1.5  1.5  1.5  1.4  1.3  3.8  3.7  3.5  3.6
3.5  1.5  1.5  1.5  1.5  1.6  1.5
 100. *  4.0  1.5  1.6  1.8  1.9  2.2  2.2  2.0  1.8  4.0  4.0  3.8  4.0
3.9  2.1  2.1  2.0  1.9  2.0  2.1
 110. *  3.6  2.5  2.8  3.1  3.3  3.3  3.6  3.5  3.4  4.0  3.8  3.9  3.9
4.0  3.3  3.4  3.4  3.3  3.2  3.3
 120. *  3.2  3.7  3.8  4.0  4.3  4.4  4.5  4.4  4.3  3.1  3.2  3.4  3.6
3.7  4.3  4.3  4.6  4.4  4.4  4.6
 130. *  1.9  4.1  4.3  4.3  4.2  4.5  4.7  4.7  4.9  2.2  2.5  2.7  2.8
3.1  5.1  5.0  5.0  4.9  5.0  5.1
 140. *  1.7  3.6  3.8  4.1  4.1  4.1  4.1  4.4  4.5  2.1  2.2  2.6  2.6
3.0  4.5  4.5  4.6  4.7  5.0  5.1
 150. *  1.5  3.3  3.4  3.8  4.0  3.7  3.7  3.7  4.0  1.9  2.0  2.4  2.5
2.8  4.1  4.1  4.3  4.3  4.4  4.9
 160. *  1.5  3.0  3.3  3.8  4.0  3.8  3.9  3.7  3.9  2.0  2.2  2.5  2.9
3.2  3.8  3.6  3.6  3.9  4.0  4.4
 170. *  1.0  2.5  2.7  3.4  3.7  3.6  3.9  3.5  3.5  1.4  1.8  2.2  2.6
3.2  3.8  3.4  3.4  3.4  3.8  4.1
 180. *  .6  2.1  2.2  2.7  3.5  3.6  3.4  3.6  3.4  .9  1.2  1.5  1.9
2.4  3.2  3.1  3.1  3.0  3.0  3.4
 190. *  .5  1.7  1.6  2.0  2.7  3.0  3.0  3.1  3.3  .4  .6  .8  1.0  1.6
3.2  2.9  2.8  2.5  2.5  2.7
```

```
 200. *  .4  1.8  1.6  1.7  2.3  2.6  2.7  2.7  2.8  .3  .2  .4  .5  .9
3.1  3.0  2.9  2.6  2.4  2.0
 210. *  .4  1.8  1.6  1.5  2.2  2.3  2.5  2.5  2.7  .3  .3  .2  .2  .4
3.1  3.0  3.0  2.7  2.6  2.2
 220. *  .3  1.8  1.6  1.5  2.1  2.2  2.3  2.4  2.4  .3  .2  .2  .2  .3
2.9  2.8  2.8  2.7  2.7  2.4
 230. *  .3  1.7  1.7  1.6  2.0  2.2  2.3  2.4  2.4  .3  .2  .3  .3  .3
2.8  2.7  2.7  2.7  2.6  2.5
 240. *  .4  1.9  1.7  1.7  2.1  2.2  2.3  2.5  2.4  .2  .3  .3  .3  .3
2.5  2.8  2.7  2.7  2.7  2.7
 250. *  .4  1.9  1.8  1.8  2.2  2.4  2.4  2.5  2.5  .3  .3  .3  .3  .3
2.5  2.9  2.9  2.8  2.8  2.8
 260. *  .4  1.9  2.1  2.1  2.2  2.4  2.5  2.6  2.7  .3  .3  .3  .3  .3
2.8  2.9  3.0  3.0  3.0  3.0
 270. *  .5  1.9  2.2  2.1  2.2  2.2  2.5  2.6  2.8  .4  .4  .4  .4  .4
2.8  3.0  3.2  3.1  3.3  3.2
 280. *  .7  2.2  2.1  2.2  2.4  2.5  2.6  2.5  2.6  .5  .5  .6  .6  .6
2.7  2.9  3.2  3.2  3.3  3.1
 290. *  1.0  2.3  2.3  2.3  2.4  2.4  2.5  2.5  2.6  1.1  1.2  1.2  1.3
1.4  2.5  2.8  2.7  2.8  2.9  2.9
 300. *  1.8  2.5  2.2  2.2  2.2  2.1  2.3  2.2  2.3  1.8  1.9  1.9  2.0
2.0  2.2  2.2  2.2  2.2  2.2  2.3
 310. *  2.3  1.9  1.5  1.5  1.5  1.5  1.4  1.4  1.4  2.3  2.5  2.5  2.6
2.6  1.2  1.3  1.2  1.2  1.3  1.2
 320. *  2.4  1.1  .9  .7  .7  .7  .7  .7  .7  2.5  2.6  2.6  2.7  2.9  .5
.5  .6  .6  .6  .4
 330. *  2.0  .5  .3  .3  .2  .2  .3  .3  .3  2.2  2.3  2.5  2.7  2.6  .2
.1  .1  .2  .2  .2
 340. *  1.7  .2  .2  .2  .1  .2  .2  .2  .2  1.8  2.1  2.3  2.4  2.3  .1
.0  .1  .1  .1  .1
 350. *  1.5  .1  .1  .1  .0  .2  .2  .2  .2  1.8  2.0  2.2  2.2  2.3  .1
.0  .1  .1  .1  .1
 360. *  1.2  .1  .1  .1  .1  .1  .1  .1  .1  1.8  2.0  2.1  2.1  2.2  .0
.0  .1  .1  .1  .2
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.0  4.1  4.3  4.3  4.3  4.5  4.7  4.7  4.9  4.0  4.0  3.9  4.0
4.0  5.1  5.0  5.0  4.9  5.0  5.1
 DEGR. * 100  130  130  130  120  130  130  130  130  100  100  110  100
110  130  130  130  130  140  140
```

```
JOB: I25/US 24-No Action                RUN: 2020 PM Peak

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: 10.-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
 ------*------------------------------------------------------------------
------------------------------------------------------
 10. *  1.7  1.6  1.5  1.6  1.7  1.8  .2  1.8  2.3  2.6  2.6  2.1  2.1
2.1  2.1  2.1  3.3  2.7  2.5  2.6
 20. *  2.0  1.9  2.0  2.1  2.3  2.6  .4  2.1  2.4  1.4  1.4  .9  .9  .9
.9  .9  2.0  1.6  1.4  1.5
 30. *  2.6  2.5  2.6  2.7  2.9  3.2  .9  2.4  2.8  .9  .9  .3  .3  .3  .3
.3  .8  .6  .7  .8
 40. *  2.9  2.9  2.8  3.0  2.9  3.2  1.3  2.9  3.2  .7  .7  .2  .2  .2
.2  .2  .5  .5  .5  .7
 50. *  2.9  2.9  2.9  2.9  3.1  3.1  1.3  3.0  3.1  .5  .5  .1  .1  .1
.1  .1  .3  .4  .5  .6
 60. *  2.9  2.9  2.9  3.0  3.1  3.2  1.4  3.0  3.0  .5  .5  .1  .1  .1
.1  .1  .3  .4  .5  .5
 70. *  2.9  2.9  2.8  2.9  3.0  3.1  1.2  3.0  3.2  .4  .4  .1  .1  .1
.1  .1  .3  .5  .5  .5
 80. *  3.1  3.2  3.2  3.1  3.1  3.7  1.3  3.1  3.4  .4  .4  .1  .1  .1
.1  .1  .3  .5  .5  .5
 90. *  3.2  3.3  3.4  3.4  3.6  4.3  1.4  3.2  3.4  .4  .4  .1  .1  .1
.1  .2  .3  .6  .6  .6
 100. *  3.8  3.7  3.9  3.9  4.0  4.5  1.9  3.9  4.2  .5  .5  .1  .1  .1
.2  .3  .6  .8  .8  .9
 110. *  3.7  3.8  3.8  3.8  4.0  4.2  3.4  3.6  4.3  .9  1.0  .2  .2  .4
.6  .7  1.2  1.7  1.6  1.5
 120. *  3.1  3.0  3.0  3.0  3.0  3.3  4.4  3.1  3.8  1.3  1.7  .4  .6  .8
1.0  1.4  1.9  2.4  2.3  2.4
 130. *  2.0  2.0  2.0  2.0  2.2  2.4  5.0  2.2  3.2  1.9  2.2  .7  .9
1.2  1.5  2.0  2.4  2.8  2.6  2.8
 140. *  1.7  1.7  1.7  1.8  1.8  1.9  4.4  1.9  3.1  2.1  2.3  .9  1.0
1.5  1.8  2.0  2.4  2.6  2.7  2.8
 150. *  1.6  1.6  1.7  1.6  1.8  2.0  4.0  1.9  3.3  2.0  2.3  1.1  1.2
1.5  1.7  2.1  2.9  2.8  2.6  2.6
 160. *  1.8  1.8  1.8  1.8  1.9  2.1  3.8  2.0  3.8  2.1  2.2  1.2  1.4
1.5  1.6  1.9  2.9  2.9  2.8  2.7
 170. *  1.6  1.4  1.4  1.7  1.7  2.0  3.6  2.2  3.8  2.2  2.6  1.2  1.5
1.7  1.8  1.8  3.0  3.1  3.1  2.9
 180. *  1.4  1.1  1.1  1.2  1.3  1.6  3.1  2.4  3.5  3.2  3.3  2.0  2.2
2.4  2.5  2.5  4.4  3.7  3.7  3.7
 190. *  1.5  1.0  .7  .6  .5  .8  3.3  2.8  2.8  4.6  4.7  3.4  3.5  3.5
3.6  4.0  5.5  5.0  5.0  4.8
```

```
 200. *  1.9  1.2  .8  .5  .3  .2  3.0  3.1  1.9  5.2  5.5  4.5  4.7  4.8
4.8  4.9  6.5  6.0  5.9  5.8
 210. *  2.2  1.5  1.1  .7  .4  .3  2.9  3.1  1.1  5.4  5.6  4.7  4.9  5.1
5.3  5.6  5.7  5.7  5.6  5.7
 220. *  2.2  1.7  1.4  .9  .6  .3  2.5  2.8  .6  4.5  5.0  4.2  4.5  4.6
4.9  4.9  4.8  5.2  4.9  5.1
 230. *  2.0  1.6  1.5  1.2  .9  .5  2.4  2.4  .5  4.3  4.6  4.0  3.9  4.2
4.7  4.9  4.4  4.6  4.8  5.1
 240. *  1.9  1.6  1.5  1.1  .9  .6  2.2  2.1  .5  4.0  4.3  3.7  3.8  4.1
4.4  4.4  4.0  4.3  4.5  4.6
 250. *  1.7  1.6  1.4  1.1  .9  .7  2.3  1.9  .4  3.9  3.9  3.5  3.6  4.1
4.2  4.3  3.9  4.3  4.3  4.5
 260. *  1.7  1.5  1.3  1.1  .9  .7  2.6  1.8  .4  3.8  4.1  3.4  3.6  3.9
4.2  4.5  4.0  4.4  4.5  4.6
 270. *  1.7  1.7  1.4  1.1  1.0  .8  2.6  1.8  .4  3.8  4.2  3.1  3.6
3.8  4.0  4.5  4.0  4.5  4.6  4.5
 280. *  1.9  1.8  1.6  1.2  1.2  1.1  2.7  2.0  .7  3.7  4.0  2.9  3.4
3.8  4.0  4.4  4.0  4.4  4.2  4.5
 290. *  2.3  2.3  1.9  1.9  1.9  1.8  2.5  2.6  1.4  2.9  3.5  2.5  2.7
3.1  3.5  3.9  3.2  4.1  4.1  4.0
 300. *  3.0  3.0  2.8  2.9  2.5  2.5  2.2  3.1  2.1  2.5  2.7  2.0  2.0
2.5  2.8  2.9  2.5  2.9  3.1  3.2
 310. *  3.6  3.2  3.1  2.8  2.7  2.8  1.4  3.6  2.8  1.9  2.0  2.1  2.0
2.2  2.4  2.3  1.8  2.0  2.1  2.2
 320. *  3.2  2.9  2.8  2.6  2.7  2.2  .6  3.3  3.0  1.8  1.7  2.2  2.2
2.2  2.2  2.2  1.5  1.7  1.8  1.8
 330. *  2.7  2.5  2.3  2.1  1.9  1.8  .3  3.1  2.7  2.2  2.2  2.5  2.5
2.6  2.5  2.5  1.7  2.2  2.1  2.2
 340. *  2.2  2.2  1.7  1.8  1.6  1.7  .2  2.6  2.4  2.7  2.7  3.1  3.1
3.0  2.9  3.0  2.4  2.5  2.6  2.6
 350. *  2.1  1.8  1.8  1.6  1.6  1.6  .2  2.3  2.5  3.2  3.2  3.3  3.2
3.3  3.2  3.3  3.2  3.1  3.1  3.0
 360. *  1.8  1.5  1.6  1.6  1.5  1.6  .1  2.1  2.2  3.4  3.3  3.1  3.1
3.1  3.0  3.0  3.7  3.4  3.3  3.3
 ------*-------------------------------------------------------------
-----------------------------------------------------
 MAX  *  3.8  3.8  3.9  3.9  4.0  4.5  5.0  3.9  4.3  5.4  5.6  4.7  4.9
5.1  5.3  5.6  6.5  6.0  5.9  5.8
 DEGR. * 100  110  100  100  100  100  130  100  110  210  210  210  210
210  210  210  200  200  200  200
```

```
JOB: I25/US 24-No Action                RUN: 2020 PM Peak

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: 10.-360.

 WIND * CONCENTRATION
 ANGLE *   (PPM)
 (DEGR)* REC41 REC42 REC43 REC44 REC45 REC46 REC47 REC48 REC49 REC50 REC51
REC52 REC53 REC54 REC55 REC56 REC57 REC58 REC59 REC60
 ------*------------------------------------------------------------------
------------------------------------------------------
 10. *  5.7  5.1  4.9  5.0  3.4  3.1  2.7  2.2  2.0  1.8  .3  .6  .8  1.1
1.2  1.6  5.0  3.7  2.6  2.1
 20. *  4.3  3.8  3.7  3.7  2.3  2.0  1.8  1.5  1.5  1.5  .0  .1  .1  .2
.4  .6  3.3  2.5  1.3  .9
 30. *  3.1  2.8  2.9  2.9  1.7  1.5  1.4  1.4  1.4  1.4  .0  .0  .0  .0
.0  .1  2.7  2.1  .9  .3
 40. *  2.7  2.7  2.6  2.5  1.7  1.5  1.5  1.5  1.4  1.4  .0  .0  .0  .0
.0  .1  2.3  1.9  .7  .2
 50. *  2.8  2.7  2.8  2.4  1.5  1.5  1.4  1.4  1.4  1.4  .0  .0  .0  .0
.0  .1  2.2  1.8  .5  .1
 60. *  2.6  2.6  2.4  2.3  1.5  1.5  1.5  1.5  1.4  1.4  .1  .1  .1  .1
.1  .1  2.4  1.6  .5  .2
 70. *  2.7  2.5  2.5  2.2  1.5  1.6  1.6  1.6  1.5  1.3  .1  .1  .1  .1
.1  .1  2.4  1.6  .4  .2
 80. *  2.6  2.4  2.2  2.3  1.7  1.7  1.7  1.6  1.6  1.3  .1  .1  .1  .1
.1  .1  2.4  1.8  .4  .2
 90. *  2.6  2.3  2.4  2.3  1.9  1.9  1.9  1.8  1.7  1.5  .2  .2  .2  .2
.2  .2  2.6  2.0  .5  .3
 100. *  2.5  2.2  2.4  2.5  1.9  1.9  1.8  1.8  1.7  1.5  .3  .3  .4  .4
.4  .5  2.6  2.0  .8  .6
 110. *  2.0  2.1  2.3  2.3  1.7  1.7  1.7  1.5  1.5  1.4  .9  1.0  1.0
1.1  1.1  1.2  2.3  1.8  1.6  1.3
 120. *  1.5  1.6  1.7  1.7  1.2  1.2  1.1  1.1  1.1  1.1  1.4  1.6  1.6
1.8  1.9  1.9  1.8  1.3  2.3  2.0
 130. *  1.0  1.1  1.2  1.4  .6  .6  .6  .6  .6  .6  1.7  1.9  2.0  2.3
2.4  2.5  1.4  .7  2.8  2.6
 140. *  .7  .9  .9  1.0  .3  .3  .3  .3  .3  .3  1.8  2.0  2.0  2.3  2.4
2.4  1.2  .4  2.7  2.5
 150. *  .7  .9  1.0  1.0  .3  .2  .2  .2  .2  .2  1.8  2.0  2.0  2.2  2.3
2.3  1.3  .3  2.5  2.5
 160. *  .8  .9  1.0  1.1  .2  .1  .1  .1  .1  .1  1.8  1.8  2.0  2.2  2.2
2.3  1.3  .3  2.5  2.5
 170. *  1.4  1.1  1.2  1.4  .2  .1  .1  .1  .1  .1  1.7  1.7  1.8  1.9
1.9  2.1  1.6  .4  2.6  2.3
 180. *  2.7  2.1  2.0  2.0  .5  .4  .2  .1  .1  .1  1.7  1.7  1.8  2.2
2.2  2.4  2.1  1.0  3.7  2.7
 190. *  4.0  3.4  3.2  3.1  1.7  1.2  1.1  .8  .5  .4  1.8  2.1  2.6  2.9
3.2  3.7  3.2  2.5  5.1  4.2
```

```
 200. *  4.8  4.2  3.8  3.9  3.2  2.7  2.3  1.9  1.5   .9  2.5  2.9  3.5
4.0  4.3  4.9  4.1  4.0  5.9  5.2
 210. *  4.2  4.1  3.9  3.9  4.0  3.6  3.1  2.4  2.2  1.6  3.2  3.8  4.3
4.9  5.4  5.6  4.1  4.7  5.8  5.8
 220. *  3.3  3.4  3.3  3.2  3.8  3.2  3.1  2.6  2.4  2.1  3.4  3.7  4.3
4.8  5.1  5.3  3.3  4.2  5.1  5.4
 230. *  2.8  3.2  3.2  3.1  3.4  3.2  2.8  2.5  2.2  1.9  3.5  3.8  4.3
4.8  5.0  5.0  2.9  3.8  5.0  5.1
 240. *  2.4  2.8  3.0  2.9  3.4  3.1  2.7  2.5  2.2  2.0  3.3  3.8  4.5
4.8  4.9  4.9  2.9  3.6  4.8  5.0
 250. *  2.1  2.5  2.4  2.4  3.2  2.8  2.8  2.2  2.1  1.8  3.4  4.2  4.4
4.8  5.0  5.3  2.6  3.4  4.5  4.8
 260. *  1.5  2.0  2.2  2.3  3.3  3.0  2.7  2.4  2.2  1.8  4.0  4.3  4.9
5.3  5.0  5.0  2.5  3.3  4.9  5.0
 270. *  1.6  1.9  2.1  2.2  3.2  3.1  2.7  2.5  2.5  1.9  4.3  4.9  5.1
5.6  5.3  5.4  2.3  3.1  4.7  5.1
 280. *  1.8  2.1  2.2  2.5  3.7  3.7  3.4  2.9  2.8  2.3  4.6  5.0  5.2
5.1  5.3  5.3  2.4  3.5  4.6  5.2
 290. *  2.5  2.8  2.9  3.1  4.7  4.5  4.3  4.1  3.8  3.4  4.4  4.5  4.6
4.9  4.8  4.9  3.3  4.5  4.2  4.8
 300. *  3.8  4.0  4.3  4.5  5.8  5.5  5.2  4.9  4.6  4.2  3.3  3.4  3.6
3.7  3.6  3.6  4.7  5.9  3.1  3.5
 310. *  4.6  4.7  5.0  5.1  6.0  5.6  5.4  5.0  4.5  4.2  2.1  2.4  2.5
2.5  2.6  2.6  5.0  6.1  2.3  2.5
 320. *  4.4  4.7  4.9  4.9  5.5  5.1  4.5  4.3  4.1  3.8  1.7  1.9  2.0
2.2  2.3  2.4  5.0  5.6  1.8  2.2
 330. *  4.7  4.7  4.8  5.0  5.0  4.4  4.0  4.0  3.9  3.4  1.7  1.9  2.0
2.2  2.3  2.4  5.0  5.5  2.3  2.7
 340. *  5.1  5.2  5.0  5.3  4.7  4.4  4.1  3.8  3.6  3.2  1.8  2.0  2.2
2.4  2.6  2.9  5.4  5.3  2.8  2.9
 350. *  5.4  5.5  5.4  5.5  4.8  4.4  4.2  3.8  3.3  3.0  1.7  2.1  2.1
2.5  2.7  2.9  5.5  5.1  3.2  3.2
 360. *  6.1  5.8  5.5  5.5  4.4  3.9  3.7  3.3  2.9  2.6  1.1  1.4  1.7
2.1  2.4  2.7  5.6  4.9  3.4  3.1
 ------*-------------------------------------------------------------------
------------------------------------------------------
 MAX   *  6.1  5.8  5.5  5.5  6.0  5.6  5.4  5.0  4.6  4.2  4.6  5.0  5.2
5.6  5.4  5.6  5.6  6.1  5.9  5.8
 DEGR. * 360  360  360  350  310  310  310  310  300  310  280  280  280
270  210  210  360  310  200  210

THE HIGHEST CONCENTRATION OF  6.50 PPM OCCURRED AT RECEPTOR REC37.
```

JOB: I25/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 11:34:25

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 # *	100	130	130	130	120	130	130	130	130	100	100	110	100	110	130	130	130	130	140	140
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.0	.2	.2	.2	.1	.2	.2	.2	.2	.0	.0	.1	.0	.1	.2	.2	.2	.1	.3	.3
3 *	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2
4 *	.2	.1	.1	.1	.2	.1	.1	.1	.1	.3	.3	.2	.3	.2	.1	.1	.1	.1	.1	.1
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	.0	.0	.0	.0	.0	.0	.0	.0	.0
7 *	.3	.1	.1	.1	.3	.2	.2	.2	.2	.4	.4	.2	.4	.2	.2	.2	.2	.3	.1	.2
8 *	.1	.1	.1	.2	.2	.2	.2	.2	.3	.1	.1	.2	.1	.2	.3	.3	.3	.3	.3	.4
9 *	.0	.2	.2	.2	.1	.2	.2	.2	.2	.0	.0	.1	.0	.1	.2	.2	.1	.1	.3	.3
10 *	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.0	.0	.0	.0	.0	.0	.0
13 *	.0	.1	.1	.1	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1
14 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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 *	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.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 *	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0

20 * .0 .0 .0 .0 .1 .0 .0 .0 .0 .0 .0 .1 .0 .1 .0 .0
.1 .1 .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 .1 .1 .1 .2 .1 .1 .2 .2 .1 .2 .2 .2 .2 .2 .2
.2 .2 .1 .2
23 * .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .2 .2 .2
.2 .2 .2 .2
24 * .2 .1 .2 .2 .3 .3 .3 .3 .3 .2 .2 .3 .3 .3 .4 .4
.4 .5 .4 .6
25 * .0 .0 .0 .0 .0 .1 .1 .1 .1 .0 .0 .1 .0 .1 .1 .1
.1 .1 .1 .1
26 * .0 .0 .0 .0 .1 .1 .1 .1 .1 .0 .0 .1 .0 .1 .1 .1
.1 .1 .0 .0
27 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
28 * .1 .1 .1 .0 .0 .0 .0 .0 .0 .1 .2 .2 .3 .3 .0 .0
.0 .0 .0 .0
29 * .1 .1 .1 .0 .0 .0 .0 .0 .0 .1 .1 .3 .2 .4 .0 .0
.0 .0 .0 .0
30 * .4 .2 .3 .4 .7 .8 1.1 1.2 1.4 .5 .5 .3 .5 .2 1.7
1.6 1.6 1.6 1.5 1.4
31 * .2 .1 .1 .2 .3 .4 .5 .6 .7 .2 .2 .1 .2 .1 .7 .7
.7 .6 .7 .6
32 * .2 .4 .7 1.2 1.2 1.0 .8 .6 .3 .1 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
33 * .6 .2 .2 .1 .0 .0 .0 .0 .0 .7 .6 .4 .3 .2 .0 .0
.0 .0 .0 .0
34 * .5 .2 .2 .2 .0 .0 .0 .0 .0 .4 .3 .0 .1 .0 .0 .0
.0 .0 .0 .0
35 * .3 .2 .2 .3 .2 .4 .4 .3 .3 .4 .5 .7 .7 .8 .3 .3
.3 .2 .4 .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 .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 * .3 .1 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
40 * .0 1.2 .9 .3 .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 .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 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0

JOB: I25/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 11:34:25

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
	100	110	100	100	100	100	130	100	110	210	210	210	210	210	210	210	200	200	200	200
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
2	.0	.1	.0	.0	.0	.0	.2	.0	.1	1.2	1.2	.9	1.0	1.1	1.2	1.2	1.4	1.5	1.5	1.4
3	.1	.2	.1	.1	.1	.2	.2	.1	.1	.4	.3	.3	.2	.2	.1	.1	.7	.4	.3	.2
4	.3	.2	.3	.3	.3	.3	.1	.3	.2	.0	.0	.0	.0	.0	.0	.0	.1	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.4	.2	.4	.4	.4	.4	.2	.4	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	.2	.3	.2	.2	.3	.4	.3	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.1	.0	.0	.0	.0	.2	.0	.1	.3	.3	.3	.2	.2	.2	.1	.4	.2	.2	.1
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	.8	.7	.7	.7	.7	.8	.9	.8	.7	.7
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
13	.0	.0	.0	.0	.0	.0	.1	.0	.0	.2	.2	.2	.2	.3	.4	.4	.1	.2	.2	.3
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.3	.2	.2	.3	.3
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.1	.0	.1	.1	.1	.1	.0	.1	.0	.3	.3	.7	.7	.6	.6	.6	.0	.0	.0	.1
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	.1	.2	.1	.1	.1	.2	.1	.1	.1	.0	.0	.0	.1	.1	.2	.2	.0	.0	.0	.0

```
   20 *  .1  .1  .1  .1  .1  .1  .0  .1  .1  .0  .0  .0  .1  .1  .1  .2
.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 *  .2  .2  .3  .3  .3  .4  .2  .2  .2  .7  .8  .4  .4  .5  .5  .5
.9  1.0  1.0  1.0
   23 *  .1  .2  .2  .2  .2  .3  .2  .1  .2  .4  .4  .2  .3  .3  .3  .3
.4  .4  .4  .4
   24 *  .4  .5  .5  .5  .7  .9  .3  .4  .4  .6  .7  .4  .4  .4  .4  .4
.8  .8  .8  .8
   25 *  .1  .1  .1  .1  .1  .2  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1
.1  .1  .1  .1
   26 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .0  .0  .0  .0  .0  .0  .1
.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  .1  .3  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   29 *  .0  .0  .0  .0  .0  .0  .0  .0  .6  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   30 *  .4  .2  .3  .3  .2  .1  1.7  .4  .2  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   31 *  .2  .1  .1  .1  .1  .0  .7  .2  .1  .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  .1  .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  1.0  1.0  1.0  .9  .8  .3  1.0  .9  .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  .1  .1  .1  .1  .1  .1  .1
.1  .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  .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  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
```

JOB: I25/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 11:34:25

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
LINK # *	360	360	360	350	310	310	310	310	300	310	280	280	280	270	210	210	360	310	200	210
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.1	.1
2 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.2	.0	.0	1.3	1.2
3 *	.1	.1	.0	.1	.3	.3	.3	.2	.4	.2	.3	.3	.3	.4	.0	.0	.0	.3	.1	.1
4 *	1.2	1.0	.9	1.0	.4	.4	.4	.4	.2	.4	.2	.3	.3	.2	.0	.0	.6	.3	.0	.0
5 *	.7	.8	.8	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	.0	.0	.0
6 *	1.0	1.0	.9	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.9	.0	.0	.0
7 *	.6	.4	.3	.5	.5	.5	.5	.5	.3	.4	.2	.2	.2	.1	.0	.0	.2	.5	.0	.0
8 *	.0	.0	.0	.0	.3	.2	.2	.2	.3	.1	.3	.3	.4	.5	.0	.0	.0	.3	.0	.0
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.2	.1	.1	.0	.0	.1	.1
10 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.7	.0	.0	.6	.8
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.2	.1
12 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.1	.0
13 *	.0	.0	.0	.1	.5	.4	.4	.2	.2	.1	.1	.0	.0	.0	.6	.6	.4	.5	.4	.5
14 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.3	.0	.0	.4	.3
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16 *	.1	.1	.2	.1	.0	.1	.1	.1	.0	.1	.1	.2	.3	.4	.2	.4	.4	.0	.4	.5
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	.1	.1	.2	.1	.4	.7	.6	.5	.4	.6	.5	.0	.0	.0	.3

20 *	.0	.0	.0	.0	.0	.0	.0	.1	.1	.3	.7	.5	.3	.2	.7	.6	.0	.0	.0	.3
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.3	.3	.2	.2	.0	.0	.0	.1
22 *	.6	.6	.6	.6	.7	.7	.6	.6	.4	.4	.4	.6	.7	.8	.0	.1	.6	.7	1.0	.4
23 *	.7	.7	.7	.8	.8	.7	.6	.4	.4	.2	.3	.4	.4	.5	.1	.2	.7	.9	.4	.3
24 *	.9	.9	.9	.9	1.2	1.1	1.0	.8	.7	.4	.5	.7	.8	1.0	.1	.2	.8	1.3	.7	.4
25 *	.2	.2	.2	.3	.3	.2	.2	.2	.2	.1	.1	.1	.1	.2	.0	.0	.2	.4	.1	.1
26 *	.0	.0	.0	.0	.3	.3	.4	.5	.5	.6	.1	.0	.0	.0	.2	.1	.0	.2	.0	.1
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	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
30 *	.0	.0	.0	.0	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.0	.0	.0	.2	.0	.0
31 *	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.0	.0	.0	.0	.1	.0	.0
32 *	.0	.0	.0	.0	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.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	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.1	.0	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
37 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.1
38 *	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.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	.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	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0

2. No-Action Alternative (Existing Interchange) for 2030 PM Peak Period

Location:	US 24 at Interstate 25 ramps
Configuration:	At-grade signalized intersection with freeway overhead
1-hour Result:	Worst case average of 6.7 parts per million as indicated on Page 6 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	3.82 ppm
Assumed Background:	1.65 ppm
Total Concentration:	**5.47 ppm**

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CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: I25/US 24-No Action               RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 10: 4:13

The MODE flag has been set to C for calculating CO averages.

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. I-25 NB Appr    *  -26.9  -804.0   -64.0  -1000.0 *   199.  191. AG
5883. 16.0  .0 56.0
    2. I-25 NB Appr    *   98.1  -142.8   -26.9  -804.0 *   673.  191. FL
4617. 16.0 18.0 56.0
    3. I-25 NB Appr    *  114.4   -56.7   98.1  -142.8 *   88.  191. BR
4617. 16.0 27.0 56.0
    4. I-25 NB Dptr    *  154.1   153.4   114.4   -56.7 *   214.  191. BR
4617. 16.0 27.0 56.0
    5. I-25 NB Dptr    *  314.2  1000.0   154.1   153.4 *   862.  191. FL
4617. 16.0 18.0 56.0
    6. I-25 SB Appr    *   93.7   181.6   250.2  1000.0 *   833.  11. FL
5788. 16.0 18.0 56.0
    7. I-25 SB Appr    *   53.7   -27.4   93.7   181.6 *   213.  11. BR
5788. 16.0 27.0 56.0
    8. I-25 SB Dptr    *   37.2  -113.5   53.7   -27.4 *   88.  11. BR
5788. 16.0 27.0 56.0
    9. I-25 SB Dptr    *   14.5  -232.5   37.2  -113.5 *   121.  11. FL
5788. 16.0 18.0 68.0
   10. I-25 SB Dptr    *  -83.7  -777.6   14.5  -232.5 *   554.  10. FL
5064. 16.0 18.0 56.0
   11. I-25 SB Dptr    *  -126.2  -1000.0   -83.7  -777.6 *   226.  11. AG
6446. 16.0  .0 68.0
   12. NB off Ramp NB Appr *   79.3  -463.4   -26.9  -804.0 *   357.  197.
AG  1266. 14.8  .0 32.0
   13. NB off Ramp NB Appr *  194.1   -95.1   79.3  -463.4 *   386.  197.
AG  1266. 14.8  .0 44.0
   14. NB off Ramp NB LQ  *  183.6  -128.9  -1721.9  -6240.0 *  6401.
197. AG  146. 100.0  .0 12.0 1.88 325.2
   15. NB off Ramp NB RQ  *  183.6  -128.9   180.1  -139.9 *   11.  197.
AG   92. 100.0  .0 12.0 .04  .6
   16. NB off Ramp NB Dptr *  255.4   463.8   194.1   -95.1 *   562.  186.
AG  1022. 14.8  .0 44.0
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   17. NB off Ramp NB Dptr *  338.5  1000.0   255.4   463.8 *   543.  189.
AG  1022. 14.8  .0 32.0
   18. NB offRamp WB Appr *  808.7  -373.7  1000.0  -465.9 *   212.  116.
AG  1253. 15.7  .0 32.0
   19. NB offRamp WB Appr *  196.0   -78.2   808.7  -373.7 *   680.  116.
AG  1253. 15.7  .0 56.0
   20. NB offRamp WB TQ  *  199.2   -79.7   452.6  -201.9 *   281.  116.
AG  344. 100.0  .0 24.0 .93 14.3
   21. NB offRamp WB RQ  *  206.9   -63.6   261.0   -89.7 *   60.  116. AG
59. 100.0  .0 12.0 .29  3.0
   22. NB offRamp WB Dptr *   11.9   14.7   196.0   -78.2 *   206.  117.
AG  2133. 15.7  .0 44.0
   23. NB offRamp EB Appr *  188.2  -114.1   -5.8   -22.1 *   215.  295.
AG  1466. 15.7  .0 56.0
   24. NB offRamp EB LQ  *  187.7   -92.3  -249.5   104.1 *   479.  294.
AG  399. 100.0  .0 24.0 1.06 24.3
   25. NB offRamp EB TQ  *  181.2  -106.6  -100.2   18.1 *   308.  294. AG
113. 100.0  .0 12.0 .92 15.6
   26. NB offRamp EB Dptr *  1000.0  -501.5   189.4  -110.3 *   900.  296.
AG  831. 15.7  .0 44.0
   27. SB offRamp NB Appr *  -271.9  -247.4   14.5  -232.5 *   287.  87.
AG  724. 15.0  .0 32.0
   28. SB offRamp NB Appr *  -202.5   96.1  -271.9  -247.4 *   350.  191.
AG  724. 15.0  .0 44.0
   29. SB offRamp NB Q   *  -211.1   53.6  -258.2  -179.8 *   238.  191.
AG  373. 100.0  .0 24.0 .90 12.1
   30. SB offRamp WB Appr *  -191.7   117.5   11.9   14.7 *   228.  117.
AG  2133. 16.0  .0 44.0
   31. SB off Ramp WB Q  *  -191.7   117.5   94.1   -26.8 *   320.  117.
AG  144. 100.0  .0 24.0 .96 16.3
   32. SB offRamp WB Dptr *  -278.6   156.1  -193.4   115.0 *   95.  116.
AG  2755. 16.0  .0 56.0
   33. SB offRamp EB Appr *  -206.6   76.0  -294.0   118.2 *   97.  296.
AG  1362. 16.0  .0 56.0
   34. SB off Ramp EB Q  *  -207.7   85.3  -294.9   127.3 *   97.  296. AG
216. 100.0  .0 36.0 .41  4.9
   35. SB offRamp EB Dptr *   -5.8   -22.1  -206.6   76.0 *   223.  296.
AG  1464. 16.0  .0 56.0
   36. SB on Ramp SB Dptr *  -309.3  -307.8  -410.3   180.6 *   499.  348.
AG  1378. 15.0  .0 44.0
   37. SB on Ramp SB Dptr *  -83.7  -777.6  -309.3  -307.8 *   521.  334.
AG  1378. 15.0  .0 32.0
   38. SB on Ramp EB Appr *  -410.3   180.6  -766.8   550.2 *   514.  316.
AG  2563. 16.0  .0 44.0
   39. SB on Ramp EB Dptr *  -294.0   118.2  -410.3   180.6 *   132.  298.
AG  1362. 16.0  .0 56.0
   40. SB on Ramp WB Appr *  -395.1   212.3  -278.6   156.1 *   129.  116.
AG  2133. 16.0  .0 56.0
   41. SB on Ramp WB LQ  *  -395.1   200.0  -360.9   183.5 *   38.  116.
AG   73. 100.0  .0 12.0 .16  1.9
   42. SB on Ramp WB Q   *  -395.1   212.3  -391.7   210.6 *    4.  116.
AG   0. 100.0  .0 24.0 .62  .2
   43. SB on Ramp WB Dptr *  -752.2   578.3  -395.1   212.3 *   511.  136.
AG  1955. 16.0  .0 44.0
```

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JOB: I25/US 24-No Action                RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 10: 4:13

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)
   ------------------------*---------------------------------------------
----------------------------------
   14. NB off Ramp NB LQ  *   140    79    2.0   1224    1600   96.50   1
3
   15. NB off Ramp NB RQ  *   140    50    2.0    42    1600   96.50   1
3
   20. NB offRamp WB TQ  *   140    93    2.0    911    1600   96.50   1
3
   21. NB offRamp WB RQ  *   140    32    2.0    343    1600   96.50   1
3
   24. NB offRamp EB LQ  *   140   108    2.0    679    1600   96.50   1
3
   25. NB offRamp EB TQ  *   140    61    2.0    787    1600   96.50   1
3
   29. SB offRamp NB Q   *   140   101    2.0    724    1600   96.50   1
3
   31. SB off Ramp WB Q  *   140    39    2.0   2133    1600   96.50   1
3
   34. SB off Ramp EB Q  *   140    39    2.0   1362    1600   96.50   1
3
   41. SB on Ramp WB LQ  *   140    39    2.0    178    1600   98.20   1
3
   42. SB on Ramp WB Q   *   140    0    .0   1955    1600   98.20   1
3

RECEPTOR LOCATIONS
------------------
               *      COORDINATES (FT)     *
     RECEPTOR       *   X      Y      Z    *
   -------------------------*-------------------------------------*
   1. Rec 1        *   -321.3   106.7    6.0  *
   2. Rec 2        *   -355.4   216.4    6.0  *
   3. Rec 3        *   -319.4   199.0    6.0  *
   4. Rec 4        *   -283.4   181.7    6.0  *
   5. Rec 5        *   -247.3   164.3    6.0  *
   6. Rec 6        *   -229.3   155.6    6.0  *
   7. Rec 7        *   -211.3   146.9    6.0  *
   8. Rec 8        *   -202.3   142.6    6.0  *
   9. Rec 9        *   -193.3   138.2    6.0  *
   10. Rec 10        *   -285.3    89.4    6.0  *
   11. Rec 11        *   -267.3    80.7    6.0  *
   12. Rec 12        *   -249.3    72.0    6.0  *
   13. Rec 13        *   -240.3    67.6    6.0  *
   14. Rec 14        *   -231.3    63.3    6.0  *
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15.	Rec 15	*	-175.3	129.6	6.0	*
16.	Rec 16	*	-166.3	125.2	6.0	*
17.	Rec 17	*	-157.2	120.9	6.0	*
18.	Rec 18	*	-139.2	112.2	6.0	*
19.	Rec 19	*	-121.2	103.5	6.0	*
20.	Rec 20	*	-85.2	86.1	6.0	*
21.	Rec 21	*	-191.0	43.9	6.0	*
22.	Rec 22	*	-181.9	39.5	6.0	*
23.	Rec 23	*	-172.9	35.2	6.0	*
24.	Rec 24	*	-154.9	26.5	6.0	*
25.	Rec 25	*	-136.9	17.8	6.0	*
26.	Rec 26	*	-100.8	.4	6.0	*
27.	Rec 27	*	-184.3	133.9	6.0	*
28.	Rec 28	*	-199.9	48.2	6.0	*
29.	Rec 29	*	-222.2	59.0	6.0	*
30.	Rec 30	*	189.8	-23.9	6.0	*
31.	Rec 31	*	188.7	-33.9	6.0	*
32.	Rec 32	*	218.0	13.2	6.0	*
33.	Rec 33	*	215.9	-6.7	6.0	*
34.	Rec 34	*	213.7	-26.6	6.0	*

JOB: I25/US 24-No Action RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 10: 4:13

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
35. Rec 35	212.6	-36.5	6.0
36. Rec 36	211.5	-46.4	6.0
37. Rec 37	144.2	-20.7	6.0
38. Rec 38	160.5	-32.3	6.0
39. Rec 39	169.5	-36.6	6.0
40. Rec 40	178.5	-41.0	6.0
41. Rec 41	125.5	-108.7	6.0
42. Rec 42	143.5	-117.4	6.0
43. Rec 43	152.5	-121.7	6.0
44. Rec 44	161.5	-126.1	6.0
45. Rec 45	205.6	-131.8	6.0
46. Rec 46	214.6	-136.1	6.0
47. Rec 47	223.6	-140.5	6.0
48. Rec 48	241.6	-149.1	6.0
49. Rec 49	259.6	-157.8	6.0
50. Rec 50	295.7	-175.2	6.0
51. Rec 51	309.5	-104.1	6.0
52. Rec 52	273.5	-86.8	6.0
53. Rec 53	255.4	-78.1	6.0
54. Rec 54	237.4	-69.4	6.0
55. Rec 55	228.4	-65.1	6.0
56. Rec 56	219.4	-60.7	6.0
57. Rec 57	170.5	-130.4	6.0
58. Rec 58	196.6	-127.4	6.0
59. Rec 59	187.5	-45.3	6.0
60. Rec 60	210.4	-56.4	6.0

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: 10.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
10.	1.4	.0	.1	.1	.0	.1	.1	.1	.2	2.0	2.3	2.9	3.1	3.2	.1	.1	.1	.1	.3	.4
20.	1.5	.0	.0	.1	.2	.3	.3	.3	.4	2.2	2.7	3.4	3.4	3.6	.4	.4	.6	.6	.7	1.2
30.	1.9	.2	.3	.4	.6	.6	.8	.8	.9	2.7	3.1	3.9	4.0	4.0	.9	1.2	1.2	1.3	1.5	1.8
40.	2.5	.7	.8	.8	1.2	1.2	1.2	1.3	1.3	3.4	3.8	4.5	4.4	4.6	1.4	1.4	1.5	1.6	1.7	2.0
50.	2.9	1.0	1.1	1.1	1.5	1.4	1.4	1.3	1.4	3.4	4.1	4.4	4.3	4.5	1.4	1.5	1.5	1.7	1.8	2.0
60.	3.0	1.1	1.2	1.0	1.3	1.4	1.4	1.3	1.3	3.6	4.3	4.4	4.4	4.4	1.4	1.5	1.5	1.6	1.7	1.9
70.	3.3	1.1	1.1	1.1	1.3	1.4	1.3	1.2	1.2	4.2	4.7	4.9	4.6	4.4	1.6	1.6	1.6	1.7	1.6	1.7
80.	3.9	1.1	1.1	1.1	1.5	1.5	1.4	1.3	1.3	4.6	4.9	4.8	4.7	4.9	1.3	1.5	1.5	1.6	1.7	1.7
90.	4.4	1.4	1.4	1.3	1.5	1.6	1.5	1.4	1.5	5.1	5.1	5.0	5.0	4.8	1.6	1.6	1.6	1.6	1.7	1.8
100.	5.2	1.9	1.9	2.0	2.3	2.3	2.3	2.2	2.1	5.4	5.5	5.3	5.3	5.4	2.2	2.2	2.1	2.1	2.3	2.2
110.	4.7	3.1	3.4	3.6	3.7	3.8	4.0	3.8	3.7	4.9	4.8	4.9	4.9	5.1	3.6	3.6	3.6	3.5	3.5	3.6
120.	3.8	4.3	4.6	4.8	4.9	4.9	5.0	5.0	4.9	3.9	3.8	4.0	4.2	4.3	4.9	5.0	4.9	5.1	5.1	5.1
130.	2.1	4.8	5.1	5.5	5.3	5.4	5.7	5.9	5.8	2.5	2.5	2.8	2.9	3.2	5.7	5.7	5.7	5.7	5.5	5.6
140.	1.6	4.0	4.6	4.9	5.2	5.1	5.1	5.2	5.3	2.0	2.2	2.5	2.6	2.9	5.3	5.4	5.4	5.4	5.5	5.6
150.	1.6	3.6	4.0	4.7	5.0	4.7	5.0	4.7	4.9	2.0	2.2	2.5	2.8	3.1	5.0	5.1	5.4	5.4	5.2	5.7
160.	1.5	3.1	3.6	4.5	4.9	4.7	4.6	4.8	5.0	2.0	2.4	2.7	2.9	3.2	4.7	4.5	4.6	4.9	5.0	5.3
170.	1.2	2.9	2.9	4.1	4.5	4.7	4.7	4.6	4.5	1.8	1.9	2.4	2.7	3.1	4.8	4.5	4.5	4.5	4.8	5.1
180.	.8	2.4	2.6	2.9	3.9	4.5	4.4	4.4	4.3	1.1	1.3	1.8	2.0	2.6	4.2	4.2	4.0	3.9	3.9	4.4
190.	.5	2.1	1.8	2.1	3.2	3.5	4.0	4.2	4.4	.6	.7	1.0	1.2	1.7	4.0	3.9	3.7	3.4	3.5	3.7

```
 200. *  .4  2.1  1.9  1.9  2.5  3.0  3.5  3.8  3.7  .3  .3  .4  .5  1.0
4.1  3.7  3.8  3.5  3.3  3.0
 210. *  .4  2.0  1.8  1.8  2.4  2.5  3.0  3.2  3.4  .3  .3  .3  .3  .4
3.9  3.8  3.7  3.6  3.4  3.2
 220. *  .4  1.9  1.7  1.7  2.3  2.4  2.7  3.1  3.2  .3  .3  .2  .2  .3
3.7  3.6  3.6  3.6  3.5  3.2
 230. *  .5  2.0  1.8  1.9  2.3  2.3  2.6  2.8  2.9  .3  .4  .3  .3  .3
3.5  3.4  3.6  3.6  3.3  3.3
 240. *  .5  2.1  1.9  1.9  2.5  2.3  2.7  2.8  2.9  .3  .3  .3  .3  .3
3.2  3.6  3.3  3.6  3.6  3.5
 250. *  .5  2.1  2.0  2.0  2.4  2.5  2.5  2.8  2.8  .3  .4  .3  .3  .3
3.3  3.7  3.7  3.7  3.4  3.7
 260. *  .5  2.1  2.3  2.3  2.5  2.7  2.7  2.9  3.0  .3  .4  .3  .3  .3
3.4  3.5  3.7  3.7  3.9  3.8
 270. *  .6  2.2  2.5  2.3  2.5  2.6  2.6  2.9  3.0  .5  .6  .4  .4  .4
3.2  3.4  3.5  3.5  4.0  4.0
 280. *  .8  2.4  2.4  2.5  2.9  2.8  2.8  2.9  3.1  .7  .8  .7  .7  .6
3.0  3.2  3.4  3.6  3.7  3.9
 290. *  1.0  2.6  2.5  2.6  2.7  2.9  2.8  2.9  2.9  1.2  1.2  1.4  1.4
1.4  2.8  3.3  3.3  3.1  3.3  3.4
 300. *  1.9  2.7  2.5  2.3  2.5  2.5  2.6  2.6  2.5  1.9  2.2  2.1  2.2
2.1  2.3  2.4  2.5  2.5  2.4  2.4
 310. *  2.5  2.2  1.8  1.6  1.7  1.7  1.5  1.6  1.6  2.6  2.7  2.8  3.0
3.0  1.5  1.6  1.4  1.3  1.2  1.4
 320. *  2.8  1.3  1.0  .9  .8  .8  .7  .8  .8  2.7  2.8  3.0  3.2  3.3
.6  .6  .6  .6  .6  .5
 330. *  2.4  .5  .3  .4  .2  .3  .3  .3  .3  2.3  2.6  2.8  3.0  3.3  .2
.2  .1  .2  .2  .2
 340. *  1.8  .2  .2  .2  .1  .2  .3  .3  .3  2.1  2.3  2.6  2.9  3.1  .1
.0  .1  .2  .2  .2
 350. *  1.6  .1  .2  .2  .0  .2  .2  .2  .2  2.0  2.2  2.5  2.8  3.3  .1
.0  .1  .1  .1  .1
 360. *  1.4  .1  .1  .1  .1  .1  .2  .2  .2  2.0  2.2  2.7  3.1  3.2  .0
.0  .1  .1  .1  .2
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  5.2  4.8  5.1  5.5  5.3  5.4  5.7  5.9  5.8  5.4  5.5  5.3  5.3
5.4  5.7  5.7  5.7  5.7  5.5  5.7
 DEGR. * 100  130  130  130  130  130  130  130  130  100  100  100  100
100  130  130  130  130  140  150
```

JOB: I25/US 24-No Action RUN: 2030 PM Peak

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: 10.-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
10. *	2.9	2.7	2.6	2.7	2.7	3.0	.2	3.1	3.5	2.7	2.6	2.2	2.2	2.1	2.1	2.1	3.5	3.0	2.7	2.7
20. *	3.2	3.0	3.0	3.1	3.3	3.8	.4	3.2	3.7	1.5	1.5	1.0	.9	.9	.9	.9	2.0	1.6	1.5	1.6
30. *	3.6	3.6	3.7	3.8	3.9	4.7	.9	3.7	4.1	.9	.9	.4	.4	.4	.4	.4	.9	.7	.7	.9
40. *	3.9	3.9	4.0	4.1	4.0	4.6	1.4	4.0	4.6	.7	.7	.2	.2	.2	.2	.2	.5	.5	.6	.7
50. *	3.9	3.9	3.9	4.1	4.1	4.7	1.4	4.1	4.4	.5	.5	.1	.1	.1	.1	.1	.3	.4	.5	.6
60. *	4.0	4.0	3.9	4.0	4.1	4.6	1.4	4.0	4.2	.5	.5	.1	.1	.1	.1	.1	.3	.4	.5	.5
70. *	4.1	4.1	4.1	4.2	4.4	4.5	1.5	4.2	4.4	.5	.5	.1	.1	.1	.1	.1	.3	.5	.5	.5
80. *	4.4	4.4	4.5	4.4	4.5	4.8	1.4	4.5	4.8	.4	.4	.1	.1	.1	.1	.1	.3	.5	.5	.5
90. *	4.8	4.7	4.7	4.5	4.7	5.2	1.7	4.6	4.7	.4	.4	.1	.1	.1	.1	.2	.3	.6	.6	.6
100. *	4.9	4.9	5.0	4.9	5.0	5.4	2.2	4.8	5.5	.5	.6	.1	.1	.2	.2	.4	.6	.8	.8	1.0
110. *	4.5	4.6	4.5	4.7	4.7	4.6	3.7	4.5	5.2	1.0	1.2	.2	.3	.5	.7	.9	1.4	1.8	1.7	1.8
120. *	3.5	3.4	3.4	3.4	3.4	3.6	4.9	3.6	4.3	1.6	2.1	.5	.7	1.0	1.2	1.7	2.2	2.7	2.7	2.8
130. *	2.2	2.2	2.2	2.4	2.5	2.6	5.8	2.4	3.3	2.2	2.5	.9	1.1	1.4	1.9	2.3	2.7	3.0	3.0	3.2
140. *	1.8	1.8	1.9	1.8	2.0	2.2	5.4	2.0	3.2	2.3	2.5	1.1	1.3	1.8	2.0	2.2	2.6	2.9	2.9	3.0
150. *	1.6	1.7	1.8	1.9	1.9	2.3	5.0	1.9	3.4	2.2	2.5	1.3	1.4	1.7	2.0	2.3	2.9	2.8	2.7	2.8
160. *	1.9	1.8	1.8	2.1	2.0	2.3	4.7	2.2	3.8	2.3	2.5	1.3	1.5	1.7	1.7	2.1	3.0	2.9	2.8	2.9
170. *	1.7	1.6	1.7	1.7	1.8	2.2	4.6	2.3	3.9	2.6	2.6	1.4	1.6	1.8	1.9	2.0	3.3	3.3	3.1	3.0
180. *	1.5	1.4	1.2	1.2	1.3	1.6	4.0	2.5	3.7	3.2	3.4	2.0	2.3	2.5	2.6	2.7	4.4	4.0	3.8	4.2
190. *	1.7	1.0	.9	.7	.5	.8	4.2	2.9	2.9	4.5	4.8	3.3	3.5	3.7	3.9	4.2	5.6	5.4	5.1	5.1

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 200. *  2.0  1.4  1.1  .6  .4  .2  3.9  3.2  2.0  5.5  5.7  4.7  5.1  4.9
5.2  5.1  6.7  6.4  6.3  6.2
 210. *  2.3  1.6  1.3  .8  .6  .5  3.7  3.1  1.1  5.5  5.7  4.8  5.2  5.5
5.4  5.7  6.0  6.2  6.1  6.3
 220. *  2.1  1.7  1.4  1.0  .8  .4  3.4  2.7  .6  4.9  5.1  4.5  4.5  4.8
5.1  5.4  5.2  5.4  5.4  5.4
 230. *  2.0  1.7  1.5  1.2  1.0  .6  3.0  2.3  .5  4.4  4.7  4.1  4.3
4.6  4.8  4.9  4.6  4.8  5.0  5.1
 240. *  1.8  1.6  1.4  1.1  1.0  .7  2.9  2.1  .5  4.1  4.2  3.9  3.9
4.3  4.5  4.7  4.2  4.6  4.7  4.6
 250. *  1.7  1.5  1.4  1.1  1.0  .7  2.8  1.8  .4  4.1  4.3  4.0  4.0
4.3  4.5  4.8  4.2  4.6  4.5  4.7
 260. *  1.6  1.5  1.4  1.1  1.0  .8  2.9  1.7  .4  4.4  4.5  3.8  4.1
4.2  4.5  4.8  4.6  4.8  4.8  4.9
 270. *  1.7  1.6  1.5  1.2  1.1  .8  3.1  1.8  .5  4.5  4.7  3.7  3.9
4.4  4.5  4.9  4.5  5.0  5.1  5.0
 280. *  1.9  1.8  1.6  1.4  1.3  1.1  3.0  2.1  .7  4.2  4.7  3.5  3.8
4.3  4.5  5.2  4.7  5.2  5.2  5.2
 290. *  2.8  2.6  2.5  2.3  2.2  2.1  2.9  2.7  1.6  3.5  3.8  3.0  3.1
3.6  4.1  4.3  4.2  4.8  4.9  4.9
 300. *  3.4  3.3  3.4  3.2  3.4  3.3  2.6  3.5  2.3  2.8  3.1  2.3  2.6
2.9  3.2  3.3  2.9  3.4  3.6  3.6
 310. *  4.1  4.1  4.2  3.9  3.7  3.9  1.6  4.1  3.5  1.9  2.1  2.2  2.2
2.4  2.5  2.6  2.0  2.3  2.4  2.5
 320. *  4.4  4.0  3.9  3.8  3.9  3.4  .8  4.2  3.6  1.9  1.8  2.3  2.2
2.2  2.3  2.3  1.6  1.9  2.0  2.1
 330. *  4.1  3.6  3.5  3.5  3.4  3.1  .3  4.3  3.6  2.5  2.3  2.9  2.9
2.8  2.7  2.8  1.8  2.2  2.3  2.3
 340. *  3.4  3.3  3.3  3.0  2.7  2.8  .3  3.8  3.5  2.9  2.7  3.3  3.2
3.1  3.2  3.0  2.5  2.7  2.7  2.7
 350. *  3.3  3.0  2.8  2.7  2.7  2.6  .2  3.5  3.5  3.5  3.5  3.5  3.4
3.4  3.5  3.4  3.3  3.3  3.1  3.3
 360. *  2.9  2.7  2.6  2.5  2.4  2.7  .2  3.4  3.5  3.7  3.7  3.4  3.3
3.2  3.2  3.3  4.1  3.6  3.6  3.5
 ------*-------------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.9  4.9  5.0  4.9  5.0  5.4  5.8  4.8  5.5  5.5  5.7  4.8  5.2
5.5  5.4  5.7  6.7  6.4  6.3  6.3
 DEGR. * 100  100  100  100  100  100  130  100  100  200  200  210  210
210  210  210  200  200  200  210
```

JOB: I25/US 24-No Action RUN: 2030 PM Peak

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: 10.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
	CONCENTRATION (PPM)																			
10.	5.9	5.3	5.2	5.0	3.6	3.2	2.9	2.6	2.2	1.9	.3	.7	.8	1.1	1.3	1.7	5.1	3.8	2.6	2.1
20.	4.4	3.8	3.7	4.0	2.4	2.2	2.0	1.7	1.7	1.6	.0	.1	.1	.3	.4	.6	3.7	2.9	1.5	.9
30.	3.2	2.9	3.1	3.1	1.9	1.8	1.6	1.6	1.6	1.6	.0	.0	.0	.0	.0	.1	3.0	2.2	.9	.4
40.	2.7	2.8	2.9	2.9	1.8	1.6	1.6	1.6	1.6	1.6	.0	.0	.0	.0	.0	.1	2.4	2.1	.7	.2
50.	2.8	2.7	2.8	2.5	1.6	1.6	1.6	1.6	1.6	1.6	.0	.0	.0	.0	.0	.1	2.4	1.9	.5	.1
60.	2.7	2.9	2.6	2.6	1.6	1.6	1.6	1.6	1.6	1.6	.1	.1	.1	.1	.1	.1	2.4	1.9	.5	.2
70.	2.7	2.7	2.6	2.5	1.8	1.8	1.8	1.8	1.8	1.8	.1	.1	.1	.1	.1	.1	2.6	1.9	.5	.2
80.	2.9	2.7	2.4	2.7	2.0	2.0	2.0	2.0	2.0	1.9	.1	.1	.1	.1	.1	.1	2.7	2.1	.4	.2
90.	2.8	2.5	2.6	2.8	2.2	2.2	2.2	2.1	2.1	2.1	.2	.2	.2	.2	.2	.2	2.8	2.3	.5	.3
100.	2.7	2.6	2.6	2.8	2.2	2.2	2.1	2.1	2.1	2.0	.4	.5	.5	.5	.5	.6	2.8	2.3	.8	.7
110.	2.3	2.3	2.4	2.5	1.9	1.9	1.9	1.9	1.8	1.7	1.1	1.2	1.2	1.3	1.3	1.3	2.5	2.0	1.8	1.4
120.	1.6	1.8	1.9	1.9	1.3	1.3	1.3	1.2	1.2	1.2	2.0	2.0	2.1	2.2	2.3	2.3	1.8	1.4	2.9	2.5
130.	1.1	1.2	1.3	1.4	.7	.7	.6	.7	.7	.6	2.4	2.5	2.6	2.7	2.7	2.8	1.5	.8	3.2	2.9
140.	.8	.9	1.0	1.0	.3	.3	.3	.3	.3	.3	2.3	2.4	2.5	2.6	2.7	2.8	1.2	.5	3.0	2.8
150.	.7	.9	1.0	1.1	.3	.2	.2	.2	.2	.2	2.2	2.2	2.3	2.4	2.5	2.5	1.2	.4	2.8	2.7
160.	.9	1.0	1.0	1.2	.2	.1	.1	.1	.1	.1	2.0	2.0	2.2	2.2	2.2	2.3	1.4	.3	2.7	2.5
170.	1.3	1.2	1.2	1.4	.2	.1	.1	.1	.1	.1	2.0	2.0	2.2	2.2	2.2	2.4	1.6	.5	2.9	2.6
180.	2.8	2.2	2.1	2.2	.6	.4	.2	.1	.1	.1	1.8	1.8	2.0	2.3	2.3	2.6	2.2	1.0	3.8	3.0
190.	4.2	3.5	3.3	3.4	1.8	1.4	1.1	.9	.5	.4	2.1	2.4	2.7	3.1	3.5	4.0	3.5	2.6	5.2	4.3

```
 200. *  5.0  4.5  4.2  4.2  3.3  2.7  2.2  2.0  1.5  1.1  2.9  3.4  3.9
4.5  4.8  5.2  4.4  4.0  6.1  5.5
 210. *  4.3  4.4  4.0  4.2  4.2  3.6  3.3  2.7  2.2  1.8  3.5  4.1  4.7
5.3  5.5  5.9  4.3  4.9  6.5  6.3
 220. *  3.5  3.5  3.5  3.5  3.9  3.4  3.1  2.8  2.5  2.2  4.0  4.2  4.7
5.2  5.2  5.6  3.6  4.3  5.4  5.5
 230. *  3.1  3.4  3.3  3.4  3.6  3.4  3.1  2.7  2.3  2.0  3.9  4.1  4.6
5.1  5.3  5.6  3.3  3.9  5.0  5.4
 240. *  2.7  3.1  3.1  3.1  3.6  3.1  3.0  2.5  2.3  2.0  3.7  4.1  4.6
5.3  5.2  5.4  3.1  3.9  4.7  5.2
 250. *  2.2  2.8  2.8  2.9  3.4  3.1  2.8  2.6  2.4  1.9  3.7  4.6  4.7
5.2  5.4  5.5  2.7  3.5  4.8  5.3
 260. *  1.9  2.4  2.6  2.7  3.6  3.2  3.0  2.5  2.4  1.9  4.4  4.6  5.2
5.3  5.2  5.2  2.7  3.6  5.1  5.1
 270. *  1.8  2.1  2.2  2.3  3.4  3.2  3.0  2.7  2.4  2.2  4.7  5.2  5.5
5.7  5.5  5.8  2.4  3.4  5.0  5.5
 280. *  2.1  2.5  2.5  2.6  3.9  3.6  3.4  3.1  3.1  2.6  4.9  5.4  5.6
5.6  5.6  5.8  2.7  3.9  5.3  5.5
 290. *  3.0  3.4  3.4  3.6  5.2  4.9  4.8  4.5  4.0  3.8  4.8  5.1  5.2
5.4  5.3  5.5  3.7  5.1  5.1  5.3
 300. *  4.6  4.7  4.9  4.9  6.2  5.9  5.5  5.2  5.1  4.7  3.8  3.9  3.8
3.9  4.2  4.1  5.1  6.4  3.8  4.1
 310. *  4.9  5.4  5.4  5.5  6.3  6.1  5.6  5.3  5.0  4.7  2.5  2.6  2.8
2.8  2.9  2.8  5.5  6.5  2.5  2.8
 320. *  4.9  5.0  5.3  5.3  5.6  5.3  5.0  4.8  4.5  4.1  1.7  2.0  2.1
2.3  2.3  2.5  5.3  5.9  2.1  2.5
 330. *  5.0  5.3  5.3  5.3  5.2  4.9  4.5  4.2  4.3  3.7  1.8  2.1  2.3
2.4  2.4  2.7  5.4  5.6  2.4  2.8
 340. *  5.2  5.3  5.3  5.2  5.2  4.7  4.5  4.2  4.0  3.6  1.8  2.2  2.4
2.6  2.7  2.9  5.4  5.6  3.0  3.1
 350. *  5.8  5.7  5.7  5.7  5.0  4.6  4.3  4.0  3.7  3.2  1.8  2.1  2.4
2.6  3.0  3.2  5.7  5.5  3.4  3.3
 360. *  6.4  5.9  5.8  5.7  4.9  4.1  4.0  3.5  3.3  2.7  1.1  1.5  1.8
2.2  2.6  2.8  5.7  5.3  3.7  3.3
 ------*-----------------------------------------------------------------
------------------------------------------------------
 MAX   *  6.4  5.9  5.8  5.7  6.3  6.1  5.6  5.3  5.1  4.7  4.9  5.4  5.6
5.7  5.6  5.9  5.7  6.5  6.5  6.3
 DEGR. * 360  360  360  350  310  310  310  310  300  310  280  280  280
270  280  210  350  310  210  210

 THE HIGHEST CONCENTRATION OF  6.70 PPM OCCURRED AT RECEPTOR REC37.
```

JOB: I25/US 24-No Action RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 10: 4:13

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
ANGLE	100	130	130	130	130	130	130	130	130	100	100	100	100	100	130	130	130	130	140	150
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.0	.2	.2	.2	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.2	.2	.2	.2	.3	.5
3	.1	.1	.1	.1	.1	.1	.2	.2	.2	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.1
4	.3	.1	.1	.1	.1	.1	.1	.1	.1	.3	.3	.3	.3	.3	.1	.1	.1	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.4	.1	.1	.1	.2	.2	.2	.2	.2	.4	.4	.4	.4	.4	.2	.2	.2	.3	.1	.1
8	.1	.1	.2	.2	.2	.2	.2	.3	.3	.1	.1	.1	.1	.1	.3	.3	.3	.3	.4	.4
9	.0	.2	.2	.2	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.2	.2	.2	.1	.3	.4
10	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2
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	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.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	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0

```
   20 *  .1  .0  .0  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1
.1  .1  .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  .1  .1  .1  .1  .1  .2  .2  .2  .1  .2  .2  .2  .2  .2  .2
.2  .3  .1  .1
   23 *  .1  .1  .1  .1  .1  .1  .1  .2  .2  .1  .1  .1  .1  .1  .2  .2
.2  .2  .2  .2
   24 *  .9  .5  .6  .8  .8  .8  .8  .8  .8  1.3  1.4  1.3  1.3  1.3  .8
.8  .8  .8  .8  .8
   25 *  .0  .0  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1
.1  .1  .1  .2
   26 *  .0  .0  .0  .1  .1  .1  .1  .1  .1  .0  .0  .0  .0  .0  .1  .1
.1  .1  .0  .0
   27 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   28 *  .1  .1  .1  .1  .0  .0  .0  .0  .0  .1  .2  .3  .3  .4  .0  .0
.0  .0  .0  .0
   29 *  .1  .1  .1  .0  .0  .0  .0  .0  .0  .1  .1  .1  .2  .2  .0  .0
.0  .0  .0  .0
   30 *  .5  .2  .3  .5  .7  .9  1.2  1.4  1.6  .5  .5  .5  .5  .5  1.8
1.8  1.8  1.7  1.6  1.5
   31 *  .2  .1  .1  .2  .3  .4  .5  .6  .6  .2  .2  .2  .2  .2  .7  .7
.7  .6  .6  .6
   32 *  .3  .5  .8  1.3  1.4  1.2  .9  .6  .3  .1  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   33 *  .6  .2  .2  .1  .0  .0  .0  .0  .0  .7  .6  .5  .4  .3  .0  .0
.0  .0  .0  .0
   34 *  .5  .2  .2  .1  .0  .0  .0  .0  .0  .4  .3  .1  .0  .0  .0  .0
.0  .0  .0  .0
   35 *  .3  .2  .3  .3  .4  .4  .4  .4  .4  .5  .6  .7  .8  .9  .3  .3
.3  .3  .4  .4
   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 *  .3  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   40 *  .0  1.3  .9  .4  .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  .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  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
```

JOB: I25/US 24-No Action RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 10: 4:13

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
	100	100	100	100	100	100	130	100	100	200	200	210	210	210	210	210	200	200	200	210
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
2	.0	.0	.0	.0	.0	.0	.2	.0	.0	1.3	1.3	1.0	1.1	1.2	1.2	1.3	1.5	1.6	1.6	1.4
3	.1	.1	.1	.1	.1	.2	.2	.1	.1	.2	.1	.3	.2	.2	.1	.1	.7	.5	.3	.4
4	.3	.3	.3	.3	.3	.3	.1	.3	.3	.0	.0	.0	.0	.0	.0	.0	.1	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.4	.4	.4	.4	.4	.4	.2	.4	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	.2	.2	.2	.2	.3	.4	.3	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.2	.0	.0	.1	.1	.3	.2	.2	.2	.1	.4	.2	.2	.4
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.7	.7	.7	.8	.8	.8	.9	.8	.8	.9
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.1	.1	.1	.1	.1	.2	.2	.2	.1
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.1	.1	.1	.0
13	.0	.0	.0	.0	.0	.0	.1	.0	.0	.4	.4	.2	.3	.4	.4	.5	.1	.2	.3	.2
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.1	.2	.2	.2	.2	.2	.2	.3	.1
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.1	.1	.1	.1	.1	.1	.0	.1	.1	.4	.4	.7	.7	.7	.6	.6	.0	.0	.0	.1
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	.1	.1	.1	.1	.1	.2	.1	.1	.1	.0	.0	.0	.1	.1	.2	.2	.0	.0	.0	.0
20	.1	.1	.1	.1	.1	.2	.1	.1	.1	.0	.0	.0	.1	.1	.1	.2	.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 * .3 .3 .3 .3 .4 .5 .2 .2 .2 .7 .9 .4 .5 .5 .5 .5
1.0 1.0 1.0 1.1
23 * .2 .2 .2 .2 .2 .4 .2 .1 .1 .4 .4 .3 .3 .3 .3 .3
.5 .5 .5 .5
24 * 1.2 1.2 1.2 1.2 1.1 1.1 .8 1.2 1.3 .5 .6 .4 .4 .4
.4 .4 .7 .8 .8 .8
25 * .1 .1 .2 .2 .3 .4 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
.1 .1 .1 .1
26 * .1 .1 .1 .1 .1 .1 .1 .1 .0 .0 .0 .0 .0 .0 .0 .1
.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 .1 .3 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
29 * .0 .0 .0 .0 .0 .0 .0 .0 .3 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
30 * .4 .4 .4 .3 .3 .1 1.8 .4 .5 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
31 * .2 .2 .2 .2 .2 .1 .7 .2 .2 .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 .1 .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 * 1.1 1.1 1.1 1.1 1.0 .9 .4 1.1 1.1 .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 .1 .1 .1 .1 .1
.1 .1 .0 .1
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 .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 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0

```
JOB: I25/US 24-No Action                RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 10: 4:13

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 REC49 REC50 REC51
REC52 REC53 REC54 REC55 REC56 REC57 REC58 REC59 REC60
  LINK # *  360  360  360  350  310  310  310  310  300  310  280  280
280  270  280  210  350  310  210  210
  -------*------------------------------------------------------------------
--------------------------------------------------------
    1 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1
.0  .0  .1  .1
    2 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0 1.2
.0  .0 1.4  1.3
    3 *  .1  .1  .0  .1  .3  .3  .3  .3  .4  .2  .3  .3  .3  .4  .2  .0
.0  .4  .3  .1
    4 *  1.3  1.1  1.0  1.0  .4  .4  .4  .4  .2  .4  .2  .3  .3  .2  .4
.0  .9  .4  .0  .0
    5 *  .8  .8  .9  .5  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.5  .0  .0  .0
    6 *  1.1  1.0  1.0  .8  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.8  .0  .0  .0
    7 *  .6  .4  .3  .6  .5  .5  .5  .5  .3  .5  .2  .2  .3  .1  .3  .0
.5  .5  .0  .0
    8 *  .0  .0  .0  .0  .3  .3  .2  .2  .3  .2  .3  .4  .4  .5  .4  .0
.0  .3  .0  .0
    9 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .1  .1  .1  .2  .0  .1
.0  .0  .3  .1
   10 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .8
.0  .0  .9  .8
   11 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1
.0  .0  .1  .1
   12 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1
.0  .0  .0  .1
   13 *  .0  .0  .0  .1  .6  .5  .4  .3  .2  .1  .1  .1  .0  .0  .0  .6
.3  .5  .3  .6
   14 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .3
.0  .0  .2  .3
   15 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   16 *  .1  .1  .2  .1  .0  .1  .1  .1  .1  .1  .1  .2  .3  .4  .4  .4
.2  .0  .3  .5
   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  .1  .1  .2  .1  .4  .7  .6  .5  .4  .3  .6
.0  .0  .0  .4
   20 *  .0  .0  .0  .0  .0  .0  .0  .1  .1  .4  .8  .6  .4  .3  .0  .7
.0  .0  .0  .4
```

21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.3	.2	.2	.2	.0	.0	.0	.1
22 *	.7	.7	.7	.7	.7	.7	.7	.6	.4	.4	.4	.6	.8	.8	1.2	.1	.7	.7	1.1	.4
23 *	.7	.7	.7	.8	.8	.7	.6	.5	.5	.2	.3	.4	.4	.5	.4	.2	.8	1.0	.5	.3
24 *	.8	.8	.8	.8	1.3	1.1	1.0	.8	.8	.5	.6	.8	.9	1.0	1.0	.2	.8	1.3	.8	.4
25 *	.2	.2	.2	.2	.3	.2	.2	.2	.2	.1	.1	.1	.1	.2	.1	.0	.2	.4	.1	.1
26 *	.0	.0	.0	.0	.3	.4	.4	.5	.6	.7	.1	.0	.0	.0	.0	.1	.0	.2	.0	.1
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	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
30 *	.0	.0	.0	.0	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.2	.0	.0	.2	.0	.0
31 *	.0	.0	.0	.0	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.2	.0	.0
32 *	.0	.0	.0	.0	.1	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.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	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.0	.0	.1	.0	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
37 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.1
38 *	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.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	.1	.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	.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	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0

3. No-Action Alternative (Existing Interchange) for 2035 PM Peak Period

Location:	US 24 at Interstate 25 ramps
Configuration:	At-grade signalized intersection with freeway overhead
1-hour Result:	Worst case average of 7.20 parts per million as indicated on Page 6 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	4.10 ppm
Assumed Background:	1.62 ppm
Total Concentration:	**5.72 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: I25/US 24-No Action                  RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:15:18

The MODE flag has been set to C for calculating CO averages.

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. I-25 NB Appr    *  -26.9  -804.0   -64.0  -1000.0 *   199.  191. AG
6300. 15.6  .0 56.0
    2. I-25 NB Appr    *   98.1  -142.8   -26.9  -804.0 *   673.  191. FL
4945. 15.6 18.0 56.0
    3. I-25 NB Appr    *  114.4   -56.7   98.1  -142.8 *   88.  191. BR
4945. 15.6 27.0 56.0
    4. I-25 NB Dptr    *  154.1   153.4   114.4   -56.7 *   214.  191. BR
4945. 15.6 27.0 56.0
    5. I-25 NB Dptr    *  314.2  1000.0   154.1   153.4 *   862.  191. FL
4945. 15.6 18.0 56.0
    6. I-25 SB Appr    *   93.7   181.6   250.2  1000.0 *   833.  11. FL
6185. 15.6 18.0 56.0
    7. I-25 SB Appr    *   53.7   -27.4   93.7   181.6 *   213.  11. BR
6185. 15.6 27.0 56.0
    8. I-25 SB Dptr    *   37.2  -113.5   53.7   -27.4 *   88.  11. BR
6185. 15.6 27.0 56.0
    9. I-25 SB Dptr    *   14.5  -232.5   37.2  -113.5 *   121.  11. FL
6185. 15.6 18.0 68.0
   10. I-25 SB Dptr    *  -83.7  -777.6   14.5  -232.5 *   554.  10. FL
5405. 15.6 18.0 56.0
   11. I-25 SB Dptr    *  -126.2  -1000.0   -83.7  -777.6 *   226.  11. AG
6895. 15.6  .0 68.0
   12. NB off Ramp NB Appr *   79.3  -463.4   -26.9  -804.0 *   357.  197.
AG  1355. 14.5  .0 32.0
   13. NB off Ramp NB Appr *  194.1   -95.1   79.3  -463.4 *   386.  197.
AG  1355. 14.5  .0 44.0
   14. NB off Ramp NB LQ  *  183.6  -128.9  -2170.9  -7680.1 *  7910.
197. AG  153. 100.0  .0 12.0 2.21 401.8
   15. NB off Ramp NB RQ  *  183.6  -128.9   179.9  -140.7 *   12.  197.
AG   91. 100.0  .0 12.0 .05  .6
   16. NB off Ramp NB Dptr *  255.4   463.8   194.1   -95.1 *   562.  186.
AG  1070. 14.5  .0 44.0
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   17. NB off Ramp NB Dptr *  338.5  1000.0   255.4   463.8 *   543.  189.
AG  1070. 14.5  .0 32.0
   18. NB offRamp WB Appr *  808.7  -373.7  1000.0  -465.9 *   212.  116.
AG  1275. 14.8  .0 32.0
   19. NB offRamp WB Appr *  196.0   -78.2   808.7  -373.7 *   680.  116.
AG  1275. 14.8  .0 56.0
   20. NB offRamp WB TQ  *  199.2   -79.7   488.1  -219.1 *   321.  116.
AG  347. 100.0  .0 24.0 .98 16.3
   21. NB offRamp WB RQ  *  206.9   -63.6   348.8  -132.0 *   157.  116.
AG  146. 100.0  .0 12.0 .56  8.0
   22. NB offRamp WB Dptr *   11.9   14.7   196.0   -78.2 *   206.  117.
AG  2225. 15.4  .0 44.0
   23. NB offRamp EB Appr *  188.2  -114.1   -5.8   -22.1 *   215.  295.
AG  1525. 15.4  .0 56.0
   24. NB offRamp EB LQ  *  187.7   -92.3   -44.7   12.1 *   255.  294. AG
376. 100.0  .0 24.0 .94 12.9
   25. NB offRamp EB TQ  *  181.2  -106.6   -93.8   15.2 *   301.  294. AG
106. 100.0  .0 12.0 .91 15.3
   26. NB offRamp EB Dptr *  1000.0  -501.5   189.4  -110.3 *   900.  296.
AG  860. 14.8  .0 44.0
   27. SB offRamp NB Appr *  -271.9  -247.4   14.5  -232.5 *   287.  87.
AG  780. 14.5  .0 32.0
   28. SB offRamp NB Appr *  -202.5   96.1  -271.9  -247.4 *   350.  191.
AG  780. 14.5  .0 44.0
   29. SB offRamp NB Q   *  -211.1   53.6  -254.2  -159.6 *   218.  191.
AG  347. 100.0  .0 24.0 .83 11.1
   30. SB offRamp WB Appr *  -191.7   117.5   11.9   14.7 *   228.  117.
AG  2225. 15.4  .0 44.0
   31. SB off Ramp WB Q  *  -191.7   117.5   835.2  -400.8 *  1150.  117.
AG  164. 100.0  .0 24.0 1.07 58.4
   32. SB offRamp WB Dptr *  -278.6   156.1  -193.4   115.0 *   95.  116.
AG  2895. 15.7  .0 56.0
   33. SB offRamp EB Appr *  -206.6   76.0  -294.0   118.2 *   97.  296.
AG  1415. 15.7  .0 56.0
   34. SB off Ramp EB Q  *  -207.7   85.3  -312.1   135.6 *   116.  296.
AG  249. 100.0  .0 36.0 .45  5.9
   35. SB offRamp EB Dptr *   -5.8   -22.1  -206.6   76.0 *   223.  296.
AG  1525. 15.4  .0 56.0
   36. SB on Ramp SB Dptr *  -309.3  -307.8  -410.3   180.6 *   499.  348.
AG  1490. 14.5  .0 44.0
   37. SB on Ramp SB Dptr *  -83.7  -777.6  -309.3  -307.8 *   521.  334.
AG  1490. 14.5  .0 32.0
   38. SB on Ramp EB Appr *  -410.3   180.6  -766.8   550.2 *   514.  316.
AG  2715. 15.0  .0 44.0
   39. SB on Ramp EB Dptr *  -294.0   118.2  -410.3   180.6 *   132.  298.
AG  1415. 15.7  .0 56.0
   40. SB on Ramp WB Appr *  -395.1   212.3  -278.6   156.1 *   129.  116.
AG  2225. 15.7  .0 56.0
   41. SB on Ramp WB LQ  *  -395.1   200.0  -353.0   179.7 *   47.  116.
AG   83. 100.0  .0 12.0 .18  2.4
   42. SB on Ramp WB Q   *  -395.1   212.3  -390.9   210.2 *    5.  116.
AG   0. 100.0  .0 24.0 .64  .2
   43. SB on Ramp WB Dptr *  -752.2   578.3  -395.1   212.3 *   511.  136.
AG  2035. 15.0  .0 44.0
```

JOB: I25/US 24-No Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:15:18

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
14. NB off Ramp NB LQ	*	140	84	2.0	1310	1600	95.20	1	3
15. NB off Ramp NB RQ	*	140	50	2.0	45	1600	95.20	1	3
20. NB offRamp WB TQ	*	140	95	2.0	915	1600	95.20	1	3
21. NB offRamp WB RQ	*	140	80	2.0	360	1600	95.20	1	3
24. NB offRamp EB LQ	*	140	103	2.0	710	1600	95.20	1	3
25. NB offRamp EB TQ	*	140	58	2.0	815	1600	95.20	1	3
29. SB offRamp NB Q	*	140	95	2.0	780	1600	95.20	1	3
31. SB off Ramp WB Q	*	140	45	2.0	2225	1600	95.20	1	3
34. SB off Ramp EB Q	*	140	45	2.0	1415	1600	96.40	1	3
41. SB on Ramp WB LQ	*	140	45	2.0	190	1600	96.40	1	3
42. SB on Ramp WB Q	*	140	0	.0	2035	1600	96.40	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	X (FT)	Y (FT)	Z (FT)	*
1. Rec 1	*	-321.3	106.7	6.0	*
2. Rec 2	*	-355.4	216.4	6.0	*
3. Rec 3	*	-319.4	199.0	6.0	*
4. Rec 4	*	-283.4	181.7	6.0	*
5. Rec 5	*	-247.3	164.3	6.0	*
6. Rec 6	*	-229.3	155.6	6.0	*
7. Rec 7	*	-211.3	146.9	6.0	*
8. Rec 8	*	-202.3	142.6	6.0	*
9. Rec 9	*	-193.3	138.2	6.0	*
10. Rec 10	*	-285.3	89.4	6.0	*
11. Rec 11	*	-267.3	80.7	6.0	*
12. Rec 12	*	-249.3	72.0	6.0	*
13. Rec 13	*	-240.3	67.6	6.0	*
14. Rec 14	*	-231.3	63.3	6.0	*

15. Rec 15	*	-175.3	129.6	6.0	*
16. Rec 16	*	-166.3	125.2	6.0	*
17. Rec 17	*	-157.2	120.9	6.0	*
18. Rec 18	*	-139.2	112.2	6.0	*
19. Rec 19	*	-121.2	103.5	6.0	*
20. Rec 20	*	-85.2	86.1	6.0	*
21. Rec 21	*	-191.0	43.9	6.0	*
22. Rec 22	*	-181.9	39.5	6.0	*
23. Rec 23	*	-172.9	35.2	6.0	*
24. Rec 24	*	-154.9	26.5	6.0	*
25. Rec 25	*	-136.9	17.8	6.0	*
26. Rec 26	*	-100.8	.4	6.0	*
27. Rec 27	*	-184.3	133.9	6.0	*
28. Rec 28	*	-199.9	48.2	6.0	*
29. Rec 29	*	-222.2	59.0	6.0	*
30. Rec 30	*	189.8	-23.9	6.0	*
31. Rec 31	*	188.7	-33.9	6.0	*
32. Rec 32	*	218.0	13.2	6.0	*
33. Rec 33	*	215.9	-6.7	6.0	*
34. Rec 34	*	213.7	-26.6	6.0	*

JOB: I25/US 24-No Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:15:18

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
35. Rec 35	212.6	-36.5	6.0
36. Rec 36	211.5	-46.4	6.0
37. Rec 37	144.2	-20.7	6.0
38. Rec 38	160.5	-32.3	6.0
39. Rec 39	169.5	-36.6	6.0
40. Rec 40	178.5	-41.0	6.0
41. Rec 41	125.5	-108.7	6.0
42. Rec 42	143.5	-117.4	6.0
43. Rec 43	152.5	-121.7	6.0
44. Rec 44	161.5	-126.1	6.0
45. Rec 45	205.6	-131.8	6.0
46. Rec 46	214.6	-136.1	6.0
47. Rec 47	223.6	-140.5	6.0
48. Rec 48	241.6	-149.1	6.0
49. Rec 49	259.6	-157.8	6.0
50. Rec 50	295.7	-175.2	6.0
51. Rec 51	309.5	-104.1	6.0
52. Rec 52	273.5	-86.8	6.0
53. Rec 53	255.4	-78.1	6.0
54. Rec 54	237.4	-69.4	6.0
55. Rec 55	228.4	-65.1	6.0
56. Rec 56	219.4	-60.7	6.0
57. Rec 57	170.5	-130.4	6.0
58. Rec 58	196.6	-127.4	6.0
59. Rec 59	187.5	-45.3	6.0
60. Rec 60	210.4	-56.4	6.0

JOB: I25/US 24-No Action RUN: 2035 PM Peak

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: 10.-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
10. *	1.6	.0	.1	.1	.1	.1	.1	.1	.2	2.3	2.3	2.3	2.3	2.6	.1	.1	.1	.1	.3	.4
20. *	1.9	.0	.1	.1	.2	.3	.3	.4	.5	2.5	2.6	2.6	2.7	2.7	.4	.6	.6	.7	.9	1.2
30. *	2.4	.3	.3	.4	.6	.6	.8	.8	.9	2.9	2.9	3.2	3.2	3.2	1.1	1.2	1.2	1.4	1.5	2.0
40. *	2.9	.7	.8	.8	1.2	1.3	1.4	1.4	1.4	3.4	3.4	3.7	3.7	3.6	1.4	1.6	1.6	1.7	1.8	2.3
50. *	3.3	1.0	1.2	1.1	1.5	1.4	1.5	1.4	1.4	3.5	3.5	3.5	3.6	3.6	1.5	1.6	1.6	1.7	2.0	2.0
60. *	3.4	1.1	1.2	1.0	1.4	1.4	1.4	1.3	1.3	3.6	3.6	3.6	3.6	3.6	1.5	1.7	1.7	1.7	1.7	1.9
70. *	3.6	1.1	1.1	1.2	1.4	1.5	1.4	1.3	1.3	3.8	3.9	4.0	3.8	3.5	1.6	1.7	1.7	1.7	1.8	1.7
80. *	4.0	1.2	1.3	1.2	1.6	1.5	1.4	1.3	1.4	3.9	3.8	3.8	3.7	3.7	1.7	1.5	1.5	1.6	1.7	1.8
90. *	4.2	1.4	1.4	1.4	1.6	1.6	1.5	1.5	1.6	4.2	4.1	3.8	3.8	3.9	1.6	1.7	1.6	1.6	1.7	1.8
100. *	4.5	1.9	1.9	2.0	2.2	2.3	2.3	2.4	2.1	4.5	4.4	4.3	4.4	4.5	2.2	2.2	2.1	2.2	2.2	2.3
110. *	4.5	3.1	3.5	3.6	3.7	3.9	4.1	4.0	3.8	4.3	4.3	4.5	4.7	4.8	3.9	3.8	3.7	3.6	3.8	3.7
120. *	3.6	4.4	4.3	4.8	4.8	4.8	5.0	5.0	4.9	3.7	3.5	3.9	4.0	4.2	5.1	5.0	5.0	5.3	5.2	5.4
130. *	2.1	4.5	4.9	5.2	5.1	4.9	5.5	5.5	5.5	2.5	2.3	2.7	2.9	3.3	5.5	5.5	5.6	5.6	5.6	5.7
140. *	1.6	3.9	4.3	4.4	4.4	4.8	4.8	4.8	4.9	2.1	2.2	2.5	2.8	2.9	5.1	5.0	5.0	5.2	5.3	5.6
150. *	1.7	3.8	3.9	4.3	4.3	4.3	4.2	4.1	4.3	2.0	2.2	2.5	2.7	3.2	4.5	4.7	4.8	4.8	4.7	5.4
160. *	1.6	3.4	3.7	4.4	4.4	4.3	4.3	4.4	4.3	2.2	2.5	2.8	2.8	3.2	4.2	4.0	4.2	4.3	4.4	4.8
170. *	1.3	3.1	3.1	4.0	4.1	4.2	4.2	4.1	3.9	1.8	1.9	2.5	2.7	3.1	4.3	4.0	4.1	3.9	4.0	4.5
180. *	.9	2.4	2.7	3.2	3.7	3.9	3.8	3.9	3.5	1.1	1.2	1.7	1.9	2.5	3.6	3.6	3.4	3.3	3.4	3.9
190. *	.5	2.3	2.1	2.4	3.0	3.2	3.3	3.5	3.6	.7	.6	.9	1.2	1.6	3.3	3.3	3.0	2.8	3.0	3.1

```
 200. *  .4  2.2  1.9  2.2  2.6  2.9  3.0  3.1  3.2  .3  .3  .4  .5  .9
3.4  3.3  3.1  2.9  2.6  2.5
 210. *  .4  2.0  1.9  2.0  2.6  2.5  2.7  2.9  2.9  .3  .3  .3  .3  .4
3.4  3.3  3.2  3.0  2.8  2.6
 220. *  .4  1.9  1.8  2.0  2.5  2.6  2.5  2.6  2.7  .3  .3  .3  .2  .3
3.0  3.0  3.0  3.0  2.9  2.6
 230. *  .5  2.0  1.9  2.0  2.5  2.5  2.5  2.6  2.7  .3  .4  .4  .3  .3
3.0  2.9  3.0  2.9  2.9  2.8
 240. *  .5  2.1  2.0  1.9  2.7  2.7  2.7  2.7  2.7  .3  .4  .3  .3  .3
2.8  3.1  3.1  2.9  3.0  2.8
 250. *  .5  2.1  2.1  2.1  2.5  2.9  2.7  3.0  2.8  .3  .4  .3  .3  .3
3.1  3.3  3.4  3.2  3.1  2.9
 260. *  .5  2.1  2.3  2.3  2.6  2.9  3.0  3.1  3.2  .3  .4  .3  .3  .3
3.3  3.4  3.6  3.4  3.6  3.1
 270. *  .6  2.2  2.4  2.4  2.7  2.8  2.8  3.0  3.1  .5  .6  .4  .4  .4
3.2  3.4  3.4  3.5  3.7  3.5
 280. *  .8  2.4  2.5  2.6  2.9  2.8  2.9  3.1  3.2  .7  .9  .7  .6  .6
3.1  3.2  3.4  3.7  3.7  3.7
 290. *  1.1  2.6  2.5  2.4  2.7  2.9  2.8  2.9  3.0  1.2  1.3  1.5  1.4
1.4  3.0  3.3  3.2  3.3  3.4  3.4
 300. *  2.0  2.7  2.4  2.3  2.5  2.6  2.6  2.5  2.6  2.0  2.3  2.2  2.3
2.2  2.3  2.4  2.5  2.5  2.5  2.4
 310. *  2.5  2.1  1.8  1.6  1.7  1.7  1.6  1.6  1.6  2.7  3.0  2.9  3.1
3.3  1.5  1.6  1.4  1.3  1.4  1.4
 320. *  2.8  1.2  1.0  .9  .8  .8  .8  .8  .8  3.1  3.2  3.1  3.2  3.2
.7  .6  .6  .6  .6  .5
 330. *  2.5  .5  .3  .4  .2  .3  .3  .3  .3  2.6  2.9  2.9  3.0  3.0  .2
.2  .2  .2  .2  .2
 340. *  1.9  .2  .2  .2  .1  .2  .3  .3  .3  2.5  2.5  2.7  2.6  2.6  .1
.0  .1  .2  .2  .2
 350. *  1.7  .1  .2  .2  .0  .2  .2  .2  .2  2.3  2.3  2.3  2.3  2.6  .1
.0  .1  .1  .1  .1
 360. *  1.5  .1  .1  .1  .1  .1  .2  .2  .2  2.4  2.3  2.4  2.4  2.4  .0
.0  .1  .1  .1  .2
 ------*-------------------------------------------------------------------
-------------------------------------------------------
 MAX  *  4.5  4.5  4.9  5.2  5.1  4.9  5.5  5.5  5.5  4.5  4.4  4.5  4.7
4.8  5.5  5.5  5.6  5.6  5.6  5.7
 DEGR. * 100  130  130  130  130  130  130  130  130  100  100  110  110
110  130  130  130  130  130  130
```

JOB: I25/US 24-No Action RUN: 2035 PM Peak

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: 10.-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
10.	1.9	1.7	1.7	1.8	1.8	2.2	.2	2.2	2.7	2.9	2.9	2.2	2.2	2.3	2.3	2.2	3.7	3.0	2.7	2.7
20.	2.3	2.1	2.1	2.2	2.4	3.0	.4	2.4	2.8	1.5	1.5	1.1	1.1	1.0	1.0	1.0	2.1	1.6	1.6	1.7
30.	2.8	2.7	2.8	3.0	3.2	3.8	.9	2.9	3.2	1.0	1.0	.4	.4	.4	.4	.4	.9	.7	.7	.9
40.	3.1	3.1	3.1	3.2	3.4	3.7	1.4	3.1	3.7	.7	.7	.2	.2	.2	.2	.2	.5	.5	.6	.7
50.	3.1	3.1	3.1	3.2	3.4	4.0	1.6	3.1	3.4	.6	.6	.2	.2	.2	.2	.2	.4	.4	.5	.6
60.	3.2	3.2	3.3	3.2	3.3	3.9	1.4	3.2	3.5	.5	.5	.1	.1	.1	.1	.1	.3	.4	.5	.5
70.	3.1	3.1	3.3	3.2	3.5	3.9	1.5	3.3	3.5	.5	.5	.1	.1	.1	.1	.1	.3	.5	.5	.5
80.	3.4	3.5	3.5	3.4	3.8	4.4	1.5	3.5	3.6	.5	.5	.1	.1	.1	.1	.1	.3	.5	.5	.5
90.	3.8	3.8	3.8	3.7	4.2	5.0	1.7	3.7	3.7	.4	.4	.1	.1	.1	.1	.1	.3	.6	.6	.6
100.	4.3	4.3	4.4	4.4	4.7	5.4	2.2	4.1	4.6	.5	.8	.1	.1	.1	.2	.5	.8	1.1	1.1	1.2
110.	4.3	4.4	4.5	4.5	4.8	4.9	4.0	4.2	4.8	1.3	1.7	.2	.4	.6	.9	1.3	1.9	2.2	2.2	2.3
120.	3.5	3.5	3.4	3.4	3.7	3.8	5.0	3.5	4.3	2.2	2.6	.6	.9	1.5	1.8	2.3	2.8	3.4	3.4	3.7
130.	2.1	2.2	2.3	2.4	2.5	2.5	5.6	2.3	3.4	2.8	3.4	1.2	1.5	2.1	2.5	3.1	3.6	3.7	3.8	4.0
140.	1.8	1.8	1.9	1.9	2.0	2.3	5.0	2.0	3.1	3.0	3.2	1.5	1.7	2.3	2.6	3.2	3.4	3.7	3.6	3.8
150.	1.8	1.9	1.8	1.9	2.0	2.3	4.4	1.9	3.3	2.7	3.0	1.7	1.9	2.2	2.6	2.9	3.3	3.4	3.5	3.5
160.	1.9	1.8	1.9	2.1	2.0	2.3	4.1	2.2	3.7	2.7	3.0	1.7	1.9	2.3	2.4	2.9	3.5	3.4	3.4	3.5
170.	1.8	1.7	1.8	1.8	2.0	2.2	3.9	2.3	3.8	3.0	3.2	1.8	1.9	2.2	2.4	2.7	3.7	3.8	3.6	3.5
180.	1.6	1.3	1.2	1.3	1.3	1.6	3.5	2.5	3.5	3.6	3.8	2.3	2.6	2.9	3.0	3.5	5.0	4.6	4.2	4.6
190.	1.7	1.2	.8	.7	.5	.8	3.6	2.8	2.7	5.1	5.4	3.8	3.8	4.1	4.2	4.7	6.6	5.9	5.7	5.7

```
 200. *  1.9  1.3  1.0  .5  .5  .3  3.4  3.0  2.0  6.0  6.2  4.9  5.2  5.3
5.5  5.7  7.2  7.0  6.8  6.6
 210. *  2.2  1.6  1.2  .7  .6  .5  3.0  3.0  1.1  6.1  6.2  5.1  5.8  5.8
5.8  6.5  6.5  6.7  6.6  6.6
 220. *  2.0  1.6  1.4  1.1  .7  .4  2.8  2.6  .6  5.3  5.6  4.7  5.1  5.3
5.6  5.8  5.8  5.9  5.9  5.8
 230. *  1.9  1.7  1.4  1.2  1.0  .6  2.7  2.3  .5  4.8  5.2  4.4  4.7
5.0  5.3  5.6  5.0  5.4  5.5  5.4
 240. *  1.7  1.6  1.4  1.1  1.0  .6  2.6  2.0  .5  4.5  5.0  4.1  4.2
4.7  4.8  5.3  4.6  5.2  5.3  5.2
 250. *  1.6  1.5  1.3  1.1  1.0  .8  2.6  1.8  .4  4.4  4.8  4.1  4.2
4.7  4.8  5.1  4.7  4.9  5.0  5.0
 260. *  1.6  1.4  1.3  1.0  1.0  .9  3.1  1.6  .4  4.6  4.8  3.9  4.3
4.7  5.1  5.4  4.6  5.1  5.3  5.4
 270. *  1.7  1.6  1.5  1.1  1.0  .8  3.1  1.7  .5  4.5  4.9  3.5  4.1
4.4  4.7  5.3  4.6  5.2  5.2  5.4
 280. *  2.0  1.9  1.7  1.5  1.4  1.0  3.1  2.1  .7  4.2  4.8  3.6  3.7
4.3  4.6  5.3  4.7  5.2  5.3  5.4
 290. *  2.8  2.5  2.4  2.2  2.1  1.8  3.1  2.6  1.6  3.5  4.1  2.8  3.2
3.6  4.0  4.6  4.2  4.9  4.8  4.8
 300. *  3.2  3.0  3.2  2.9  3.0  2.7  2.5  3.4  2.3  2.7  3.0  2.3  2.5
2.8  3.2  3.4  2.9  3.5  3.6  3.7
 310. *  3.8  3.7  3.6  3.4  3.0  3.0  1.7  3.8  3.3  2.1  2.3  2.2  2.4
2.5  2.6  2.7  2.0  2.3  2.4  2.4
 320. *  3.7  3.3  3.2  2.9  2.9  2.3  .8  3.9  3.4  1.9  2.0  2.4  2.4
2.3  2.4  2.4  1.6  2.0  2.0  2.1
 330. *  3.2  2.9  2.5  2.6  2.3  2.1  .3  3.4  3.0  2.5  2.3  2.9  2.9
2.9  2.8  2.8  1.9  2.4  2.3  2.4
 340. *  2.6  2.3  2.4  2.1  1.7  1.9  .3  2.9  2.8  2.9  3.0  3.3  3.3
3.2  3.2  3.3  2.5  2.9  2.8  3.0
 350. *  2.3  2.0  1.9  1.8  1.7  1.7  .2  2.5  2.7  3.6  3.6  3.7  3.7
3.6  3.6  3.6  3.5  3.6  3.4  3.4
 360. *  1.9  1.7  1.6  1.6  1.5  1.8  .2  2.4  2.6  3.7  3.8  3.4  3.5
3.4  3.4  3.4  4.1  4.0  3.7  3.7
 ------*-------------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.3  4.4  4.5  4.5  4.8  5.4  5.6  4.2  4.8  6.1  6.2  5.1  5.8
5.8  5.8  6.5  7.2  7.0  6.8  6.6
 DEGR. * 100  110  110  110  110  100  130  110  110  210  200  210  210
210  210  210  200  200  200  200
```

JOB: I25/US 24-No Action RUN: 2035 PM Peak

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: 10.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
10.	6.4	5.6	5.5	5.4	3.9	3.6	3.3	3.1	2.7	2.4	.3	.7	.8	1.1	1.4	1.8	5.5	4.4	2.9	2.2
20.	4.7	4.1	4.0	4.2	2.8	2.6	2.4	2.2	2.2	2.1	.0	.1	.1	.3	.4	.6	4.0	3.2	1.5	1.0
30.	3.6	3.1	3.4	3.5	2.3	2.2	2.1	2.1	2.1	2.1	.0	.0	.0	.0	.0	.1	3.4	2.6	1.0	.4
40.	3.0	3.1	3.2	3.1	2.2	2.1	2.1	2.1	2.1	2.0	.0	.0	.0	.0	.0	.1	3.0	2.5	.7	.2
50.	3.0	3.2	3.2	2.9	2.1	2.1	2.1	2.1	2.1	2.0	.0	.0	.0	.0	.0	.1	2.7	2.3	.6	.1
60.	3.2	3.2	2.9	3.0	2.1	2.1	2.1	2.1	2.1	2.0	.1	.1	.1	.1	.1	.1	2.9	2.3	.5	.2
70.	3.1	3.1	3.2	3.0	2.3	2.2	2.2	2.2	2.1	2.0	.1	.1	.1	.1	.1	.1	3.1	2.4	.5	.2
80.	3.2	3.2	2.9	3.2	2.6	2.6	2.5	2.5	2.5	2.4	.1	.1	.1	.1	.1	.1	3.1	2.7	.5	.2
90.	3.1	3.0	3.1	3.3	2.7	2.7	2.7	2.7	2.6	2.5	.3	.3	.3	.3	.3	.3	3.4	2.8	.6	.4
100.	3.2	3.1	3.1	3.3	2.7	2.6	2.6	2.6	2.6	2.5	.6	.7	.7	.7	.7	.8	3.5	2.8	1.2	.9
110.	2.6	2.8	2.9	3.1	2.3	2.3	2.3	2.2	2.2	2.1	1.7	1.9	1.9	2.1	2.1	2.1	2.9	2.5	2.3	2.2
120.	1.8	1.9	2.0	2.0	1.5	1.5	1.5	1.5	1.5	1.4	2.9	3.1	3.3	3.4	3.4	3.4	2.1	1.6	3.6	3.5
130.	1.1	1.2	1.5	1.4	.8	.8	.7	.7	.7	.7	3.6	3.8	3.8	3.9	3.9	3.9	1.6	.9	4.0	4.1
140.	.8	.9	1.0	1.2	.3	.3	.3	.3	.3	.3	3.7	3.7	3.8	3.8	3.8	3.8	1.2	.5	3.8	3.9
150.	.7	.9	1.0	1.1	.3	.2	.2	.2	.2	.2	3.4	3.4	3.4	3.4	3.4	3.4	1.3	.4	3.5	3.6
160.	.9	1.0	1.0	1.2	.2	.1	.1	.1	.1	.1	3.2	3.2	3.2	3.2	3.2	3.3	1.5	.3	3.3	3.5
170.	1.3	1.2	1.3	1.5	.2	.1	.1	.1	.1	.1	2.9	2.9	3.0	3.0	3.0	3.2	1.7	.5	3.4	3.4
180.	2.9	2.3	2.2	2.3	.6	.4	.2	.1	.1	.1	2.7	2.7	2.7	3.0	3.0	3.4	2.5	1.2	4.2	3.8
190.	4.4	3.7	3.5	3.5	1.8	1.4	1.2	.9	.5	.4	3.0	3.4	3.6	3.9	4.3	4.8	3.8	2.6	5.8	5.1

```
 200. *  5.2  4.8  4.4  4.4  3.5  2.7  2.5  2.0  1.6  1.2  3.9  4.4  4.7
5.2  5.7  6.0  4.6  4.3  6.7  6.3
 210. *  4.6  4.5  4.3  4.4  4.4  3.9  3.4  2.7  2.3  1.9  4.5  5.2  5.5
6.1  6.5  6.6  4.6  5.1  6.8  6.8
 220. *  3.7  3.8  3.6  3.5  4.1  3.6  3.3  2.9  2.6  2.3  4.9  5.2  5.4
6.2  6.2  6.3  3.7  4.7  5.9  5.9
 230. *  3.2  3.4  3.6  3.5  3.8  3.5  3.1  2.7  2.5  2.1  4.8  5.0  5.3
5.7  6.2  6.4  3.5  4.1  5.3  5.9
 240. *  2.7  3.1  3.2  3.2  3.7  3.4  3.2  2.6  2.5  2.1  4.9  5.0  5.5
5.9  5.9  6.1  3.1  4.0  5.3  5.7
 250. *  2.2  2.8  2.8  2.9  3.5  3.1  2.9  2.7  2.4  2.1  5.0  5.6  5.8
6.1  6.3  6.1  3.1  3.7  5.3  5.7
 260. *  2.1  2.5  2.6  2.7  3.6  3.3  3.0  2.6  2.4  2.1  5.6  5.7  6.2
6.1  6.2  6.0  2.8  3.5  5.5  5.7
 270. *  1.9  2.3  2.3  2.6  3.5  3.3  3.1  2.8  2.4  2.2  5.9  6.2  6.6
6.6  6.4  6.4  2.7  3.6  5.6  6.2
 280. *  2.0  2.3  2.6  2.6  4.1  3.8  3.6  3.2  3.0  2.5  6.0  6.4  6.4
6.3  6.1  6.2  2.8  4.0  5.7  5.8
 290. *  3.0  3.3  3.4  3.6  5.4  4.9  4.8  4.2  4.0  3.7  5.6  5.8  5.7
5.7  5.8  5.6  3.5  5.2  5.2  5.6
 300. *  4.6  4.6  4.8  5.0  6.1  5.8  5.7  5.3  5.3  4.6  4.1  4.2  4.0
4.2  4.3  4.2  5.0  6.2  3.8  4.1
 310. *  4.9  5.4  5.4  5.5  6.7  6.3  5.8  5.5  5.2  5.0  2.8  2.8  2.9
2.9  3.0  2.7  5.7  6.7  2.6  2.9
 320. *  5.1  5.3  5.3  5.4  5.9  5.6  5.2  5.1  4.9  4.6  1.8  2.1  2.2
2.3  2.4  2.6  5.5  6.3  2.1  2.5
 330. *  5.1  5.4  5.4  5.5  5.8  5.4  5.2  4.6  4.6  4.3  1.8  2.2  2.3
2.5  2.6  2.8  5.6  6.0  2.5  2.9
 340. *  5.4  5.4  5.4  5.7  5.6  5.3  5.1  4.8  4.3  4.1  2.0  2.3  2.5
2.6  2.9  3.1  5.6  6.1  3.0  3.1
 350. *  6.0  6.1  6.0  6.1  5.6  5.2  4.9  4.3  4.2  3.8  1.9  2.2  2.4
2.7  3.0  3.3  6.1  5.9  3.5  3.5
 360. *  6.8  6.6  6.1  6.2  5.2  4.8  4.2  4.1  3.8  3.3  1.1  1.6  1.8
2.2  2.6  3.0  6.2  5.8  3.8  3.4
 ------*-------------------------------------------------------------------
------------------------------------------------------
 MAX   *  6.8  6.6  6.1  6.2  6.7  6.3  5.8  5.5  5.3  5.0  6.0  6.4  6.6
6.6  6.5  6.6  6.2  6.7  6.8  6.8
 DEGR. * 360  360  360  360  310  310  310  310  300  310  280  280  270
270  210  210  360  310  210  210

 THE HIGHEST CONCENTRATION OF  7.20 PPM OCCURRED AT RECEPTOR REC37.
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JOB: I25/US 24-No Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:15:18

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 # *	100	130	130	130	130	130	130	130	130	100	100	110	110	110	130	130	130	130	130	130
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.0	.2	.2	.2	.2	.2	.2	.2	.2	.0	.0	.1	.1	.1	.2	.2	.2	.2	.2	.1
3 *	.1	.1	.1	.1	.1	.1	.2	.2	.2	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.3
4 *	.3	.1	.1	.1	.1	.1	.1	.1	.1	.3	.3	.2	.2	.2	.1	.1	.1	.2	.2	.2
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	.0	.0	.0	.0	.0	.0	.0	.0	.0
7 *	.4	.1	.1	.1	.2	.2	.2	.2	.2	.4	.4	.3	.3	.3	.2	.2	.3	.3	.3	.4
8 *	.1	.1	.2	.2	.2	.2	.3	.3	.3	.1	.1	.2	.3	.3	.3	.3	.3	.3	.4	.4
9 *	.0	.2	.2	.2	.2	.2	.2	.2	.2	.0	.0	.1	.1	.1	.2	.2	.2	.2	.1	.1
10 *	.0	.1	.1	.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 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.0	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.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 *	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.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 *	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1

20 * .1 .0 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
.1 .1 .1 .1
21 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
22 * .1 .1 .1 .1 .1 .1 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2
.2 .3 .3 .4
23 * .1 .1 .1 .1 .1 .1 .1 .2 .2 .1 .1 .2 .2 .2 .2 .2
.2 .2 .2 .3
24 * .1 .1 .1 .2 .2 .2 .3 .3 .3 .2 .2 .3 .3 .3 .3 .4
.4 .4 .5 .6
25 * .0 .0 .0 .1 .1 .1 .1 .1 .1 .0 .1 .1 .1 .1 .1 .1
.1 .1 .1 .1
26 * .0 .0 .0 .1 .1 .1 .1 .1 .1 .0 .0 .1 .1 .1 .1 .1
.1 .1 .1 .1
27 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
28 * .1 .1 .1 .1 .0 .0 .0 .0 .0 .2 .2 .3 .3 .4 .0 .0
.0 .0 .0 .0
29 * .0 .1 .1 .0 .0 .0 .0 .0 .0 .1 .1 .3 .3 .4 .0 .0
.0 .0 .0 .0
30 * .5 .2 .3 .5 .7 .9 1.2 1.4 1.6 .5 .5 .3 .3 .3 1.9
1.8 1.8 1.7 1.7 1.5
31 * .3 .2 .2 .3 .4 .5 .7 .7 .8 .3 .3 .3 .3 .3 .9 .9
.9 .8 .8 .8
32 * .3 .5 .8 1.4 1.5 1.2 .9 .6 .3 .1 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
33 * .6 .2 .2 .1 .0 .0 .0 .0 .0 .7 .6 .5 .4 .2 .0 .0
.0 .0 .0 .0
34 * .6 .3 .3 .2 .1 .0 .0 .0 .0 .4 .3 .0 .0 .0 .0 .0
.0 .0 .0 .0
35 * .3 .2 .3 .3 .4 .4 .4 .4 .4 .5 .6 .7 .8 .9 .3 .3
.3 .3 .2 .1
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 * .3 .1 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
40 * .0 1.3 1.0 .4 .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 .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 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0

JOB: I25/US 24-No Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:15:18

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
	100	110	110	110	110	100	130	110	110	210	200	210	210	210	210	210	200	200	200	200
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
2	.0	.1	.1	.1	.1	.0	.2	.1	.1	1.3	1.4	1.1	1.2	1.2	1.3	1.3	1.5	1.6	1.6	1.5
3	.1	.2	.2	.2	.3	.2	.2	.2	.2	.4	.1	.3	.3	.2	.1	.1	.7	.5	.3	.2
4	.3	.2	.2	.2	.2	.4	.1	.2	.2	.0	.0	.0	.0	.0	.0	.0	.1	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.5	.2	.2	.2	.2	.4	.2	.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	.2	.3	.4	.4	.4	.4	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.1	.1	.1	.1	.0	.2	.1	.1	.4	.1	.3	.3	.2	.2	.2	.5	.3	.2	.1
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.9	.7	.7	.8	.8	.8	.8	.9	.9	.8	.8
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.1	.1	.1	.1	.1	.2	.2	.2	.2
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1
13	.0	.1	.1	.1	.1	.0	.1	.1	.0	.2	.4	.2	.3	.4	.4	.5	.1	.2	.3	.4
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3	.2	.2	.2	.2	.3	.2	.2	.3	.3
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.1	.0	.0	.0	.0	.1	.0	.0	.0	.3	.4	.7	.7	.7	.6	.6	.0	.0	.0	.1
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	.1	.2	.2	.2	.2	.1	.1	.1	.1	.0	.0	.0	.1	.1	.2	.2	.0	.0	.0	.0

```
   20 *  .1  .2  .2  .2  .2  .2  .1  .1  .1  .0  .0  .0  .1  .1  .1  .2
.0  .0  .0  .0
   21 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1
.0  .0  .0  .0
   22 *  .3  .3  .3  .3  .3  .5  .2  .2  .2  .8  .9  .4  .5  .5  .5  .5
1.0  1.1  1.1  1.1
   23 *  .2  .2  .2  .3  .3  .4  .2  .2  .2  .4  .4  .3  .3  .3  .3  .3
.5  .5  .5  .5
   24 *  .4  .4  .4  .5  .6  .9  .3  .4  .3  .6  .6  .3  .4  .4  .4  .4
.7  .7  .7  .7
   25 *  .1  .2  .2  .2  .3  .4  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1
.1  .1  .1  .1
   26 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .0  .0  .0  .0  .0  .0  .1
.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  .1  .3  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   29 *  .0  .0  .0  .0  .0  .0  .0  .0  .5  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   30 *  .4  .2  .2  .1  .1  .1  1.9  .2  .3  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   31 *  .3  .3  .3  .3  .3  .3  .9  .3  .3  .3  .4  .2  .2  .3  .3  .4
.4  .4  .4  .4
   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  .1  .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 *  1.1  1.1  1.1  1.0  1.0  .9  .4  1.1  1.0  .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  .1  .0  .1  .1  .1  .1  .1
.1  .1  .1  .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  .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  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
```

JOB: I25/US 24-No Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:15:18

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
ANGLE	360	360	360	360	310	310	310	310	300	310	280	280	270	270	210	210	360	310	210	210
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.1	.1
2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	1.2	1.3	.0	.0	1.4	1.4
3	.2	.1	.0	.0	.4	.3	.3	.3	.4	.2	.3	.3	.5	.4	.0	.0	.0	.4	.3	.1
4	1.3	1.2	1.0	.8	.4	.4	.4	.4	.2	.4	.2	.3	.2	.2	.0	.0	.7	.4	.0	.0
5	.8	.9	.9	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.9	.0	.0	.0
6	1.1	1.1	1.0	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	.0	.0	.0
7	.6	.4	.3	.3	.6	.6	.5	.5	.3	.5	.2	.2	.1	.1	.0	.0	.2	.6	.0	.0
8	.0	.0	.0	.0	.3	.3	.2	.2	.4	.2	.3	.4	.4	.5	.0	.0	.0	.3	.0	.0
9	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.2	.2	.1	.1	.0	.0	.3	.1
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	.8	.0	.0	.9	.8
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.0	.0	.1	.1
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.1
13	.0	.0	.0	.1	.6	.5	.4	.3	.3	.1	.1	.1	.1	.0	.7	.7	.4	.6	.3	.6
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.0	.0	.2	.3
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.1	.2	.2	.3	.0	.1	.1	.1	.1	.1	.1	.2	.3	.4	.2	.4	.4	.0	.3	.5
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	.1	.1	.2	.1	.4	.7	.6	.5	.4	.6	.5	.0	.0	.0	.3

20 *	.0	.0	.0	.0	.0	.0	.0	.1	.1	.4	.8	.6	.6	.3	.9	.7	.0	.0	.0	.4
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.8	.7	.7	.6	.5	.5	.0	.0	.0	.2
22 *	.7	.7	.7	.7	.8	.7	.7	.6	.4	.4	.4	.7	.6	.9	.0	.1	.7	.8	1.1	.5
23 *	.7	.7	.7	.8	.9	.7	.6	.5	.5	.2	.3	.4	.5	.5	.1	.2	.7	1.0	.5	.3
24 *	.8	.8	.8	.8	1.1	1.0	.9	.7	.6	.4	.5	.7	.7	.8	.0	.1	.7	1.1	.7	.3
25 *	.2	.2	.2	.2	.3	.2	.2	.1	.2	.1	.1	.1	.2	.2	.0	.0	.2	.3	.1	.1
26 *	.0	.0	.0	.0	.3	.4	.4	.5	.6	.7	.1	.0	.0	.0	.2	.1	.0	.2	.0	.1
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	.1	.0	.0	.0	.0	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
30 *	.0	.0	.0	.0	.2	.2	.2	.2	.2	.1	.1	.1	.0	.1	.0	.0	.0	.2	.0	.0
31 *	.3	.3	.3	.3	.4	.4	.4	.4	.3	.4	.6	.6	.6	.6	.4	.4	.3	.4	.4	.4
32 *	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.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	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.1	.0	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
37 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.1	.1
38 *	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.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	.1	.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	.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	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0

4. Proposed Action for 2020 PM Peak Period

Location:	US 24 at Interstate 25 ramps
Configuration:	Improved interchange ramp intersections
1-hour Result:	Worst case average of 6.70 parts per million as indicated on Page 7 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	3.82 ppm
Assumed Background:	1.84 ppm
Total Concentration:	**5.66 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: I25/US 24-2020 Action              RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:42:34

The MODE flag has been set to C for calculating CO averages.

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. I-25 Main NB Appr  *   99.4   -63.6   -29.8  -1000.0 *   945.  188.
FL  3962. 17.5 18.0 68.0
    2. I-25 Main NB Appr  *  133.8   196.4   99.4   -63.6 *   262.  188.
BR  3962. 17.5 27.0 68.0
    3. I-25 Main NB Dptr  *  185.2   429.2   133.8   196.4 *   238.  192.
BR  3962. 17.5 27.0 68.0
    4. I-25 Main NB Dptr  *  246.9   709.4   185.2   429.2 *   287.  192.
FL  3962. 17.5 18.0 68.0
    5. I-25 Main NB Dptr  *  311.0  1000.0   246.9   709.4 *   298.  192.
FL  4516. 17.5 18.0 68.0
    6. I-25 Main SB Appr  *  119.7   449.9   232.7  1000.0 *   562.  12.
FL  4383. 17.5 18.0 68.0
    7. I-25 Main SB Appr  *   65.7   187.1   119.7   449.9 *   268.  12.
BR  4383. 17.5 27.0 68.0
    8. I-25 Main SB Dptr  *   34.9   37.3   65.7   187.1 *   153.  12. BR
4383. 17.5 27.0 68.0
    9. I-25 Main SB Dptr  *  -101.2  -625.6   34.9   37.3 *   677.  12. FL
4383. 17.5 18.0 68.0
   10. I-25 Fly SB/NB Appr *  -589.2   419.1  -779.4   616.0 *   274.
316. FL  1365. 16.0 18.0 44.0
   11. I-25 Fly SB Appr  *  -157.9  -291.7  -589.2   419.1 *   831.  329.
FL  811. 17.3 18.0 32.0
   12. I-25 Fly SB Appr  *  -172.6  -1000.0  -157.9  -291.7 *   708.   1.
FL  811. 17.3 18.0 32.0
   13. I-25 Fly NB Appr  *  448.7  -103.0  -589.2   419.1 *  1162.  297.
FL  554. 16.0 18.0 32.0
   14. I-25 Fly NB Appr  *  460.4  -509.8   448.7  -103.0 *   407.  358.
FL  554. 16.0 18.0 32.0
   15. I-25 Fly NB Appr  *   97.7  -270.5   460.4  -509.8 *   435.  123.
FL  554. 16.0 18.0 32.0
   16. I-25 Fly NB Appr  *  270.6   714.6   97.7  -270.5 *  1000.  190. FL
554. 16.0 18.0 32.0
```

```
   17. Off Ramp NB Appr  *  130.2  -704.5   25.8  -597.8 *   149.  316. AG
1388. 16.0  .0 44.0
   18. Off Ramp NB Appr  *  211.7  -135.1   130.2  -704.5 *   575.  188.
AG  1388. 16.0  .0 56.0
   19. Off Ramp NB Left App*  115.8   100.0   211.7  -135.1 *   254.  158.
AG  1320. 16.0  .0 56.0
   20. Off Ramp NB R Appr *  303.9   16.7   211.7  -135.1 *   178.  211.
AG   67. 16.0  .0 32.0
   21. Off Ramp NB Right Q *  303.9   16.7   300.1   10.4 *    7.  211. AG
56. 100.0  .0 12.0 .06  .4
   22. Off Ramp NB Left Q *  115.8   100.0   176.2   -48.0 *   160.  158.
AG  521. 100.0  .0 36.0 .81  8.1
   23. On Ramp NB Left Dptr*  306.3   339.4   116.6   149.8 *   268.  225.
AG  599. 16.0  .0 44.0
   24. On Ramp NB Right Dpt*  306.3   339.4   303.2   127.5 *   212.  181.
AG  292. 16.0  .0 32.0
   25. On Ramp NB Dptr   *  332.1   619.8   306.3   339.4 *   282.  185.
AG  891. 16.0  .0 44.0
   26. On Ramp NB Dptr   *  371.3  1000.0   332.1   619.8 *   382.  186.
AG  891. 16.0  .0 32.0
   27. Off Ramp SB Appr  *   55.2   605.0   161.0  1000.0 *   409.  15. AG
1698. 16.0  .0 44.0
   28. Off Ramp SB Appr  *  -25.8   354.3   55.2   605.0 *   263.  18. AG
1698. 16.0  .0 56.0
   29. Off Ramp SB Left App*   60.3   194.6   -25.8   354.3 *   181.  332.
AG  428. 16.0  .0 32.0
   30. Off Ramp SB Left Q *   60.3   194.6   -11.7   328.2 *   152.  332.
AG  174. 100.0  .0 12.0 .79  7.7
   31. Off Ramp SB R Appr *  -93.2   295.0   -25.8   354.3 *   90.  49. AG
1270. 16.0  .0 56.0
   32. Off Ramp SB Right Q *  -93.2   295.0   -58.5   325.6 *   46.  49.
AG  168. 100.0  .0 36.0 .35  2.3
   33. On Ramp SB Right Dpt*  -84.0   41.7   76.6   140.5 *   189.  58. AG
256. 16.0  .0 32.0
   34. On Ramp SB Left Dptr*  -84.0   41.7  -103.5   173.2 *   133.  352.
AG  153. 16.0  .0 32.0
   35. On Ramp SB Dptr   *  -141.7  -626.4   -84.0   41.7 *   671.   5. AG
409. 16.0  .0 32.0
   36. US 24 EB Appr    *  -398.1   355.2  -813.0   447.8 *   425.  283.
AG  1548. 16.2  .0 56.0
   37. US 24 EB Appr    *   76.6   140.5  -398.1   355.2 *   521.  294. AG
1548. 16.2  .0 80.0
   38. US 24 EB Thru Q   *  -70.4   199.0  -159.2   241.3 *   98.  295. AG
295. 100.0  .0 24.0 .49  5.0
   39. US 24 EB Left Q   *  -62.5   210.7  -157.4   258.4 *   106.  297.
AG  369. 100.0  .0 24.0 .60  5.4
   40. US 24 EB Right Q  *  -98.9   184.3  -126.8   181.8 *   28.  265. AG
57. 100.0  .0 12.0 .21  1.4
   41. US 24 EB Dptr    *  304.7   21.8   76.6   140.5 *   257.  297. AG
1214. 16.1  .0 44.0
   42. US 24 EB Dptr    *  1000.0  -158.3   304.7   21.8 *   718.  285. AG
1281. 15.8  .0 56.0
   43. US 24 WB Appr    *  643.3   -27.7  1000.0  -103.0 *   365.  102. AG
1435. 15.8  .0 44.0
   44. US 24 WB Appr    *  434.2   45.6   643.3   -27.7 *   222.  109. AG
1435. 15.8  .0 56.0
```

```
JOB: I25/US 24-2020 Action              RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:42:34

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. US 24 WB Appr    *   88.4   165.9   434.2   45.6 *   366.  109. AG
1435. 15.8  .0 80.0
   46. US 24 WB Thru Q   *  222.6   119.2   379.6   64.6 *   166.  109. AG
614. 100.0  .0 36.0 .89  8.4
   47. US 24 WB Left Q   *  220.3   107.1   249.1   60.0 *   55.  149. AG
185. 100.0  .0 12.0 .32  2.8
   48. US 24 WB Right Q  *  306.9   128.2   328.9   104.9 *   32.  137. AG
56. 100.0  .0 12.0 .24  1.6
   49. US 24 WB Dptr    *  -148.9   305.7   88.4   165.9 *   275.  121. AG
2425. 16.0  .0 56.0
   50. US 24 WB Dptr    *  -343.6   419.3  -148.9   305.7 *   225.  120.
AG  3695. 16.2  .0 68.0
   51. US 24 Main WB Dptr *  -750.7   551.9  -343.6   403.1 *   433.  110.
AG  1993. 16.2  .0 44.0
   52. US 24 Ramp WB Dptr *  -705.1   715.1  -328.9   433.9 *   470.  127.
AG  1702. 16.2  .0 56.0
```

JOB: I25/US 24-2020 Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:42:34

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
21. Off Ramp NB Right Q	100	20	2.0	67	1600	104.50	1	3
22. Off Ramp NB Left Q	100	62	2.0	1320	1600	104.50	1	3
30. Off Ramp SB Left Q	100	62	2.0	428	1600	104.50	1	3
32. Off Ramp SB Right Q	100	20	2.0	1270	1600	104.50	1	3
38. US 24 EB Thru Q	100	52	2.0	693	1600	105.70	1	3
39. US 24 EB Left Q	100	65	2.0	599	1600	105.70	1	3
40. US 24 EB Right Q	100	20	2.0	256	1600	105.70	1	3
46. US 24 WB Thru Q	100	73	2.0	989	1600	104.50	1	3
47. US 24 WB Left Q	100	66	2.0	153	1600	104.50	1	3
48. US 24 WB Right Q	100	20	2.0	293	1600	104.50	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Rec 1	274.6	-236.4	6.0
2. Rec 2	277.4	-231.0	6.0
3. Rec 3	270.0	-226.8	6.0
4. Rec 4	254.9	-216.1	6.0
5. Rec 5	246.1	-211.8	6.0
6. Rec 6	238.8	-207.0	6.0
7. Rec 7	231.8	-201.8	6.0
8. Rec 8	224.2	-197.6	6.0
9. Rec 9	217.6	44.6	6.0
10. Rec 10	210.8	-188.4	6.0
11. Rec 11	203.1	-183.2	6.0
12. Rec 12	195.4	-178.5	6.0
13. Rec 13	188.9	-174.7	6.0
14. Rec 14	181.4	-170.2	6.0
15. Rec 15	174.3	-166.4	6.0
16. Rec 16	-40.6	85.3	6.0

17.	Rec 17	*	-35.6	88.5	6.0	*
18.	Rec 18	*	-28.8	-138.2	6.0	*
19.	Rec 19	*	-22.0	-132.7	6.0	*
20.	Rec 20	*	-14.4	-127.0	6.0	*
21.	Rec 21	*	-8.2	-121.9	6.0	*
22.	Rec 22	*	-3.6	-116.4	6.0	*
23.	Rec 23	*	-9.1	-111.5	6.0	*
24.	Rec 24	*	-15.8	-108.4	6.0	*
25.	Rec 25	*	-22.0	-104.8	6.0	*
26.	Rec 26	*	-28.9	-100.4	6.0	*
27.	Rec 27	*	-35.8	-96.2	6.0	*
28.	Rec 28	*	-42.8	-92.1	6.0	*
29.	Rec 29	*	-49.7	-87.9	6.0	*
30.	Rec 30	*	-56.7	-83.6	6.0	*
31.	Rec 31	*	-41.1	86.7	6.0	*
32.	Rec 32	*	-34.4	265.2	6.0	*
33.	Rec 33	*	-28.3	78.0	6.0	*
34.	Rec 34	*	-21.0	67.7	6.0	*
35.	Rec 35	*	-12.3	250.1	6.0	*

JOB: I25/US 24-2020 Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:42:34

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
36. Rec 36	-7.1	56.9	6.0
37. Rec 37	-.6	51.1	6.0
38. Rec 38	7.4	55.4	6.0
39. Rec 39	18.6	223.9	6.0
40. Rec 40	15.3	46.1	6.0
41. Rec 41	13.3	54.8	6.0
42. Rec 42	9.4	61.0	6.0
43. Rec 43	6.6	69.8	6.0
44. Rec 44	3.0	86.3	6.0
45. Rec 45	1.3	91.7	6.0
46. Rec 46	287.4	-63.9	6.0
47. Rec 47	288.5	-68.2	6.0
48. Rec 48	287.3	-75.2	6.0
49. Rec 49	287.3	-81.4	6.0
50. Rec 50	280.4	-79.4	6.0
51. Rec 51	272.8	-76.7	6.0
52. Rec 52	250.8	151.8	6.0
53. Rec 53	230.4	-60.8	6.0
54. Rec 54	223.1	-57.0	6.0
55. Rec 55	215.7	-53.1	6.0
56. Rec 56	208.6	-50.4	6.0
57. Rec 57	201.0	-46.6	6.0
58. Rec 58	192.7	-43.7	6.0
59. Rec 59	193.7	-35.0	6.0
60. Rec 60	194.5	-26.8	6.0

```
JOB: I25/US 24-2020 Action             RUN: 2020 PM Peak

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: 10.-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
 ------*-------------------------------------------------------------
------------------------------------------------------
 10. *  1.1  1.1  1.1  1.2  1.2  1.4  1.5  2.2  3.2  2.5  2.8  3.0  2.9
2.9  2.7  2.6  2.6  4.5  4.9  5.1
 20. *  .5  .5  .5  .5  .6  .8  1.0  1.3  2.8  1.7  1.8  1.9  2.0  2.1
1.9  3.5  3.6  5.4  5.5  5.6
 30. *  .5  .6  .5  .5  .4  .5  .6  .7  2.5  1.4  1.5  1.7  1.7  1.7  1.5
3.8  3.8  5.4  5.4  5.2
 40. *  .4  .4  .4  .5  .5  .6  .7  .8  2.4  1.0  1.3  1.3  1.4  1.4  1.4
3.5  3.7  4.5  4.5  4.4
 50. *  .3  .3  .3  .4  .4  .4  .5  .5  2.3  .9  1.1  1.3  1.4  1.4  1.3
3.3  3.4  4.2  4.1  4.0
 60. *  .5  .5  .5  .4  .4  .4  .5  .5  2.4  .8  .9  1.0  1.0  1.2  1.0
3.0  3.0  4.0  3.9  3.6
 70. *  .4  .4  .4  .5  .5  .4  .4  .5  2.3  .7  .9  1.1  1.1  1.2  1.2
3.1  3.0  3.6  3.5  3.3
 80. *  .3  .3  .3  .3  .3  .4  .4  .5  2.3  .6  .8  .9  .9  1.1  1.0  3.0
3.0  3.2  3.2  3.1
 90. *  .2  .2  .2  .2  .2  .3  .3  .3  2.2  .6  .8  .9  .9  1.0  .9  3.4
3.2  2.9  2.7  2.5
 100. *  .1  .1  .1  .1  .1  .1  .1  .1  2.0  .4  .6  .7  .7  .8  .8  3.4
3.4  2.6  2.5  2.5
 110. *  .1  .1  .1  .1  .1  .1  .1  .1  1.6  .4  .6  .7  .7  .8  .7  3.0
3.0  2.7  2.5  2.4
 120. *  .1  .1  .1  .1  .1  .1  .1  .2  1.0  .4  .6  .7  .8  .8  .7  2.5
2.6  2.8  2.7  2.6
 130. *  .1  .1  .1  .1  .1  .1  .1  .2  .7  .4  .6  .7  .8  .8  .8  2.5
2.5  3.0  2.8  2.7
 140. *  .1  .1  .1  .1  .1  .0  .2  .2  .6  .5  .7  .8  .8  .9  .8  2.4
2.5  3.2  3.0  3.0
 150. *  .1  .1  .1  .1  .1  .1  .2  .2  .5  .5  .8  .9  1.0  1.0  .9  2.6
2.7  3.3  3.3  3.2
 160. *  .1  .1  .1  .1  .1  .1  .2  .3  .5  .7  .9  1.1  1.2  1.1  1.0
2.8  2.8  3.7  3.8  3.7
 170. *  .1  .1  .1  .1  .2  .2  .3  .6  .7  1.0  1.2  1.3  1.3  1.3  1.1
2.8  2.9  4.2  4.3  4.3
 180. *  .2  .2  .2  .2  .4  .5  .7  1.1  1.1  1.5  1.6  1.7  1.7  1.5
1.4  2.4  2.5  4.2  4.4  4.4
 190. *  .5  .5  .5  .7  .9  1.1  1.3  1.8  2.0  2.1  2.2  2.2  2.1  1.9
1.7  1.5  1.5  3.5  4.0  4.2
```

200. *	1.0	1.0	1.1	1.3	1.5	1.7	2.1	2.4	2.9	2.6	2.6	2.4	2.4	2.1	1.9	.9	.9	2.4	2.8	3.2
210. *	1.5	1.5	1.5	1.7	1.9	2.2	2.3	2.5	3.5	2.7	2.6	2.5	2.4	2.5	2.4	.5	.4	1.1	1.5	1.9
220. *	1.8	1.8	1.8	2.1	2.2	2.3	2.6	2.7	3.6	2.8	2.5	2.6	2.6	2.3	2.5	.4	.4	.7	1.0	1.2
230. *	2.0	1.9	2.0	2.1	2.4	2.4	2.5	2.7	3.5	2.7	2.6	2.4	2.4	2.4	2.6	.4	.4	.4	.6	.8
240. *	1.9	1.9	1.9	2.1	2.3	2.4	2.5	2.6	3.6	2.5	2.5	2.4	2.3	2.3	2.5	.2	.2	.4	.5	.6
250. *	1.9	1.9	1.9	2.1	2.2	2.3	2.4	2.5	3.5	2.3	2.3	2.2	2.1	2.2	2.2	.2	.2	.3	.3	.4
260. *	1.8	1.7	1.8	1.9	2.0	2.1	2.2	2.4	3.2	2.3	2.3	2.3	2.2	2.2	2.3	.1	.1	.2	.3	.4
270. *	1.9	1.9	1.9	2.1	2.1	2.2	2.3	2.5	3.4	2.3	2.3	2.2	2.2	2.1	2.3	.1	.1	.2	.2	.3
280. *	1.9	1.9	1.9	2.0	2.2	2.2	2.4	2.5	3.5	2.3	2.3	2.3	2.2	2.1	2.3	.1	.1	.2	.2	.2
290. *	1.9	1.9	1.9	2.0	2.1	2.2	2.3	2.5	4.4	2.3	2.3	2.1	2.2	2.1	2.3	.4	.5	.2	.2	.3
300. *	1.9	1.9	1.9	2.2	2.2	2.3	2.4	2.5	4.9	2.5	2.4	2.3	2.2	2.3	2.4	1.0	1.0	.2	.2	.4
310. *	2.7	2.5	2.7	2.8	2.8	2.9	3.0	3.0	4.9	2.9	2.8	2.7	2.7	2.9	2.9	1.5	1.5	.5	.5	.6
320. *	2.8	2.8	2.9	3.1	3.1	3.4	3.5	3.3	3.9	3.4	3.3	3.2	3.1	3.2	3.2	1.9	1.9	.9	1.0	1.0
330. *	2.9	2.9	3.0	3.3	3.5	3.6	3.9	3.9	3.7	3.6	3.4	3.4	3.3	3.3	3.3	1.9	2.0	1.0	1.1	1.3
340. *	2.9	2.9	2.9	3.2	3.4	3.6	3.7	4.1	3.8	4.4	4.3	4.0	4.2	3.9	3.7	2.0	1.9	1.3	1.4	1.6
350. *	2.5	2.2	2.6	3.0	3.2	3.4	3.6	4.0	4.0	4.3	4.4	4.6	4.5	4.5	4.3	1.7	1.8	1.6	2.0	2.3
360. *	1.9	1.8	1.9	1.9	2.1	2.4	2.6	3.1	3.6	3.6	3.9	3.9	4.1	4.2	4.0	1.9	1.9	2.7	3.3	3.5
MAX *	2.9	2.9	3.0	3.3	3.5	3.6	3.9	4.1	4.9	4.4	4.4	4.6	4.5	4.5	4.3	3.8	3.8	5.4	5.5	5.6
DEGR. *	330	330	330	330	330	330	330	340	300	340	350	350	350	350	350	30	30	20	20	20

JOB: I25/US 24-2020 Action RUN: 2020 PM Peak

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: 10.-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
10.	5.2	5.3	5.3	4.9	4.4	3.9	3.3	2.9	2.5	2.2	2.6	1.8	2.9	3.2	2.1	3.4	3.4	4.0	2.9	4.1
20.	5.7	5.9	5.6	5.5	5.3	4.9	4.5	4.3	3.9	3.3	3.4	2.3	3.8	4.1	2.6	4.2	4.5	4.6	3.5	4.8
30.	5.3	5.2	5.2	5.3	5.4	5.1	5.1	4.6	4.4	3.8	3.8	2.7	4.0	4.2	3.1	4.3	4.3	4.4	4.0	4.2
40.	4.3	4.2	4.3	4.6	4.6	4.7	4.7	4.4	4.0	4.1	3.6	2.6	4.0	3.8	2.7	3.5	3.6	3.5	3.4	3.1
50.	3.9	3.7	3.9	4.1	4.3	4.4	4.4	4.3	4.0	3.8	3.4	2.4	3.4	3.2	2.7	3.0	2.9	2.8	3.0	2.8
60.	3.5	3.3	3.6	3.8	3.9	4.0	4.2	4.2	4.0	3.7	3.0	2.2	3.1	3.1	2.5	2.7	2.7	2.6	2.7	2.8
70.	3.2	3.0	3.4	3.5	3.8	3.8	4.0	4.1	3.8	3.6	3.1	2.1	3.1	3.0	2.3	2.8	3.0	2.8	2.5	2.9
80.	2.9	2.8	3.0	3.4	3.4	3.5	3.9	3.8	3.6	3.4	3.0	2.0	3.1	2.9	2.2	3.1	3.2	3.0	2.4	3.2
90.	2.5	2.3	2.5	2.9	3.0	3.0	3.3	3.3	3.3	3.1	3.3	2.0	3.4	3.2	2.3	3.2	3.4	3.1	2.6	3.2
100.	2.3	2.2	2.4	2.5	2.7	2.9	3.2	3.2	3.1	2.9	3.4	2.5	3.4	3.2	3.0	3.3	3.2	2.9	3.4	2.9
110.	2.2	2.2	2.3	2.6	2.6	2.7	3.0	3.0	2.8	2.6	3.0	3.6	3.1	2.7	4.0	2.7	2.6	2.4	4.5	2.3
120.	2.4	2.3	2.4	2.7	2.7	2.8	3.0	3.1	3.0	2.8	2.6	4.5	2.6	2.7	4.6	2.6	2.7	2.5	5.1	2.5
130.	2.5	2.5	2.6	2.9	3.0	3.1	3.2	3.3	3.2	2.9	2.5	4.8	2.7	2.8	4.9	3.0	2.8	2.6	5.0	2.5
140.	2.8	2.7	2.9	3.1	3.3	3.3	3.5	3.4	3.2	3.0	2.5	4.9	2.7	2.7	5.1	2.9	3.0	2.7	5.0	2.7
150.	3.1	2.9	3.2	3.3	3.4	3.5	3.6	3.5	3.3	3.0	2.6	4.9	2.8	3.1	5.1	3.5	3.4	3.1	5.6	3.3
160.	3.5	3.4	3.6	3.9	3.8	3.8	3.8	3.7	3.4	3.1	2.8	4.6	3.0	3.2	4.8	3.8	3.9	3.6	5.1	3.7
170.	4.3	4.2	4.3	4.2	4.2	4.0	4.0	3.8	3.4	3.1	2.8	4.3	3.1	3.3	4.6	3.9	4.1	4.0	5.2	4.2
180.	4.4	4.5	4.5	4.4	4.3	4.0	3.7	3.4	2.9	2.6	2.3	3.5	2.8	2.9	4.1	3.7	4.0	4.3	4.8	4.7
190.	4.4	4.3	4.3	4.0	3.7	3.1	2.6	2.1	1.7	1.7	1.5	2.9	1.7	1.9	3.2	2.7	3.1	3.5	4.0	4.2

```
 200. *  3.4  3.5  3.3  2.9  2.4  1.8  1.4  1.1  .9  .8  .9  2.5  .8  .8
2.5  1.3  1.7  2.0  2.7  2.9
 210. *  2.3  2.5  2.1  1.6  1.1  .7  .6  .6  .5  .5  .5  2.4  .6  .4  2.1
.6  .8  1.0  2.1  1.5
 220. *  1.4  1.6  1.4  1.0  .7  .5  .4  .2  .3  .3  .4  2.6  .4  .3  2.1
.3  .4  .4  1.9  .8
 230. *  .9  1.1  .8  .6  .4  .3  .3  .2  .3  .3  .3  2.8  .4  .3  2.5  .2
.3  .3  1.9  .5
 240. *  .7  .8  .6  .5  .4  .3  .3  .2  .2  .3  .2  3.0  .4  .4  2.7  .2
.2  .2  2.2  .4
 250. *  .6  .7  .5  .4  .3  .2  .2  .2  .2  .3  .2  3.1  .3  .3  3.0  .3
.2  .2  2.5  .3
 260. *  .4  .5  .4  .3  .2  .2  .2  .2  .2  .3  .1  3.1  .3  .3  3.3  .2
.3  .2  3.0  .2
 270. *  .4  .5  .3  .2  .2  .2  .2  .2  .2  .3  .1  3.3  .2  .3  3.6  .2
.2  .2  3.6  .2
 280. *  .3  .4  .3  .2  .2  .2  .2  .2  .2  .3  .1  3.6  .2  .3  3.5  .2
.2  .2  4.0  .2
 290. *  .4  .4  .3  .2  .2  .2  .2  .2  .2  .3  .4  3.6  .5  .6  3.7  .5
.4  .5  4.2  .5
 300. *  .5  .6  .5  .4  .3  .3  .3  .3  .3  .4  1.0  3.2  1.0  .9  3.2
.9  .9  .9  3.6  .9
 310. *  .7  .9  .8  .5  .5  .4  .4  .4  .4  .5  1.5  2.2  1.6  1.4  2.3
1.4  1.4  1.7  2.6  1.4
 320. *  1.1  1.2  1.1  .9  .8  .8  .7  .7  .7  .8  1.9  1.4  1.9  1.8
1.4  1.8  1.8  1.9  1.7  1.8
 330. *  1.6  1.8  1.5  1.3  1.0  .9  .9  .8  .8  .9  1.9  .9  2.1  1.9
.9  1.8  1.8  1.9  1.2  1.7
 340. *  1.8  1.9  1.6  1.3  1.2  1.1  1.1  1.0  1.0  1.1  2.0  .8  1.9
1.8  .9  1.7  1.7  1.6  1.2  1.7
 350. *  2.6  2.9  2.4  2.0  1.7  1.4  1.0  .9  1.0  1.0  1.7  .9  1.8
1.7  .9  1.8  1.8  1.9  1.6  2.1
 360. *  3.9  4.1  3.8  3.2  2.8  2.1  1.8  1.6  1.5  1.5  1.9  1.1  2.1
2.2  1.3  2.4  2.5  2.7  1.9  3.2
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  5.7  5.9  5.6  5.5  5.4  5.1  5.1  4.6  4.4  4.1  3.8  4.9  4.0
4.2  5.1  4.3  4.5  4.6  5.6  4.8
 DEGR. *  20  20  20  20  30  30  30  30  30  40  30  140  30  30  140  30
20  20  150  20
```

JOB: I25/US 24-2020 Action RUN: 2020 PM Peak

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: 10.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
10. *	4.1	4.0	3.9	3.6	3.6	1.9	1.8	1.7	1.7	1.7	1.7	1.0	2.2	2.3	2.3	2.5	2.5	3.1	2.9	2.6
20. *	4.7	4.5	4.7	4.7	4.4	1.3	1.3	1.3	1.3	1.3	1.3	.5	1.3	1.5	1.7	1.8	1.9	2.2	2.0	2.0
30. *	4.4	4.3	4.4	4.7	4.6	1.2	1.2	1.1	1.0	1.1	1.2	.2	1.3	1.2	1.2	1.2	1.5	1.6	1.6	1.6
40. *	3.6	3.5	3.8	4.1	4.0	.9	.9	1.0	1.0	1.0	.9	.1	1.1	1.3	1.3	1.3	1.3	1.4	1.5	1.6
50. *	2.8	2.8	2.9	3.1	3.5	.9	.9	.8	.8	.8	.9	.1	1.0	1.0	1.1	1.1	1.2	1.4	1.3	1.5
60. *	2.6	2.7	2.7	3.0	3.1	.9	.9	.8	.8	.8	.8	.2	.9	1.0	1.0	1.0	1.1	1.2	1.3	1.2
70. *	2.8	2.6	2.7	3.1	3.2	.8	.8	.8	.8	.7	.7	.2	.8	.9	.8	.8	.9	1.1	1.1	1.1
80. *	2.9	3.0	3.0	3.0	3.1	1.0	.9	.9	.9	.9	.9	.2	.9	.9	1.0	1.0	1.0	1.1	1.1	1.2
90. *	3.1	3.2	3.1	3.3	3.4	.8	.8	.7	.7	.7	.7	.3	.7	.7	.8	.8	.8	.9	.9	.8
100. *	2.8	2.9	3.1	3.3	3.5	.5	.5	.4	.4	.4	.4	.8	.4	.4	.4	.4	.6	.6	.8	.8
110. *	2.4	2.5	2.5	2.8	3.0	.3	.3	.3	.3	.3	.3	1.6	.3	.2	.2	.3	.3	.4	.3	.3
120. *	2.4	2.3	2.2	2.4	2.6	.2	.1	.1	.1	.1	.1	2.3	.1	.1	.1	.2	.2	.3	.2	.3
130. *	2.3	2.3	2.4	2.4	2.6	.1	.1	.1	.1	.1	.1	2.6	.1	.1	.1	.2	.3	.4	.3	.2
140. *	2.7	2.6	2.4	2.5	2.5	.1	.1	.1	.1	.1	.1	2.8	.1	.1	.1	.2	.4	.5	.4	.3
150. *	3.1	3.1	3.0	2.9	2.9	.1	.1	.1	.1	.1	.1	2.8	.0	.0	.1	.3	.5	.8	.6	.5
160. *	3.6	3.5	3.4	3.2	3.3	.1	.1	.0	.0	.0	.0	2.7	.2	.3	.5	.7	.9	1.2	1.0	.9
170. *	4.1	3.9	3.7	3.6	3.6	.1	.1	.1	.1	.1	.1	2.8	.5	.6	.9	1.0	1.2	1.4	1.4	1.4
180. *	4.5	4.2	3.9	3.5	3.5	.2	.2	.2	.2	.3	.4	3.1	.9	1.3	1.4	1.5	1.8	1.9	1.9	1.9
190. *	3.8	3.5	3.1	2.7	2.6	.6	.6	.6	.6	.7	.8	3.8	1.6	1.7	2.0	2.2	2.3	2.6	2.7	2.6

200. * 2.5 2.0 1.7 1.5 1.4 1.3 1.3 1.3 1.3 1.3 1.4 4.7 2.1
2.2 2.4 2.6 2.8 2.8 3.2 3.3
210. * 1.3 1.0 .8 .6 .6 1.8 1.7 1.8 1.7 1.8 1.8 5.0 2.6 2.7
2.7 2.9 3.0 3.4 3.7 3.9
220. * .6 .4 .3 .4 .4 1.8 1.9 1.9 1.9 1.9 2.0 4.6 2.6 2.6
2.8 2.8 3.2 3.4 3.8 3.9
230. * .4 .3 .2 .4 .4 2.0 2.0 2.1 2.0 2.1 2.1 4.0 2.5 2.6
2.7 2.9 3.0 3.2 3.8 4.1
240. * .3 .2 .3 .4 .3 1.8 1.8 1.7 1.8 2.0 2.0 3.7 2.3 2.4
2.5 2.5 2.9 3.2 3.8 4.2
250. * .2 .3 .3 .3 .3 1.7 1.7 1.8 1.8 1.8 1.8 3.4 2.3 2.5
2.6 2.7 3.0 3.5 4.2 4.3
260. * .2 .2 .2 .3 .3 1.8 1.8 1.8 1.8 1.8 1.9 3.0 2.4 2.5
2.6 2.8 3.1 3.6 4.0 4.0
270. * .2 .2 .2 .3 .3 2.0 2.0 1.8 1.9 2.0 2.0 3.2 2.4 2.6
2.8 3.0 3.3 3.7 4.1 3.9
280. * .2 .2 .2 .3 .3 2.1 2.1 2.0 2.1 2.2 2.3 3.6 2.8 2.9
3.0 3.2 3.7 4.1 4.1 4.1
290. * .5 .5 .6 .6 .7 2.4 2.5 2.6 2.4 2.5 2.5 3.7 3.3 3.3
3.5 3.7 4.1 4.4 4.5 4.5
300. * .9 1.0 1.1 1.4 1.6 3.3 3.2 3.0 3.0 3.1 3.2 2.8 3.7
4.1 4.3 4.5 5.0 5.3 5.6 5.4
310. * 1.6 1.7 1.7 2.1 2.3 3.5 3.6 3.5 3.5 3.5 3.8 2.0 4.6
4.9 5.1 5.2 5.7 6.3 6.1 6.2
320. * 2.0 2.0 2.1 2.4 2.5 3.0 3.1 3.1 3.0 3.0 3.1 1.8 4.2
4.6 5.0 5.6 6.1 6.6 6.5 6.1
330. * 1.8 2.0 2.0 2.3 2.4 3.0 2.9 2.7 2.8 2.8 2.9 2.2 4.0
4.2 4.6 5.2 5.8 6.7 6.1 5.7
340. * 1.8 1.8 1.8 1.9 2.1 3.1 3.0 3.0 3.0 2.8 2.9 2.3 3.5
3.6 3.9 4.4 5.0 6.0 5.5 5.0
350. * 2.0 1.9 2.0 2.1 2.1 3.0 3.0 2.8 2.9 2.9 2.9 2.3 3.3
3.5 3.6 4.0 4.4 5.4 4.8 4.3
360. * 2.8 2.7 2.8 2.6 2.5 2.4 2.4 2.3 2.3 2.4 2.4 1.9 2.9
3.0 3.2 3.3 3.5 3.9 3.7 3.5
------*---

MAX * 4.7 4.5 4.7 4.7 4.6 3.5 3.6 3.5 3.5 3.5 3.8 5.0 4.6
4.9 5.1 5.6 6.1 6.7 6.5 6.2
DEGR. * 20 20 20 20 30 310 310 310 310 310 310 210 310 310
310 320 320 330 320 310

THE HIGHEST CONCENTRATION OF 6.70 PPM OCCURRED AT RECEPTOR REC58.

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                                                                PAGE 8
JOB: I25/US 24-2020 Action              RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:42:34


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 # *  330  330  330  330  330  330  330  340  300  340  350  350
350  350  350  30  30  20  20  20
  -------*-------------------------------------------------------------------
--------------------------------------------------------
    1 *  .1  .1  .1  .1  .1  .1  .2  .1  .0  .1  .0  .0  .0  .1  .1  .0
.0  .0  .0  .0
    2 *  .5  .5  .5  .5  .6  .6  .6  .6  .7  .7  .5  .6  .7  .7  .8  .0
.0  .4  .4  .5
    3 *  .1  .1  .1  .1  .1  .1  .1  .2  .0  .2  .3  .3  .3  .3  .3  .4
.4  .3  .3  .3
    4 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1  .3
.3  .2  .2  .2
    5 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1  .2
.2  .1  .1  .1
    6 *  .0  .0  .0  .0  .0  .0  .0  .1  .0  .1  .3  .3  .3  .3  .2  .4
.4  .3  .3  .3
    7 *  .2  .2  .2  .2  .2  .2  .2  .3  .1  .3  .3  .4  .4  .4  .4  .9
.9  .4  .4  .4
    8 *  .3  .3  .3  .3  .3  .3  .3  .3  .5  .3  .2  .2  .2  .2  .3  .2
.2  .5  .5  .5
    9 *  .1  .1  .1  .1  .1  .2  .2  .1  .0  .1  .0  .0  .0  .0  .0  .0
.0  2.5  2.6  2.6
   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  .0  .0  .0
.0  .0  .0  .0
   13 *  .1  .1  .1  .1  .1  .1  .1  .1  .2  .1  .1  .1  .1  .1  .1  .2
.2  .1  .1  .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 *  .1  .1  .1  .1  .1  .1  .1  .1  .2  .1  .2  .2  .2  .2  .2  .1
.1  .1  .1  .1
   17 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   18 *  .2  .2  .2  .4  .5  .6  .7  .7  .0  .7  .6  .5  .4  .2  .0  .0
.0  .0  .0  .0
   19 *  .3  .3  .4  .4  .4  .4  .4  .5  .2  .6  .6  .7  .6  .6  .5  .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 *	.3	.3	.3	.4	.4	.4	.4	.5	.5	.5	.5	.6	.6	.6	.6	.0	.0	.1	.1	.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	.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	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
28 *	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.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	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37 *	.1	.1	.1	.1	.1	.1	.2	.1	.4	.1	.0	.0	.0	.1	.1	.4	.4	.1	.1	.1
38 *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
39 *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.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 *	.1	.1	.1	.1	.1	.1	.1	.1	.8	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.1
42 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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
44 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45 *	.1	.1	.1	.1	.1	.0	.0	.1	.2	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.1

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                                                                 PAGE 9
JOB: I25/US 24-2020 Action                 RUN: 2020 PM Peak

     *  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 # *  330  330  330  330  330  330  330  340  300  340  350  350
350  350  350  30  30  20  20  20
  -------*------------------------------------------------------------
--------------------------------------------------------
   46 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .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 *  .2  .2  .2  .2  .2  .2  .2  .1  .4  .2  .1  .1  .1  .1  .1  .5
.5  .1  .1  .1
   50 *  .1  .1  .1  .1  .1  .1  .1  .0  .2  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   51 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   52 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
```

JOB: I25/US 24-2020 Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:42:34

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 # *	20	20	20	20	30	30	30	30	30	40	30	140	30	30	140	30	20	20	150	20
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.2	.0
2 *	.5	.5	.5	.4	.6	.6	.5	.4	.4	.6	.0	.6	.0	.1	.7	.1	.1	.1	.8	.1
3 *	.3	.4	.3	.3	.3	.3	.3	.3	.4	.2	.4	.0	.5	.5	.0	.6	.4	.4	.0	.5
4 *	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.3	.0	.3	.3	.0	.3	.3	.3	.0	.3
5 *	.1	.1	.1	.2	.1	.1	.1	.1	.1	.0	.2	.0	.2	.2	.0	.1	.2	.2	.0	.2
6 *	.3	.3	.3	.3	.1	.1	.2	.2	.2	.0	.4	.0	.4	.3	.0	.3	.5	.5	.0	.5
7 *	.4	.4	.4	.4	.2	.3	.3	.3	.4	.2	.9	.2	.9	.9	.2	.8	.9	.9	.1	.9
8 *	.5	.6	.6	.6	.5	.5	.6	.6	.6	.5	.2	.6	.3	.5	.6	.8	.7	.7	.8	.9
9 *	2.6	2.6	2.5	2.4	2.4	2.1	2.0	1.7	1.3	1.4	.0	.1	.0	.0	.0	.0	.0	.0	.1	.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	.0	.0	.0	.0	.0	.0	.0
13 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.2	.2	.1	.2	.1	.2	.1	.2
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 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
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	.1	.0
19 *	.1	.1	.0	.0	.1	.1	.1	.0	.0	.1	.0	.2	.0	.0	.2	.0	.0	.0	.3	.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	.1	.1	.1	.2	.1	.1	.1	.1	.2	.0	.3	.0	.0	.3	.0	.0	.0	.5	.0
23 *	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.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	.1	.1	.0	.1
28 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	.0	.0	.0	.1	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.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	.1	.2	.0	.1	.1	.1	.0	.1
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	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.4	.4	.4	.4	.4	.3	.4	.4	.5	.3
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 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.2	.0	.0	.2	.0	.0	.0	.2	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
44 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.0	.0	.2	.1	.0	.0	.1	.1

```
                                                                       PAGE 11
JOB: I25/US 24-2020 Action              RUN: 2020 PM Peak

     *  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 # *  20  20  20  20  30  30  30  30  30  40  30  140  30  30  140
30  20  20  150  20
  -------*------------------------------------------------------------
--------------------------------------------------------
   46 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .1  .0  .0  .1  .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 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .5  1.7  .5  .4  1.7  .4
.4  .4  1.6  .4
   50 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   51 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   52 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
```

JOB: I25/US 24-2020 Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:42:34

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
LINK # *	20	20	20	20	30	310	310	310	310	310	310	210	310	310	310	320	320	330	320	310
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.1	.1	.0	.0	.1	.6	.6	.6	.6	.6	.6	.4	.7	.7	.7	.8	.8	.8	.8	.7
3 *	.5	.4	.4	.4	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
4 *	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5 *	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.5	.5	.5	.6	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7 *	.9	.9	1.0	1.0	1.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.2	.2	.4	.2	.1
8 *	.8	.7	.6	.4	.5	.4	.4	.4	.4	.4	.4	.0	.5	.5	.5	.5	.5	.4	.5	.6
9 *	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.7	.1	.1	.1	.0	.0	.0	.0	.1
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	.1	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.2	.2	.2	.2	.2	.3	.3	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.3
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 *	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2
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	.3	.3	.3	.3	.3	.4	.3	.6	.7	.8	.9	1.0	1.0	1.0	.9

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	.5	.5	.6	.6	.6	.7	.4	1.1	1.3	1.4	1.6	2.0	2.5	2.4	2.0
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 *	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28 *	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
29 *	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30 *	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.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 *	.1	.1	.1	.2	.2	.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	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37 *	.3	.4	.4	.5	.5	.2	.2	.2	.2	.2	.3	.0	.3	.3	.3	.3	.3	.2	.3	.3
38 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.1
39 *	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.0	.1	.1
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	.2	.2	.1	.1	.1	.1	.3	.1	.1	.1	.1	.1	.2	.1	.1
42 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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
44 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45 *	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.6	.0	.0	.0	.1	.1	.1	.1	.0

* CO/LINK (PPM)
* ANGLE (DEGREES)

LINK #	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
	20	20	20	20	30	310	310	310	310	310	310	210	310	310	310	320	320	330	320	310
46	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	.0	.0	.0	.0	.0	.0	.0	.0
47	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.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	.4	.4	.5	.5	.5	.2	.2	.2	.2	.2	.2	.0	.2	.2	.2	.3	.3	.3	.3	.3
50	.0	.0	.0	.0	.0	.2	.2	.2	.2	.2	.2	.0	.2	.2	.2	.2	.2	.1	.2	.2
51	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.0	.0	.0	.0	.1
52	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.0	.1	.1

5. Proposed Action for 2030 PM Peak Period

Location:	US 24 at Interstate 25 ramps
Configuration:	Improved interchange ramp intersections
1-hour Result:	Worst case average of 6.8 parts per million as indicated on Page 7 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	3.88 ppm
Assumed Background:	1.65 ppm
Total Concentration:	**5.53 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: I25/US 24-2030 Action              RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 15:37:42

The MODE flag has been set to C for calculating CO averages.

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. I-25 Main NB Appr  *   99.4   -63.6   -29.8  -1000.0 *   945.  188.
FL  4617. 16.0 18.0 68.0
    2. I-25 Main NB Appr  *  133.8   196.4   99.4   -63.6 *   262.  188.
BR  4617. 16.0 27.0 68.0
    3. I-25 Main NB Dptr  *  185.2   429.2   133.8   196.4 *   238.  192.
BR  4617. 16.0 27.0 68.0
    4. I-25 Main NB Dptr  *  246.9   709.4   185.2   429.2 *   287.  192.
FL  4617. 16.0 18.0 68.0
    5. I-25 Main NB Dptr  *  311.0  1000.0   246.9   709.4 *   298.  192.
FL  5211. 16.0 18.0 68.0
    6. I-25 Main SB Appr  *  119.7   449.9   232.7  1000.0 *   562.  12.
FL  5064. 16.0 18.0 68.0
    7. I-25 Main SB Appr  *   65.7   187.1   119.7   449.9 *   268.  12.
BR  5064. 16.0 27.0 68.0
    8. I-25 Main SB Dptr  *   34.9   37.3   65.7   187.1 *   153.  12. BR
5064. 16.0 27.0 68.0
    9. I-25 Main SB Dptr  *  -101.2  -625.6   34.9   37.3 *   677.  12. FL
5064. 16.0 18.0 68.0
   10. I-25 Fly SB/NB Appr *  -589.2   419.1  -779.4   616.0 *   274.
316. FL  1461. 16.0 18.0 44.0
   11. I-25 Fly SB Appr  *  -157.9  -291.7  -589.2   419.1 *   831.  329.
FL  868. 16.0 18.0 32.0
   12. I-25 Fly SB Appr  *  -172.6  -1000.0  -157.9  -291.7 *   708.   1.
FL  868. 16.0 18.0 32.0
   13. I-25 Fly NB Appr  *  448.7  -103.0  -589.2   419.1 *  1162.  297.
FL  593. 15.0 18.0 32.0
   14. I-25 Fly NB Appr  *  460.4  -509.8   448.7  -103.0 *   407.  358.
FL  593. 15.0 18.0 32.0
   15. I-25 Fly NB Appr  *   97.7  -270.5   460.4  -509.8 *   435.  123.
FL  593. 15.0 18.0 32.0
   16. I-25 Fly NB Appr  *  270.6   714.6   97.7  -270.5 *  1000.  190. FL
593. 15.0 18.0 32.0
```

17. Off Ramp NB Appr * 130.2 -704.5   25.8 -597.8 *   149. 316. AG
1566. 14.8 .0 44.0
18. Off Ramp NB Appr * 211.7 -135.1   130.2 -704.5 *   575. 188.
AG 1566. 14.8 .0 56.0
19. Off Ramp NB Left App* 115.8   100.0   211.7 -135.1 *   254. 158.
AG 1490. 14.8 .0 56.0
20. Off Ramp NB R Appr * 303.9   16.7   211.7 -135.1 *   178. 211.
AG   76. 14.8 .0 32.0
21. Off Ramp NB Right Q * 303.9   16.7   299.6   9.6 *   8. 211. AG
52. 100.0 .0 12.0 .06 .4
22. Off Ramp NB Left Q * 115.8   100.0   196.0   -96.7 *   212. 158.
AG 484. 100.0 .0 36.0 .91 10.8
23. On Ramp NB Left Dptr* 306.3   339.4   116.6   149.8 *   268. 225.
AG 621. 14.8 .0 44.0
24. On Ramp NB Right Dpt* 306.3   339.4   303.2   127.5 *   212. 181.
AG 328. 14.8 .0 32.0
25. On Ramp NB Dptr   * 332.1   619.8   306.3   339.4 *   282. 185.
AG 948. 14.8 .0 44.0
26. On Ramp NB Dptr   * 371.3 1000.0   332.1   619.8 *   382. 186.
AG 948. 14.8 .0 32.0
27. Off Ramp SB Appr *   55.2   605.0   161.0 1000.0 *   409. 15. AG
1809. 14.8 .0 44.0
28. Off Ramp SB Appr * -25.8   354.3   55.2   605.0 *   263. 18. AG
1809. 14.8 .0 56.0
29. Off Ramp SB Left App*   60.3   194.6   -25.8   354.3 *   181. 332.
AG 456. 14.8 .0 32.0
30. Off Ramp SB Left Q *   60.3   194.6   -21.3   345.9 *   172. 332.
AG 161. 100.0 .0 12.0 .84 8.7
31. Off Ramp SB R Appr * -93.2   295.0   -25.8   354.3 *   90. 49. AG
1353. 14.8 .0 56.0
32. Off Ramp SB Right Q * -93.2   295.0   -56.2   327.6 *   49. 49.
AG 156. 100.0 .0 36.0 .37 2.5
33. On Ramp SB Right Dpt* -84.0   41.7   76.6   140.5 *   189. 58. AG
394. 14.8 .0 32.0
34. On Ramp SB Left Dptr* -84.0   41.7 -103.5   173.2 *   133. 352.
AG 178. 14.8 .0 32.0
35. On Ramp SB Dptr   * -141.7 -626.4   -84.0   41.7 *   671.   5. AG
575. 14.8 .0 32.0
36. US 24 EB Appr   * -398.1   355.2 -813.0   447.8 *   425. 283.
AG 1756. 14.8 .0 56.0
37. US 24 EB Appr   *   76.6   140.5 -398.1   355.2 *   521. 294. AG
1756. 14.8 .0 80.0
38. US 24 EB Thru Q   * -70.4   199.0 -169.8   246.4 *   110. 295.
AG 281. 100.0 .0 24.0 .56 5.6
39. US 24 EB Left Q   * -62.5   210.7 -160.3   259.9 *   109. 297.
AG 338. 100.0 .0 24.0 .62 5.6
40. US 24 EB Right Q * -98.9   184.3 -141.8   180.5 *   43. 265. AG
52. 100.0 .0 12.0 .32 2.2
41. US 24 EB Dptr   * 304.7   21.8   76.6   140.5 *   257. 297. AG
1072. 14.8 .0 44.0
42. US 24 EB Dptr   * 1000.0 -158.3   304.7   21.8 *   718. 285. AG
1148. 14.8 .0 56.0
43. US 24 WB Appr   * 643.3   -27.7 1000.0 -103.0 *   365. 102. AG
1657. 14.8 .0 44.0
44. US 24 WB Appr   * 434.2   45.6   643.3   -27.7 *   222. 109. AG
1657. 14.8 .0 56.0

```
JOB: I25/US 24-2030 Action              RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 15:37:42

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. US 24 WB Appr    *   88.4   165.9   434.2   45.6 *   366.  109. AG
1657. 14.8  .0 80.0
   46. US 24 WB Thru Q   *  222.6   119.2   598.3   -11.5 *   398.  109.
AG  570. 100.0  .0 36.0 1.04 20.2
   47. US 24 WB Left Q   *  220.3   107.1   283.5    3.9 *   121.  149. AG
219. 100.0  .0 12.0 .93  6.1
   48. US 24 WB Right Q  *  306.9   128.2   331.5   102.1 *   36.  137. AG
52. 100.0  .0 12.0 .27  1.8
   49. US 24 WB Dptr    *  -148.9   305.7   88.4   165.9 *   275.  121. AG
2641. 14.8  .0 56.0
   50. US 24 WB Dptr    *  -343.6   419.3  -148.9   305.7 *   225.  120.
AG  3994. 14.8  .0 68.0
   51. US 24 Main WB Dptr *  -750.7   551.9  -343.6   403.1 *   433.  110.
AG  1731. 14.8  .0 44.0
   52. US 24 Ramp WB Dptr *  -705.1   715.1  -328.9   433.9 *   470.  127.
AG  2124. 14.8  .0 56.0
```

JOB: I25/US 24-2030 Action RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 15:37:42

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
21. Off Ramp NB Right Q	*	100	20	2.0	76	1600	97.00	1	3
22. Off Ramp NB Left Q	*	100	62	2.0	1490	1600	97.00	1	3
30. Off Ramp SB Left Q	*	100	62	2.0	456	1600	97.00	1	3
32. Off Ramp SB Right Q	*	100	20	2.0	1353	1600	97.00	1	3
38. US 24 EB Thru Q	*	100	54	2.0	746	1600	97.00	1	3
39. US 24 EB Left Q	*	100	65	2.0	616	1600	97.00	1	3
40. US 24 EB Right Q	*	100	20	2.0	394	1600	97.00	1	3
46. US 24 WB Thru Q	*	100	73	2.0	1151	1600	97.00	1	3
47. US 24 WB Left Q	*	100	84	2.0	178	1600	97.00	1	3
48. US 24 WB Right Q	*	100	20	2.0	328	1600	97.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. Rec 1	*	274.6	-236.4	6.0	*
2. Rec 2	*	277.4	-231.0	6.0	*
3. Rec 3	*	270.0	-226.8	6.0	*
4. Rec 4	*	254.9	-216.1	6.0	*
5. Rec 5	*	246.1	-211.8	6.0	*
6. Rec 6	*	238.8	-207.0	6.0	*
7. Rec 7	*	231.8	-201.8	6.0	*
8. Rec 8	*	224.2	-197.6	6.0	*
9. Rec 9	*	217.6	44.6	6.0	*
10. Rec 10	*	210.8	-188.4	6.0	*
11. Rec 11	*	203.1	-183.2	6.0	*
12. Rec 12	*	195.4	-178.5	6.0	*
13. Rec 13	*	188.9	-174.7	6.0	*
14. Rec 14	*	181.4	-170.2	6.0	*
15. Rec 15	*	174.3	-166.4	6.0	*
16. Rec 16	*	-40.6	85.3	6.0	*

17. Rec 17	*	-35.6	88.5	6.0	*
18. Rec 18	*	-28.8	-138.2	6.0	*
19. Rec 19	*	-22.0	-132.7	6.0	*
20. Rec 20	*	-14.4	-127.0	6.0	*
21. Rec 21	*	-8.2	-121.9	6.0	*
22. Rec 22	*	-3.6	-116.4	6.0	*
23. Rec 23	*	-9.1	-111.5	6.0	*
24. Rec 24	*	-15.8	-108.4	6.0	*
25. Rec 25	*	-22.0	-104.8	6.0	*
26. Rec 26	*	-28.9	-100.4	6.0	*
27. Rec 27	*	-35.8	-96.2	6.0	*
28. Rec 28	*	-42.8	-92.1	6.0	*
29. Rec 29	*	-49.7	-87.9	6.0	*
30. Rec 30	*	-56.7	-83.6	6.0	*
31. Rec 31	*	-41.1	86.7	6.0	*
32. Rec 32	*	-34.4	265.2	6.0	*
33. Rec 33	*	-28.3	78.0	6.0	*
34. Rec 34	*	-21.0	67.7	6.0	*
35. Rec 35	*	-12.3	250.1	6.0	*

JOB: I25/US 24-2030 Action RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 15:37:42

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
36. Rec 36	-7.1	56.9	6.0
37. Rec 37	-.6	51.1	6.0
38. Rec 38	7.4	55.4	6.0
39. Rec 39	18.6	223.9	6.0
40. Rec 40	15.3	46.1	6.0
41. Rec 41	13.3	54.8	6.0
42. Rec 42	9.4	61.0	6.0
43. Rec 43	6.6	69.8	6.0
44. Rec 44	3.0	86.3	6.0
45. Rec 45	1.3	91.7	6.0
46. Rec 46	287.4	-63.9	6.0
47. Rec 47	288.5	-68.2	6.0
48. Rec 48	287.3	-75.2	6.0
49. Rec 49	287.3	-81.4	6.0
50. Rec 50	280.4	-79.4	6.0
51. Rec 51	272.8	-76.7	6.0
52. Rec 52	250.8	151.8	6.0
53. Rec 53	230.4	-60.8	6.0
54. Rec 54	223.1	-57.0	6.0
55. Rec 55	215.7	-53.1	6.0
56. Rec 56	208.6	-50.4	6.0
57. Rec 57	201.0	-46.6	6.0
58. Rec 58	192.7	-43.7	6.0
59. Rec 59	193.7	-35.0	6.0
60. Rec 60	194.5	-26.8	6.0

```
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: 10.-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
 ------*-----------------------------------------------------------------
------------------------------------------------------
 10. *  1.0  1.0  1.1  1.3  1.4  1.5  1.8  2.3  3.2  2.9  3.1  3.3  3.4
3.4  3.4  2.6  2.7  4.7  5.1  5.4
 20. *  .6  .6  .6  .7  .7  .7  1.1  1.4  2.8  1.9  2.1  2.3  2.4  2.6
2.4  3.6  3.6  5.7  5.9  6.2
 30. *  .7  .7  .7  .7  .7  .7  .8  1.1  2.4  1.5  1.6  2.0  2.1  2.1  2.0
3.9  3.9  5.5  5.5  5.6
 40. *  .6  .6  .6  .7  .7  .7  .8  1.0  2.3  1.2  1.5  1.7  1.6  1.7  1.7
3.7  3.7  4.8  4.8  4.5
 50. *  .4  .4  .5  .6  .6  .6  .7  .7  2.3  1.1  1.3  1.5  1.7  1.6  1.6
3.5  3.5  4.4  4.5  4.4
 60. *  .5  .5  .5  .6  .6  .6  .8  .7  2.4  1.1  1.2  1.3  1.4  1.5  1.4
3.2  3.2  4.3  4.3  4.1
 70. *  .3  .3  .4  .5  .6  .5  .5  .6  2.6  .8  1.1  1.3  1.4  1.4  1.4
3.1  3.3  4.1  4.0  3.7
 80. *  .3  .3  .3  .3  .3  .3  .3  .4  2.9  .5  .8  .9  1.1  1.2  1.1
3.3  3.2  3.5  3.6  3.4
 90. *  .2  .2  .2  .3  .3  .3  .3  .3  3.1  .6  .8  .9  1.0  1.0  .9  3.7
3.8  3.2  3.1  2.9
 100. *  .1  .1  .1  .1  .1  .1  .1  .1  2.7  .4  .6  .7  .8  .8  .8  3.8
3.9  2.8  2.5  2.5
 110. *  .1  .1  .1  .1  .1  .1  .1  .1  2.1  .4  .6  .7  .8  .8  .8  3.1
3.2  2.8  2.7  2.6
 120. *  .1  .1  .1  .1  .1  .1  .1  .2  1.3  .4  .6  .7  .8  .8  .8  2.8
2.8  3.0  2.9  2.7
 130. *  .1  .1  .1  .1  .1  .1  .1  .2  1.0  .5  .6  .8  .8  .9  .8  2.9
2.9  3.2  3.0  2.9
 140. *  .1  .1  .1  .1  .1  .0  .2  .2  .6  .5  .7  .8  .9  .9  .9  2.7
2.7  3.3  3.2  3.1
 150. *  .1  .1  .1  .1  .1  .1  .2  .3  .5  .5  .8  1.0  1.0  1.0  .9
2.9  3.1  3.5  3.4  3.4
 160. *  .1  .1  .1  .1  .1  .1  .2  .4  .5  .7  .9  1.2  1.2  1.2  1.0
3.1  3.1  4.1  4.0  3.9
 170. *  .1  .1  .1  .1  .2  .2  .3  .6  .8  1.1  1.3  1.4  1.4  1.3  1.2
3.1  3.1  4.5  4.6  4.6
 180. *  .2  .2  .2  .2  .4  .5  .8  1.1  1.5  1.6  1.8  1.8  1.7  1.7
1.4  2.5  2.7  4.5  4.5  4.7
 190. *  .5  .5  .5  .7  .9  1.1  1.5  1.9  2.4  2.2  2.2  2.3  2.2  2.0
1.8  1.6  1.8  3.8  4.1  4.5
```

```
 200. *  1.1  1.1  1.1  1.4  1.5  1.8  2.2  2.4  3.3  2.6  2.6  2.6  2.5
2.3  2.0  .9  1.0  2.5  3.0  3.4
 210. *  1.5  1.5  1.6  1.9  2.1  2.2  2.5  2.7  3.9  2.8  2.8  2.6  2.5
2.6  2.5  .6  .7  1.3  1.7  2.0
 220. *  1.8  1.8  1.8  2.1  2.3  2.4  2.7  2.9  4.0  2.9  2.7  2.8  2.7
2.5  2.6  .4  .4  .9  1.1  1.3
 230. *  2.0  2.0  2.0  2.3  2.4  2.6  2.8  2.8  3.7  2.9  2.8  2.6  2.7
2.7  2.7  .4  .4  .6  .6  .8
 240. *  2.0  2.0  2.1  2.3  2.4  2.5  2.6  2.7  3.7  2.7  2.7  2.6  2.6
2.6  2.6  .3  .3  .4  .5  .6
 250. *  1.9  1.9  2.1  2.2  2.3  2.4  2.5  2.5  3.6  2.6  2.5  2.4  2.3
2.4  2.5  .2  .2  .3  .4  .5
 260. *  1.8  1.7  1.8  2.1  2.2  2.2  2.4  2.4  3.3  2.7  2.6  2.5  2.4
2.3  2.6  .3  .2  .2  .3  .4
 270. *  1.9  1.9  1.9  2.1  2.3  2.4  2.5  2.5  3.4  2.6  2.6  2.5  2.4
2.3  2.6  .2  .1  .2  .2  .3
 280. *  1.9  1.9  1.9  2.1  2.3  2.4  2.5  2.5  3.6  2.5  2.5  2.5  2.3
2.3  2.6  .2  .1  .2  .2  .2
 290. *  1.9  1.9  1.9  2.1  2.3  2.3  2.5  2.5  4.2  2.5  2.4  2.3  2.2
2.3  2.6  .5  .4  .2  .2  .3
 300. *  2.0  2.1  2.0  2.2  2.3  2.4  2.6  2.6  4.8  2.6  2.5  2.4  2.4
2.4  2.5  1.1  1.0  .2  .4  .4
 310. *  2.7  2.8  2.8  2.9  3.1  3.2  3.3  3.2  4.6  3.1  2.9  2.8  2.8
3.0  3.0  1.7  1.5  .5  .5  .6
 320. *  2.9  3.0  3.2  3.3  3.5  3.6  3.7  3.5  4.0  3.7  3.6  3.3  3.3
3.4  3.2  1.9  1.9  1.0  1.0  1.0
 330. *  3.2  3.2  3.2  3.6  3.8  4.1  4.2  4.1  3.6  4.1  4.0  3.5  3.4
3.5  3.4  1.9  2.0  1.0  1.1  1.3
 340. *  3.0  3.0  3.2  3.5  3.7  3.9  4.1  4.7  3.6  4.7  4.6  4.5  4.4
4.0  4.0  1.9  1.9  1.3  1.5  1.8
 350. *  2.7  2.6  2.9  3.2  3.5  4.0  4.3  4.4  4.0  4.8  5.2  5.0  5.0
4.9  4.7  1.8  1.8  1.7  2.0  2.4
 360. *  2.1  2.0  2.1  2.0  2.3  2.6  3.1  3.4  3.6  3.9  4.2  4.3  4.7
4.6  4.4  2.0  2.1  2.9  3.2  3.7
 ------*-------------------------------------------------------------------
------------------------------------------------------
 MAX  *  3.2  3.2  3.2  3.6  3.8  4.1  4.3  4.7  4.8  4.8  5.2  5.0  5.0
4.9  4.7  3.9  3.9  5.7  5.9  6.2
 DEGR. * 330  330  320  330  330  330  350  340  300  350  350  350  350
350  350  30  100  20  20  20
```

```
JOB: I25/US 24-2030 Action              RUN: 2030 PM Peak

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: 10.-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
 ------*------------------------------------------------------------------
------------------------------------------------------
 10. *  5.5  5.6  5.4  5.2  4.7  4.1  3.7  3.1  2.6  2.5  2.6  1.8  2.9
3.3  2.2  3.6  3.7  4.2  2.9  4.3
 20. *  6.2  6.2  6.1  5.9  5.9  5.2  4.8  4.4  4.0  3.5  3.6  2.4  3.9
4.4  2.7  4.5  4.7  5.0  3.6  4.9
 30. *  5.3  5.5  5.5  5.5  5.7  5.5  5.3  4.9  4.5  4.0  3.9  2.8  4.2
4.3  3.2  4.4  4.2  4.5  4.2  4.5
 40. *  4.4  4.3  4.7  4.8  4.8  4.9  4.8  4.7  4.4  4.1  3.7  2.8  4.2
3.9  3.1  3.9  3.7  3.6  3.7  3.3
 50. *  4.2  4.1  4.2  4.5  4.5  4.5  4.6  4.6  4.2  3.8  3.4  2.6  3.6
3.5  2.9  3.0  2.9  3.0  3.0  2.8
 60. *  3.9  3.9  3.9  4.2  4.3  4.3  4.6  4.6  4.4  4.2  3.0  2.2  3.2
3.3  2.5  3.0  2.9  2.7  2.8  2.7
 70. *  3.5  3.6  3.7  4.0  4.1  4.1  4.4  4.5  4.3  4.1  3.2  2.2  3.3
3.2  2.3  2.7  2.9  2.8  2.4  2.8
 80. *  3.3  3.3  3.6  3.7  3.8  4.0  4.2  4.2  4.0  3.9  3.3  2.1  3.3
3.4  2.3  3.2  3.3  3.0  2.4  3.4
 90. *  2.8  2.7  2.9  3.1  3.4  3.4  3.7  3.7  3.7  3.4  3.7  2.1  3.6
3.7  2.3  3.5  3.6  3.6  2.6  3.5
 100. *  2.5  2.4  2.7  2.8  3.0  3.2  3.5  3.5  3.3  3.2  3.7  2.6  3.7
3.5  3.1  3.5  3.6  3.2  3.5  3.3
 110. *  2.4  2.3  2.5  2.6  2.8  2.9  3.2  3.1  3.0  2.8  3.2  3.8  3.3
2.9  4.2  2.9  2.9  2.5  4.6  2.6
 120. *  2.6  2.3  2.6  2.7  2.9  2.9  3.2  3.2  3.1  2.9  2.7  4.5  2.6
2.7  4.8  2.9  2.9  2.7  5.5  2.7
 130. *  2.7  2.6  2.8  3.0  3.2  3.1  3.4  3.5  3.3  3.1  2.9  5.0  2.9
3.0  5.0  3.2  3.0  2.7  5.2  2.7
 140. *  3.0  2.8  3.1  3.3  3.5  3.5  3.7  3.5  3.4  3.2  2.7  5.1  2.7
3.0  5.3  3.4  3.3  3.0  5.3  2.9
 150. *  3.3  3.1  3.3  3.6  3.6  3.7  3.8  3.7  3.4  3.2  2.9  5.1  3.1
3.3  5.4  3.7  3.6  3.4  5.6  3.5
 160. *  3.7  3.6  3.8  4.0  4.1  4.0  4.1  3.8  3.6  3.2  3.0  4.9  3.2
3.3  5.1  4.0  4.1  3.9  5.5  4.0
 170. *  4.4  4.4  4.5  4.6  4.6  4.4  4.3  4.0  3.6  3.2  3.1  4.5  3.2
3.6  4.9  4.2  4.4  4.2  5.4  4.5
 180. *  4.7  4.7  4.8  4.7  4.6  4.2  4.1  3.6  3.1  2.7  2.5  3.8  2.9
3.2  4.5  3.9  4.4  4.5  4.9  5.0
 190. *  4.6  4.6  4.5  4.2  3.9  3.2  2.8  2.2  1.9  1.7  1.6  2.9  2.0
1.9  3.2  2.8  3.3  3.7  4.1  4.5
```

200. * 3.6 3.7 3.4 3.0 2.5 2.0 1.6 1.1 .9 .8 .9 2.6 1.0 1.0
2.5 1.4 1.7 2.1 2.9 3.0
210. * 2.4 2.6 2.2 1.7 1.3 .9 .7 .6 .5 .6 .5 2.4 .6 .5 2.0
.6 .9 1.0 2.1 1.6
220. * 1.5 1.7 1.4 1.0 .9 .6 .5 .3 .3 .3 .4 2.6 .6 .4 2.2
.4 .4 .4 1.9 .9
230. * 1.0 1.1 .9 .6 .5 .4 .4 .3 .3 .3 .4 2.9 .5 .4 2.4
.2 .3 .3 1.9 .6
240. * .7 .8 .6 .5 .4 .3 .4 .3 .3 .3 .2 2.9 .5 .5 2.8 .2
.2 .2 2.3 .4
250. * .6 .7 .5 .4 .3 .2 .3 .3 .3 .3 .3 3.0 .4 .5 3.1 .3
.2 .3 2.5 .3
260. * .5 .6 .4 .3 .2 .2 .3 .3 .3 .3 .2 3.2 .3 .4 3.2 .3
.3 .3 3.0 .3
270. * .4 .5 .3 .2 .2 .2 .3 .3 .3 .3 .2 3.3 .3 .4 3.5 .3
.2 .2 3.7 .2
280. * .3 .4 .3 .2 .2 .2 .2 .3 .3 .3 .2 3.6 .2 .3 3.7 .3
.2 .2 4.1 .2
290. * .4 .5 .3 .2 .2 .2 .3 .3 .3 .3 .5 3.8 .5 .6 3.7 .6
.4 .5 4.0 .5
300. * .5 .6 .5 .4 .3 .3 .4 .4 .4 .4 1.1 3.1 1.0 1.1 3.1
1.1 .9 1.0 3.5 .9
310. * .8 1.0 .9 .7 .7 .5 .6 .6 .6 .6 1.7 2.2 1.6 1.5 2.4
1.4 1.3 1.6 2.7 1.5
320. * 1.2 1.3 1.1 .9 .9 .8 .8 .8 .8 .8 1.9 1.4 2.0 2.0
1.4 2.0 1.9 2.0 1.7 1.8
330. * 1.6 1.9 1.7 1.4 1.0 .9 .9 .9 .9 .9 1.9 .9 2.0 2.1
.9 2.0 1.8 1.9 1.2 1.8
340. * 1.9 2.1 1.8 1.6 1.3 1.2 1.1 1.0 1.1 1.1 1.9 .9 1.9
2.0 1.0 1.8 1.7 1.7 1.2 1.7
350. * 2.9 3.0 2.6 2.1 1.7 1.4 1.0 .9 1.0 1.0 1.8 .9 1.7
1.8 .9 1.9 1.9 1.9 1.6 2.1
360. * 4.0 4.4 4.0 3.4 3.0 2.2 2.0 1.8 1.7 1.6 2.0 1.2 2.1
2.2 1.4 2.5 2.7 2.8 1.9 3.3
------*---

MAX * 6.2 6.2 6.1 5.9 5.9 5.5 5.3 4.9 4.5 4.2 3.9 5.1 4.2
4.4 5.4 4.5 4.7 5.0 5.6 5.0
DEGR. * 20 20 20 20 20 30 30 30 30 60 30 140 30 20 150 20
20 20 150 180

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: 10.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
10.	4.3	4.2	4.1	4.0	4.0	1.8	1.7	1.7	1.7	1.7	1.7	1.1	2.2	2.2	2.4	2.4	2.6	3.1	2.8	2.8
20.	5.0	5.0	5.0	5.0	4.9	1.4	1.4	1.3	1.3	1.3	1.3	.5	1.5	1.6	1.6	1.9	1.8	2.2	2.0	1.9
30.	4.6	4.7	4.7	5.0	4.7	1.4	1.2	1.2	1.2	1.2	1.2	.2	1.5	1.4	1.4	1.5	1.5	1.7	1.6	1.5
40.	3.5	3.8	3.9	4.2	4.2	1.4	1.4	1.3	1.2	1.2	1.1	.1	1.3	1.3	1.5	1.5	1.5	1.6	1.6	1.6
50.	2.9	2.9	3.1	3.5	3.7	1.4	1.4	1.3	1.2	1.3	1.3	.1	1.3	1.4	1.3	1.3	1.3	1.6	1.7	1.6
60.	2.6	2.6	2.8	3.2	3.3	1.4	1.4	1.3	1.3	1.3	1.3	.2	1.3	1.3	1.5	1.5	1.5	1.5	1.5	1.6
70.	2.8	2.8	2.6	3.2	3.3	1.2	1.2	1.3	1.2	1.2	1.2	.2	1.3	1.3	1.3	1.3	1.3	1.6	1.5	1.5
80.	3.2	3.1	3.1	3.3	3.3	1.3	1.1	1.1	1.1	1.1	1.1	.2	1.2	1.2	1.3	1.3	1.3	1.5	1.4	1.5
90.	3.5	3.5	3.6	3.8	3.9	1.0	.9	.8	.8	.8	.8	.4	.9	.9	.9	.9	.9	1.2	1.1	1.1
100.	3.2	3.2	3.5	3.8	3.8	.5	.5	.4	.4	.4	.4	1.1	.5	.5	.5	.6	.7	.8	.8	.9
110.	2.4	2.6	2.7	3.4	3.4	.3	.3	.3	.3	.3	.3	2.1	.3	.2	.2	.3	.3	.6	.4	.3
120.	2.6	2.4	2.4	2.6	2.7	.2	.1	.1	.1	.1	.1	2.9	.1	.1	.1	.2	.2	.5	.3	.3
130.	2.6	2.6	2.6	2.8	2.8	.1	.1	.1	.1	.1	.1	3.0	.1	.1	.1	.2	.4	.7	.4	.2
140.	2.8	2.9	2.6	2.7	2.9	.1	.1	.1	.1	.1	.1	2.9	.1	.1	.1	.2	.5	1.1	.6	.4
150.	3.2	3.4	3.3	3.2	3.1	.1	.1	.1	.1	.1	.1	3.0	.0	.0	.1	.4	.8	1.6	1.1	.7
160.	3.8	3.6	3.6	3.5	3.5	.1	.1	.0	.0	.0	.0	2.7	.2	.3	.6	.8	1.4	2.5	2.0	1.6
170.	4.3	4.1	3.9	3.8	3.8	.1	.1	.1	.1	.1	.1	2.7	.5	.6	1.0	1.4	2.1	3.1	2.7	2.4
180.	4.7	4.4	4.1	3.8	3.7	.3	.2	.2	.2	.3	.4	3.2	.9	1.4	1.6	2.2	2.9	3.6	3.4	3.1
190.	4.1	3.6	3.3	3.0	2.8	.7	.7	.7	.6	.8	.8	4.0	1.7	2.1	2.6	3.0	3.7	4.4	4.2	3.9

CONCENTRATION (PPM)

```
 200. *  2.6  2.1  1.8  1.5  1.4  1.3  1.3  1.3  1.3  1.3  1.5  4.9  2.4
2.6  3.3  3.7  4.3  4.9  4.7  4.6
 210. *  1.4  1.0  .8  .6  .8  1.8  1.7  1.8  1.8  1.9  1.9  5.2  3.0  3.2
3.8  4.2  4.7  5.1  5.1  5.1
 220. *  .6  .4  .3  .5  .6  2.0  2.0  2.0  2.0  2.0  2.1  4.7  3.3  3.6
3.9  4.3  4.7  5.2  5.0  4.9
 230. *  .4  .3  .2  .5  .5  2.2  2.1  2.2  2.1  2.3  2.2  4.2  3.4  3.8
4.1  4.4  4.6  4.8  4.9  4.7
 240. *  .3  .2  .3  .5  .5  2.2  2.1  2.0  2.1  2.1  2.1  3.5  3.4  3.7
3.9  4.1  4.5  4.7  4.6  4.5
 250. *  .2  .3  .4  .4  .4  2.1  2.1  2.1  2.1  2.2  2.3  3.2  3.6  3.8
3.9  4.3  4.6  4.7  4.6  4.5
 260. *  .3  .2  .3  .4  .4  2.4  2.2  2.2  2.1  2.4  2.6  3.2  3.5  3.6
3.8  4.0  4.2  4.4  4.3  4.2
 270. *  .2  .3  .3  .4  .3  2.4  2.4  2.4  2.4  2.4  2.5  3.3  3.3  3.6
3.6  3.7  4.0  4.2  4.2  3.9
 280. *  .2  .3  .3  .3  .4  2.5  2.3  2.5  2.6  2.7  2.7  3.6  3.4  3.5
3.8  3.8  4.2  4.3  4.1  3.9
 290. *  .5  .6  .6  .6  .8  2.8  2.8  2.8  2.8  2.8  2.9  3.7  3.7  3.9
4.1  4.3  4.6  4.7  4.8  4.6
 300. *  1.0  1.3  1.4  1.5  1.6  3.2  3.3  3.2  3.2  3.3  3.3  2.9  4.1
4.3  4.6  4.8  5.3  5.5  5.5  5.6
 310. *  1.6  1.6  1.9  2.2  2.3  3.6  3.6  3.6  3.5  3.6  3.8  2.2  4.8
4.8  5.1  5.5  6.2  6.5  6.3  6.2
 320. *  2.0  2.0  2.2  2.4  2.4  3.3  3.3  3.2  3.3  3.2  3.2  1.9  4.5
4.7  5.0  5.6  6.2  6.8  6.4  6.1
 330. *  1.9  2.0  2.1  2.4  2.4  3.1  3.1  2.8  2.8  2.9  3.0  2.3  4.0
4.2  4.6  5.3  5.8  6.7  6.3  5.6
 340. *  1.9  1.8  1.9  2.1  2.1  3.4  3.2  3.1  3.0  2.9  3.1  2.4  3.4
3.4  4.0  4.5  5.0  6.2  5.4  5.0
 350. *  1.9  1.9  2.1  2.2  2.2  3.0  3.0  3.0  3.0  3.0  3.0  2.3  3.4
3.5  3.6  3.8  4.6  5.4  4.7  4.2
 360. *  3.1  2.9  3.0  2.7  2.7  2.5  2.5  2.5  2.5  2.6  2.7  1.9  2.9
2.9  3.0  3.2  3.6  4.2  3.9  3.6
 ------*-------------------------------------------------------------------
-----------------------------------------------------
 MAX  *  5.0  5.0  5.0  5.0  4.9  3.6  3.6  3.6  3.5  3.6  3.8  5.2  4.8
4.8  5.1  5.6  6.2  6.8  6.4  6.2
 DEGR. *  20  20  20  20  20  310  310  310  310  310  310  210  310  310
310  320  320  320  320  310
```

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC58.

```
                                                                PAGE 8
JOB: I25/US 24-2030 Action              RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 15:37:42


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 # *  330  330  320  330  330  330  350  340  300  350  350  350
350  350  350  30  100  20  20  20
  -------*-----------------------------------------------------------------
--------------------------------------------------------
    1 *  .1  .1  .3  .1  .1  .2  .0  .1  .0  .0  .0  .0  .0  .1  .1  .0
.0  .0  .0  .0
    2 *  .5  .5  .4  .6  .6  .6  .4  .6  .7  .5  .6  .6  .7  .8  .8  .0
.6  .4  .5  .5
    3 *  .1  .1  .0  .1  .1  .1  .3  .2  .0  .3  .3  .3  .3  .3  .3  .4
.0  .3  .3  .4
    4 *  .0  .0  .0  .0  .0  .0  .2  .1  .0  .1  .1  .1  .1  .1  .1  .4
.0  .2  .2  .2
    5 *  .0  .0  .0  .0  .0  .0  .1  .0  .0  .1  .1  .1  .1  .1  .1  .2
.0  .2  .2  .2
    6 *  .0  .0  .0  .0  .0  .0  .3  .1  .0  .3  .3  .3  .3  .3  .3  .4
.0  .3  .3  .3
    7 *  .2  .2  .1  .2  .2  .2  .3  .3  .1  .4  .4  .4  .4  .4  .4  .9
.0  .4  .4  .4
    8 *  .3  .3  .3  .3  .3  .3  .1  .3  .6  .1  .2  .2  .2  .2  .3  .2
.7  .6  .6  .6
    9 *  .1  .1  .3  .1  .2  .2  .0  .1  .0  .0  .0  .0  .0  .0  .0  .0
.1  2.6  2.7  2.8
   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  .0  .0  .0
.0  .0  .0  .0
   13 *  .1  .1  .1  .1  .1  .1  .1  .1  .2  .1  .1  .1  .1  .1  .1  .2
.2  .1  .1  .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 *  .1  .1  .1  .1  .1  .1  .1  .1  .2  .1  .2  .2  .2  .2  .2  .1
.1  .1  .1  .1
   17 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   18 *  .2  .2  .4  .4  .5  .6  .6  .8  .0  .7  .7  .6  .4  .2  .0  .0
.0  .0  .0  .0
   19 *  .4  .4  .3  .4  .4  .4  .5  .6  .2  .6  .7  .7  .7  .6  .5  .0
.2  .0  .0  .1
```

```
   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 *  .5  .5  .4  .6  .6  .6  .6  .8  .4  .8  .9  .9  .9  .9  .9  .0
.4  .1  .1  .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
.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  .1  .1  .1  .1  .1  .1  .0
.0  .0  .0  .0
   28 *  .0  .0  .0  .0  .0  .0  .1  .1  .0  .1  .1  .1  .1  .1  .1  .0
.0  .0  .0  .0
   29 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1
.0  .0  .0  .0
   30 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1
.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
.3  .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  .0
   36 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   37 *  .1  .1  .2  .1  .1  .2  .0  .1  .4  .0  .0  .0  .1  .1  .1  .4
.0  .1  .1  .1
   38 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   39 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .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 *  .1  .1  .0  .1  .1  .1  .1  .1  .7  .1  .1  .1  .1  .1  .1  .0
.2  .1  .1  .1
   42 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.2  .0  .0  .0
   43 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.1  .0  .0  .0
   44 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.1  .0  .0  .0
   45 *  .1  .1  .0  .1  .1  .1  .2  .1  .2  .2  .1  .1  .1  .1  .1  .0
.2  .1  .1  .1
```

JOB: I25/US 24-2030 Action RUN: 2030 PM Peak

* 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
ANGLE	330	330	320	330	330	330	350	340	300	350	350	350	350	350	350	30	100	20	20	20
46	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.1	.0	.0	.0	.0	.0	.4	.0	.0	.0
47	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.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	.2	.2	.1	.2	.2	.2	.1	.1	.4	.1	.1	.1	.1	.1	.1	.5	.0	.1	.1	.1
50	.1	.1	.1	.1	.1	.1	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
51	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
52	.0	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

```
JOB: I25/US 24-2030 Action              RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 15:37:42


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 # *  20  20  20  20  20  30  30  30  30  60  30  140  30  20  150
20  20  20  150  180
  -------*------------------------------------------------------------------
--------------------------------------------------------
    1 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .1  .0  .0  .2  .0
.0  .0  .2  1.2
    2 *  .5  .6  .5  .4  .4  .6  .5  .5  .4  .7  .0  .6  .0  .0  .7  .0
.1  .1  .8  .0
    3 *  .4  .4  .4  .4  .4  .3  .4  .4  .4  .0  .4  .0  .5  .3  .0  .4
.4  .5  .0  .0
    4 *  .2  .2  .2  .2  .2  .2  .2  .2  .2  .0  .4  .0  .4  .3  .0  .3
.3  .4  .0  .0
    5 *  .2  .2  .2  .2  .2  .1  .1  .1  .1  .0  .2  .0  .2  .2  .0  .2
.2  .2  .0  .0
    6 *  .3  .3  .3  .3  .4  .2  .2  .2  .2  .0  .4  .0  .4  .6  .0  .6
.5  .5  .0  .0
    7 *  .4  .4  .4  .5  .5  .3  .3  .3  .4  .0  .9  .2  .9  .9  .1  .9
.9  1.0  .1  .0
    8 *  .6  .6  .6  .6  .7  .6  .6  .6  .7  .1  .2  .6  .3  .3  .8  .5
.7  .8  .8  .0
    9 *  2.8  2.7  2.7  2.6  2.3  2.3  2.1  1.8  1.3  1.9  .0  .1  .0  .0
.2  .0  .0  .0  .1  3.7
   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  .0  .0  .0
.0  .0  .0  .0
   13 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .2  .1  .2  .2  .1  .2
.2  .2  .1  .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 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .0  .1  .0
.1  .1  .1  .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  .1  .0
.0  .0  .1  .1
   19 *  .1  .1  .1  .0  .0  .1  .1  .0  .0  .2  .0  .2  .0  .0  .2  .0
.0  .0  .3  .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	.1	.1	.1	.1	.1	.1	.1	.1	.3	.0	.3	.0	.0	.4	.0	.0	.0	.5	.0
23 *	.0	.0	.0	.0	.0	.1	.1	.1	.1	.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	.1	.0	.1	.1	.1	.0	.0
28 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.0	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.0	.1	.0	.0	.1	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.1	.1	.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	.2	.3	.0	.2	.2	.2	.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	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.4	.5	.4	.4	.6	.4	.4	.4	.5	.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 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.0	.0	.1	.0	.0	.0	.2	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
44 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.0	.2	.0	.0	.1	.0	.0	.0	.1	.0

* 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
*	20	20	20	20	20	30	30	30	30	60	30	140	30	20	150	20	20	20	150	180
46 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
47 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.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 *	.1	.1	.1	.1	.2	.1	.1	.1	.1	.0	.5	1.8	.5	.5	1.7	.4	.4	.4	1.6	.0
50 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
51 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
52 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

JOB: I25/US 24-2030 Action RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 15:37:42

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
LINK # *	20	20	20	20	20	310	310	310	310	310	310	210	310	310	310	320	320	320	320	310
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.1	.1	.0	.0	.0	.6	.6	.6	.6	.6	.6	.4	.7	.7	.7	.8	.8	.8	.8	.8
3 *	.5	.5	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4 *	.4	.4	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5 *	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.5	.5	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7 *	1.0	1.0	1.0	1.1	1.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.2	.2	.2	.2	.1
8 *	.8	.8	.6	.4	.3	.4	.4	.4	.4	.4	.4	.0	.5	.5	.5	.5	.6	.6	.6	.6
9 *	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.8	.1	.1	.1	.0	.0	.0	.0	.1
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	.1	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.2	.2	.2	.2	.2	.3	.3	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.3
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 *	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2
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	.3	.3	.3	.3	.3	.4	.3	.7	.7	.8	.9	1.0	1.1	1.0	.9

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	.5	.5	.6	.6	.6	.7	.5	1.2	1.3	1.5	1.6	2.0	2.5	2.2	1.9
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 *	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28 *	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29 *	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30 *	.1	.1	.1	.1	.1	.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 *	.1	.2	.2	.2	.2	.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	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37 *	.4	.4	.4	.5	.5	.3	.3	.3	.2	.3	.3	.0	.3	.3	.3	.3	.3	.3	.3	.4
38 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.1
39 *	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1
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	.1	.1	.1	.1	.1	.1	.2	.1	.0	.0	.1	.1	.1	.1	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
44 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45 *	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.7	.0	.0	.0	.1	.1	.1	.1	.0

```
     *  CO/LINK (PPM)
     *  ANGLE (DEGREES)
     * REC41 REC42 REC43 REC44 REC45 REC46 REC47 REC48 REC49 REC50 REC51
REC52 REC53 REC54 REC55 REC56 REC57 REC58 REC59 REC60
  LINK # *  20  20  20  20  20  310  310  310  310  310  310  210  310
310  310  320  320  320  320  310
  -------*------------------------------------------------------------
--------------------------------------------------------
   46 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  1.0  .0  .0  .0  .0
.0  .0  .0  .0
   47 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .2  .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 *  .4  .4  .5  .5  .6  .2  .2  .2  .2  .2  .2  .0  .2  .2  .2  .3
.3  .3  .3  .3
   50 *  .0  .0  .0  .0  .0  .2  .2  .2  .2  .2  .2  .0  .2  .2  .2  .2
.2  .2  .2  .2
   51 *  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1  .1  .0  .1  .1  .1  .0
.0  .0  .0  .1
   52 *  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1  .1  .0  .1  .1  .1  .1
.1  .1  .1  .1
```

6. Proposed Action (Improved Interchange) for 2035 PM Peak Period

Location:	US 24 at Interstate 25 ramps
Configuration:	Improved interchange ramp intersections
1-hour Result:	Worst case average of 7.1 parts per million as indicated on Page 7 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	4.05 ppm
Assumed Background:	1.62 ppm
Total Concentration:	**5.67 ppm**

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CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: I25/US 24-2035 Action              RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:32:53

The MODE flag has been set to C for calculating CO averages.

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. I-25 Main NB Appr  *   99.4   -63.6   -29.8  -1000.0 *   945.  188.
FL  4945. 15.6 18.0 68.0
    2. I-25 Main NB Appr  *  133.8   196.4   99.4   -63.6 *   262.  188.
BR  4945. 15.6 27.0 68.0
    3. I-25 Main NB Dptr  *  185.2   429.2   133.8   196.4 *   238.  192.
BR  4945. 15.6 27.0 68.0
    4. I-25 Main NB Dptr  *  246.9   709.4   185.2   429.2 *   287.  192.
FL  4945. 15.6 18.0 68.0
    5. I-25 Main NB Dptr  *  311.0  1000.0   246.9   709.4 *   298.  192.
FL  5560. 15.6 18.0 68.0
    6. I-25 Main SB Appr  *  119.7   449.9   232.7  1000.0 *   562.  12.
FL  5405. 15.6 18.0 68.0
    7. I-25 Main SB Appr  *   65.7   187.1   119.7   449.9 *   268.  12.
BR  5405. 15.6 27.0 68.0
    8. I-25 Main SB Dptr  *   34.9   37.3   65.7   187.1 *   153.  12. BR
5405. 15.6 27.0 68.0
    9. I-25 Main SB Dptr  *  -101.2  -625.6   34.9   37.3 *   677.  12. FL
5405. 15.6 18.0 68.0
   10. I-25 Fly SB/NB Appr *  -589.2   419.1  -779.4   616.0 *   274.
316. FL  1515. 15.6 18.0 44.0
   11. I-25 Fly SB Appr  *  -157.9  -291.7  -589.2   419.1 *   831.  329.
FL  900. 15.6 18.0 32.0
   12. I-25 Fly SB Appr  *  -172.6  -1000.0  -157.9  -291.7 *   708.   1.
FL  900. 15.6 18.0 32.0
   13. I-25 Fly NB Appr  *  448.7  -103.0  -589.2   419.1 *  1162.  297.
FL  615. 15.6 18.0 32.0
   14. I-25 Fly NB Appr  *  460.4  -509.8   448.7  -103.0 *   407.  358.
FL  615. 14.8 18.0 32.0
   15. I-25 Fly NB Appr  *   97.7  -270.5   460.4  -509.8 *   435.  123.
FL  615. 14.8 18.0 32.0
   16. I-25 Fly NB Appr  *  270.6   714.6   97.7  -270.5 *  1000.  190. FL
615. 14.8 18.0 32.0
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   17. Off Ramp NB Appr  *  130.2  -704.5   25.8  -597.8 *   149.  316. AG
1655. 14.5  .0 44.0
   18. Off Ramp NB Appr  *  211.7  -135.1   130.2  -704.5 *   575.  188.
AG  1655. 14.5  .0 56.0
   19. Off Ramp NB Left App*  115.8   100.0   211.7  -135.1 *   254.  158.
AG  1575. 14.5  .0 56.0
   20. Off Ramp NB R Appr *  303.9   16.7   211.7  -135.1 *   178.  211.
AG   80. 14.5  .0 32.0
   21. Off Ramp NB Right Q *  303.9   16.7   299.4    9.2 *    9.  211. AG
51. 100.0  .0 12.0 .07  .4
   22. Off Ramp NB Left Q *  115.8   100.0   213.1  -138.5 *   258.  158.
AG  475. 100.0  .0 36.0 .97 13.1
   23. On Ramp NB Left Dptr*  306.3   339.4   116.6   149.8 *   268.  225.
AG  630. 14.5  .0 44.0
   24. On Ramp NB Right Dpt*  306.3   339.4   303.2   127.5 *   212.  181.
AG  345. 14.5  .0 32.0
   25. On Ramp NB Dptr   *  332.1   619.8   306.3   339.4 *   282.  185.
AG  975. 14.5  .0 44.0
   26. On Ramp NB Dptr   *  371.3  1000.0   332.1   619.8 *   382.  186.
AG  975. 14.5  .0 32.0
   27. Off Ramp SB Appr  *   55.2   605.0   161.0  1000.0 *   409.  15. AG
1865. 14.5  .0 44.0
   28. Off Ramp SB Appr  *  -25.8   354.3   55.2   605.0 *   263.  18. AG
1865. 14.5  .0 56.0
   29. Off Ramp SB Left App*   60.3   194.6   -25.8   354.3 *   181.  332.
AG  470. 14.5  .0 32.0
   30. Off Ramp SB Left Q *   60.3   194.6   -27.0   356.6 *   184.  332.
AG  158. 100.0  .0 12.0 .86  9.3
   31. Off Ramp SB R Appr *  -93.2   295.0   -25.8   354.3 *   90.  49. AG
1395. 14.5  .0 56.0
   32. Off Ramp SB Right Q *  -93.2   295.0   -55.0   328.6 *   51.  49.
AG  153. 100.0  .0 36.0 .38  2.6
   33. On Ramp SB Right Dpt*  -84.0   41.7   76.6   140.5 *   189.  58. AG
190. 14.5  .0 32.0
   34. On Ramp SB Left Dptr*  -84.0   41.7  -103.5   173.2 *   133.  352.
AG  465. 14.5  .0 32.0
   35. On Ramp SB Dptr   *  -141.7  -626.4   -84.0   41.7 *   671.   5. AG
655. 14.5  .0 32.0
   36. US 24 EB Appr    *  -398.1   355.2  -813.0   447.8 *   425.  283.
AG  1680. 14.7  .0 56.0
   37. US 24 EB Appr    *   76.6   140.5  -398.1   355.2 *   521.  294. AG
1680. 14.7  .0 80.0
   38. US 24 EB Thru Q   *  -70.4   199.0  -547.1   426.2 *   528.  295.
AG  383. 100.0  .0 24.0 1.08 26.8
   39. US 24 EB Left Q   *  -62.5   210.7  -1372.5   869.4 *  1466.  297.
AG  434. 100.0  .0 24.0 1.64 74.5
   40. US 24 EB Right Q  *  -98.9   184.3  -149.6   179.8 *   51.  265. AG
52. 100.0  .0 12.0 .38  2.6
   41. US 24 EB Dptr    *  304.7   21.8   76.6   140.5 *   257.  297. AG
1230. 14.8  .0 44.0
   42. US 24 EB Dptr    *  1000.0  -158.3   304.7   21.8 *   718.  285. AG
1310. 14.8  .0 56.0
   43. US 24 WB Appr    *  643.3   -27.7  1000.0  -103.0 *   365.  102. AG
1500. 14.8  .0 44.0
   44. US 24 WB Appr    *  434.2   45.6   643.3   -27.7 *   222.  109. AG
1500. 14.8  .0 56.0
```

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:32:53

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. US 24 WB Appr    *   88.4   165.9   434.2   45.6 *   366.  109. AG
1500. 14.8  .0 80.0
   46. US 24 WB Thru Q   *  222.6   119.2   312.1   88.1 *   95.  109. AG
413. 100.0  .0 36.0 .48  4.8
   47. US 24 WB Left Q   *  220.3   107.1   255.0   50.4 *   66.  149. AG
163. 100.0  .0 12.0 .37  3.4
   48. US 24 WB Right Q  *  306.9   128.2   332.8   100.7 *   38.  137. AG
51. 100.0  .0 12.0 .28  1.9
   49. US 24 WB Dptr    *  -148.9   305.7   88.4   165.9 *   275.  121. AG
2540. 14.7  .0 56.0
   50. US 24 WB Dptr    *  -343.6   419.3  -148.9   305.7 *   225.  120.
AG  3935. 14.7  .0 68.0
   51. US 24 Main WB Dptr *  -750.7   551.9  -343.6   403.1 *   433.  110.
AG  2190. 14.7  .0 44.0
   52. US 24 Ramp WB Dptr *  -705.1   715.1  -328.9   433.9 *   470.  127.
AG  1745. 14.7  .0 56.0
```

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:32:53

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
21. Off Ramp NB Right Q	100	20	2.0	80	1600	95.20	1	3
22. Off Ramp NB Left Q	100	62	2.0	1575	1600	95.20	1	3
30. Off Ramp SB Left Q	100	62	2.0	470	1600	95.20	1	3
32. Off Ramp SB Right Q	100	20	2.0	1395	1600	95.20	1	3
38. US 24 EB Thru Q	100	74	2.0	760	1600	96.40	1	3
39. US 24 EB Left Q	100	84	2.0	630	1600	96.40	1	3
40. US 24 EB Right Q	100	20	2.0	465	1600	96.40	1	3
46. US 24 WB Thru Q	100	54	2.0	965	1600	95.10	1	3
47. US 24 WB Left Q	100	64	2.0	190	1600	95.10	1	3
48. US 24 WB Right Q	100	20	2.0	345	1600	95.10	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Rec 1	274.6	-236.4	6.0
2. Rec 2	277.4	-231.0	6.0
3. Rec 3	270.0	-226.8	6.0
4. Rec 4	254.9	-216.1	6.0
5. Rec 5	246.1	-211.8	6.0
6. Rec 6	238.8	-207.0	6.0
7. Rec 7	231.8	-201.8	6.0
8. Rec 8	224.2	-197.6	6.0
9. Rec 9	217.6	44.6	6.0
10. Rec 10	210.8	-188.4	6.0
11. Rec 11	203.1	-183.2	6.0
12. Rec 12	195.4	-178.5	6.0
13. Rec 13	188.9	-174.7	6.0
14. Rec 14	181.4	-170.2	6.0
15. Rec 15	174.3	-166.4	6.0
16. Rec 16	-40.6	85.3	6.0

17. Rec 17	*	-35.6	88.5	6.0	*
18. Rec 18	*	-28.8	-138.2	6.0	*
19. Rec 19	*	-22.0	-132.7	6.0	*
20. Rec 20	*	-14.4	-127.0	6.0	*
21. Rec 21	*	-8.2	-121.9	6.0	*
22. Rec 22	*	-3.6	-116.4	6.0	*
23. Rec 23	*	-9.1	-111.5	6.0	*
24. Rec 24	*	-15.8	-108.4	6.0	*
25. Rec 25	*	-22.0	-104.8	6.0	*
26. Rec 26	*	-28.9	-100.4	6.0	*
27. Rec 27	*	-35.8	-96.2	6.0	*
28. Rec 28	*	-42.8	-92.1	6.0	*
29. Rec 29	*	-49.7	-87.9	6.0	*
30. Rec 30	*	-56.7	-83.6	6.0	*
31. Rec 31	*	-41.1	86.7	6.0	*
32. Rec 32	*	-34.4	265.2	6.0	*
33. Rec 33	*	-28.3	78.0	6.0	*
34. Rec 34	*	-21.0	67.7	6.0	*
35. Rec 35	*	-12.3	250.1	6.0	*

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:32:53

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
36. Rec 36	-7.1	56.9	6.0
37. Rec 37	-.6	51.1	6.0
38. Rec 38	7.4	55.4	6.0
39. Rec 39	18.6	223.9	6.0
40. Rec 40	15.3	46.1	6.0
41. Rec 41	13.3	54.8	6.0
42. Rec 42	9.4	61.0	6.0
43. Rec 43	6.6	69.8	6.0
44. Rec 44	3.0	86.3	6.0
45. Rec 45	1.3	91.7	6.0
46. Rec 46	287.4	-63.9	6.0
47. Rec 47	288.5	-68.2	6.0
48. Rec 48	287.3	-75.2	6.0
49. Rec 49	287.3	-81.4	6.0
50. Rec 50	280.4	-79.4	6.0
51. Rec 51	272.8	-76.7	6.0
52. Rec 52	250.8	151.8	6.0
53. Rec 53	230.4	-60.8	6.0
54. Rec 54	223.1	-57.0	6.0
55. Rec 55	215.7	-53.1	6.0
56. Rec 56	208.6	-50.4	6.0
57. Rec 57	201.0	-46.6	6.0
58. Rec 58	192.7	-43.7	6.0
59. Rec 59	193.7	-35.0	6.0
60. Rec 60	194.5	-26.8	6.0

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

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: 10.-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
10. *	.9	.9	1.0	1.0	1.2	1.3	1.6	2.2	2.9	3.1	3.5	3.8	3.9	3.9	3.8	2.7	2.7	4.8	5.1	5.5
20. *	.3	.3	.3	.4	.5	.6	.9	1.2	2.6	1.8	2.3	2.6	2.9	3.0	2.9	3.6	3.6	5.8	6.2	6.3
30. *	.4	.4	.4	.4	.3	.3	.4	.6	2.0	1.2	1.8	2.1	2.3	2.4	2.3	3.9	4.0	5.7	5.7	5.7
40. *	.4	.4	.4	.5	.5	.5	.6	.7	2.0	.9	1.3	1.5	1.7	1.9	1.9	3.7	3.6	4.9	4.9	4.8
50. *	.3	.3	.4	.4	.4	.4	.5	.5	2.0	.9	1.1	1.3	1.7	1.9	1.9	3.4	3.4	4.4	4.4	4.2
60. *	.5	.5	.5	.4	.4	.5	.5	.5	1.8	.8	.9	1.0	1.2	1.4	1.6	3.0	3.1	4.2	4.0	3.9
70. *	.4	.4	.4	.5	.5	.4	.4	.5	1.7	.7	1.0	1.1	1.2	1.3	1.4	3.2	3.2	3.9	3.8	3.6
80. *	.3	.3	.3	.3	.3	.3	.3	.5	1.6	.6	.8	.9	1.0	1.1	1.2	2.8	2.8	3.8	3.7	3.5
90. *	.2	.2	.2	.2	.2	.3	.3	.3	1.9	.6	.8	.9	1.0	1.0	.9	3.1	3.2	3.3	3.1	3.0
100. *	.1	.1	.1	.1	.1	.1	.1	.1	1.7	.5	.6	.7	.8	.9	.8	3.4	3.5	3.0	3.0	2.8
110. *	.1	.1	.1	.1	.1	.1	.1	.1	1.5	.4	.6	.7	.8	.8	.8	3.1	3.1	2.9	2.8	2.6
120. *	.1	.1	.1	.1	.1	.1	.1	.2	1.0	.5	.6	.7	.8	.8	.8	2.8	2.9	3.1	3.0	2.8
130. *	.1	.1	.1	.1	.1	.1	.1	.2	.8	.5	.7	.8	.9	.9	.8	2.8	2.9	3.2	3.2	2.9
140. *	.1	.1	.1	.1	.1	.1	.2	.2	.7	.5	.7	.8	.9	1.0	.9	2.9	2.8	3.5	3.3	3.2
150. *	.1	.1	.1	.1	.1	.1	.2	.3	.5	.6	.8	1.0	1.1	1.1	1.0	2.9	3.2	3.7	3.6	3.5
160. *	.1	.1	.1	.1	.1	.1	.2	.4	.6	.7	1.0	1.2	1.3	1.2	1.1	3.0	3.1	4.2	4.2	4.0
170. *	.1	.1	.1	.1	.2	.2	.3	.6	1.0	1.1	1.3	1.4	1.5	1.4	1.2	3.1	3.1	4.7	4.7	4.7
180. *	.2	.2	.2	.3	.4	.5	.8	1.1	1.9	1.6	1.8	1.8	1.8	1.7	1.5	2.6	2.7	4.7	4.8	4.9
190. *	.5	.5	.6	.7	.9	1.1	1.6	1.9	2.8	2.3	2.4	2.3	2.3	2.1	1.8	1.6	1.7	3.9	4.3	4.6

```
 200. *  1.1  1.1  1.1  1.4  1.7  1.9  2.3  2.5  3.5  2.8  2.8  2.7  2.7
2.4  2.1  .9  .9  2.7  3.2  3.5
 210. *  1.6  1.6  1.6  1.9  2.1  2.4  2.5  2.8  4.1  2.9  2.9  2.8  2.7
2.7  2.7  .4  .5  1.3  1.7  2.2
 220. *  1.9  1.9  1.9  2.3  2.4  2.6  2.8  2.9  4.1  3.0  2.9  2.8  2.8
2.7  2.8  .5  .5  .9  1.1  1.4
 230. *  2.0  2.0  2.1  2.3  2.5  2.7  2.8  2.9  3.9  3.1  2.9  2.8  2.7
2.7  2.9  .4  .4  .6  .7  .8
 240. *  2.1  2.0  2.1  2.4  2.6  2.6  2.9  2.9  3.9  2.8  2.7  2.8  2.6
2.6  2.8  .3  .3  .5  .5  .6
 250. *  2.0  2.0  2.2  2.4  2.5  2.6  2.6  2.9  3.7  2.6  2.6  2.5  2.4
2.6  2.6  .3  .3  .4  .4  .5
 260. *  1.8  1.7  2.1  2.2  2.3  2.4  2.5  2.6  3.4  2.7  2.7  2.6  2.4
2.6  2.7  .2  .2  .3  .3  .4
 270. *  2.0  2.0  2.1  2.3  2.5  2.6  2.6  2.7  3.5  2.7  2.7  2.6  2.4
2.6  2.6  .2  .2  .3  .2  .3
 280. *  2.0  2.0  2.1  2.3  2.5  2.6  2.7  2.7  3.9  2.7  2.6  2.5  2.4
2.6  2.6  .2  .2  .3  .2  .2
 290. *  1.9  1.9  2.0  2.2  2.3  2.4  2.5  2.6  4.8  2.7  2.6  2.5  2.4
2.5  2.6  .8  .9  .3  .2  .3
 300. *  2.4  2.6  2.5  2.6  2.9  2.8  2.9  3.0  5.5  3.0  2.9  2.8  2.7
2.9  3.0  1.9  1.9  .4  .4  .5
 310. *  3.3  3.4  3.4  3.6  3.8  3.8  3.9  3.9  5.0  3.8  3.6  3.4  3.3
3.6  3.6  2.6  2.7  .9  .8  1.0
 320. *  3.7  3.8  3.9  4.1  4.2  4.4  4.4  4.4  4.2  4.1  4.1  3.9  4.0
3.8  3.8  2.7  2.9  1.6  1.5  1.6
 330. *  3.7  3.8  3.9  4.1  4.4  4.5  4.9  5.0  3.7  4.7  4.4  4.0  3.8
3.7  3.6  2.5  2.6  1.5  1.7  1.8
 340. *  3.2  3.2  3.4  3.8  4.1  4.4  4.9  5.2  3.7  5.2  5.2  4.9  4.5
4.3  4.1  2.1  2.1  1.5  1.7  1.9
 350. *  2.8  2.6  2.9  3.3  3.7  4.1  4.6  4.9  4.0  5.5  5.6  5.6  5.3
5.1  4.9  1.8  1.8  1.9  2.2  2.5
 360. *  1.9  1.8  1.9  2.0  2.3  2.7  3.4  3.8  3.6  4.5  4.9  5.2  5.3
5.0  4.8  2.1  2.1  3.1  3.5  4.1
 ------*-----------------------------------------------------------------
-----------------------------------------------------
 MAX  *  3.7  3.8  3.9  4.1  4.4  4.5  4.9  5.2  5.5  5.5  5.6  5.6  5.3
5.1  4.9  3.9  4.0  5.8  6.2  6.3
 DEGR. * 320  320  330  320  330  330  330  340  300  350  350  350  350
350  350  30  30  20  20  20
```

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

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: 10.-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
10.	5.7	5.8	5.4	5.3	4.8	4.2	3.6	3.1	2.6	2.5	2.7	1.9	2.9	3.1	2.3	3.5	3.9	4.1	3.0	4.4
20.	6.4	6.3	6.4	6.3	6.0	5.5	5.1	4.6	4.0	3.4	3.6	2.6	3.8	4.1	2.8	4.8	4.8	5.0	3.7	5.1
30.	5.6	5.5	5.7	5.8	5.9	5.7	5.5	5.3	4.5	4.1	4.0	2.8	4.1	4.4	3.2	4.2	4.5	4.8	4.2	4.3
40.	4.6	4.4	4.8	5.0	5.1	4.9	5.0	4.6	4.3	4.0	3.7	2.8	4.0	4.0	3.1	3.9	3.9	3.8	3.6	3.4
50.	4.0	4.0	4.2	4.4	4.4	4.5	4.6	4.6	4.2	3.9	3.4	2.6	3.5	3.5	2.9	3.1	3.0	2.9	3.1	2.8
60.	3.8	3.5	3.7	4.1	4.1	4.1	4.5	4.3	4.2	3.9	3.1	2.4	3.1	3.1	2.6	3.0	2.9	2.7	2.7	2.8
70.	3.5	3.4	3.6	3.9	4.1	4.1	4.4	4.3	4.0	3.8	3.2	2.2	3.1	3.1	2.5	2.7	2.8	2.6	2.5	2.8
80.	3.3	3.3	3.5	3.7	3.9	4.0	4.0	3.9	3.9	3.6	2.8	2.1	2.8	2.9	2.3	3.0	2.9	2.8	2.4	2.9
90.	2.9	2.8	3.0	3.4	3.5	3.5	3.8	4.0	3.9	3.7	3.1	2.2	3.2	3.1	2.3	3.1	3.2	3.1	2.6	3.1
100.	2.6	2.7	2.8	3.1	3.2	3.3	3.7	3.7	3.7	3.3	3.4	2.4	3.4	3.2	3.0	3.3	3.1	2.9	3.2	2.9
110.	2.5	2.5	2.6	2.9	3.0	3.2	3.4	3.4	3.2	3.1	3.0	3.7	3.1	2.9	3.8	2.8	2.9	2.6	4.5	2.5
120.	2.7	2.5	2.6	2.9	3.0	3.1	3.3	3.4	3.3	3.0	2.8	4.4	3.1	3.0	4.7	3.2	3.2	2.8	4.9	2.8
130.	2.8	2.7	2.8	3.1	3.2	3.3	3.5	3.6	3.5	3.2	2.8	4.9	2.9	3.0	4.9	3.4	3.3	2.9	5.0	2.9
140.	3.0	3.0	3.1	3.4	3.6	3.7	3.8	3.7	3.5	3.3	2.7	5.0	3.0	3.3	5.1	3.5	3.5	3.1	5.1	3.2
150.	3.3	3.3	3.4	3.6	3.8	3.8	4.0	3.8	3.6	3.3	2.9	5.0	3.2	3.5	5.2	3.9	3.8	3.6	5.7	3.6
160.	3.9	3.7	4.0	4.2	4.2	4.2	4.2	4.1	3.7	3.4	3.0	4.9	3.2	3.6	5.0	4.2	4.2	4.0	5.6	4.2
170.	4.7	4.6	4.8	4.8	4.7	4.5	4.6	4.3	3.7	3.4	3.0	4.4	3.4	3.6	4.7	4.4	4.5	4.4	5.4	4.8
180.	4.9	4.9	4.9	4.8	4.7	4.4	4.2	3.7	3.2	2.7	2.6	3.7	3.0	3.3	4.3	4.1	4.5	4.7	5.1	5.2
190.	4.7	4.9	4.7	4.5	4.0	3.4	2.9	2.4	2.0	1.8	1.6	3.0	1.9	2.1	3.1	2.9	3.5	3.8	4.1	4.6

```
 200. *  3.7  3.8  3.6  3.2  2.7  2.1  1.6  1.3  1.1  .9  .9  2.6  .9  1.0
2.4  1.5  1.9  2.2  2.7  3.1
 210. *  2.6  2.7  2.4  1.8  1.3  .9  .8  .6  .6  .6  .4  2.7  .5  .4  2.1
.7  .9  1.2  2.0  1.7
 220. *  1.6  1.7  1.6  1.2  .9  .7  .5  .3  .3  .4  .5  2.7  .4  .4  2.3
.4  .5  .6  1.9  .9
 230. *  1.0  1.2  .9  .7  .6  .4  .4  .3  .3  .4  .4  2.9  .3  .4  2.4
.3  .4  .3  1.9  .6
 240. *  .8  .9  .7  .5  .5  .4  .4  .3  .3  .3  .3  3.2  .4  .3  2.9  .2
.2  .2  2.3  .4
 250. *  .6  .7  .5  .4  .3  .3  .3  .3  .3  .3  .2  3.5  .3  .4  3.4  .2
.2  .2  2.6  .3
 260. *  .5  .6  .4  .3  .2  .3  .3  .3  .3  .3  .2  3.7  .3  .3  3.7  .4
.2  .2  3.4  .3
 270. *  .4  .5  .3  .2  .2  .3  .3  .3  .3  .3  .2  4.3  .3  .3  4.4  .3
.3  .3  4.2  .2
 280. *  .4  .5  .3  .2  .2  .3  .3  .3  .3  .3  .2  4.8  .3  .3  4.6  .3
.3  .3  5.0  .3
 290. *  .4  .5  .3  .2  .2  .3  .3  .3  .3  .3  .8  4.8  .9  .9  4.8  .9
.8  .9  5.2  .9
 300. *  .6  .7  .6  .5  .4  .5  .5  .5  .5  .5  1.9  3.8  1.9  1.8  3.9
1.7  1.7  1.9  4.3  1.7
 310. *  1.2  1.4  1.2  .9  .9  .9  .9  .9  .9  .9  2.7  2.2  2.5  2.4
2.4  2.3  2.3  2.6  2.8  2.3
 320. *  1.7  1.8  1.6  1.5  1.4  1.4  1.3  1.3  1.3  1.3  2.7  1.4  2.6
2.6  1.4  2.6  2.5  2.5  1.8  2.3
 330. *  2.0  2.2  2.0  1.7  1.5  1.5  1.6  1.5  1.5  1.5  2.6  .9  2.4
2.3  .8  2.1  2.1  2.1  1.3  2.1
 340. *  2.2  2.3  2.0  1.7  1.6  1.5  1.4  1.3  1.5  1.5  2.1  .9  2.0
1.9  1.0  1.9  1.8  1.7  1.2  1.8
 350. *  2.9  3.1  2.7  2.2  1.8  1.5  1.3  1.2  1.3  1.3  1.8  .9  1.7
1.7  1.0  1.7  1.9  2.0  1.6  2.1
 360. *  4.4  4.6  4.2  3.7  3.0  2.2  1.9  1.7  1.7  1.4  2.1  1.2  2.1
2.1  1.3  2.3  2.6  2.9  1.8  3.2
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  6.4  6.3  6.4  6.3  6.0  5.7  5.5  5.3  4.5  4.1  4.0  5.0  4.1
4.4  5.2  4.8  4.8  5.0  5.7  5.2
 DEGR. *  20  20  20  20  20  30  30  30  30  30  30  140  30  30  150  20
20  20  150  180
```

```
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: 10.-360.

 WIND * CONCENTRATION
 ANGLE *   (PPM)
 (DEGR)* REC41 REC42 REC43 REC44 REC45 REC46 REC47 REC48 REC49 REC50 REC51
REC52 REC53 REC54 REC55 REC56 REC57 REC58 REC59 REC60
 ------*-------------------------------------------------------------------
------------------------------------------------------
 10. *  4.3  4.2  4.0  4.0  4.0  1.4  1.4  1.3  1.3  1.3  1.4  1.1  2.0
2.0  2.2  2.2  2.6  3.2  2.9  2.8
 20. *  4.9  5.0  5.2  5.0  4.9  .9  .9  .9  .9  .9  .9  .5  1.2  1.3  1.4
1.6  1.7  2.0  1.9  1.8
 30. *  4.6  4.7  4.7  5.0  5.0  .8  .8  .7  .7  .6  .7  .2  1.0  .9  .9
1.2  1.2  1.4  1.3  1.3
 40. *  3.7  3.8  4.1  4.3  4.2  .7  .7  .8  .8  .8  .7  .1  .8  .9  .9
1.0  1.0  1.1  1.1  1.3
 50. *  3.0  2.7  3.2  3.5  3.7  .8  .8  .7  .7  .7  .8  .1  .7  .7  .7
.7  .8  .9  1.0  1.0
 60. *  2.7  2.7  2.7  3.1  3.2  .9  .8  .8  .8  .8  .8  .2  .8  .8  .8
.8  .8  .9  1.0  .9
 70. *  2.6  2.6  2.5  3.0  3.0  .9  .8  .7  .8  .7  .7  .2  .8  .8  .7
.7  .7  1.0  .9  .8
 80. *  2.9  2.8  2.8  3.0  2.9  1.0  1.0  .9  .8  .8  .8  .2  .9  .9  1.0
1.0  .9  1.0  .9  1.0
 90. *  3.0  2.9  3.1  3.1  3.4  .9  .7  .7  .7  .7  .7  .2  .7  .7  .7
.7  .8  .9  .9  .8
 100. *  2.9  2.8  3.2  3.3  3.5  .5  .5  .4  .4  .4  .4  .7  .4  .4  .4
.4  .5  .7  .8  .8
 110. *  2.6  2.6  2.6  2.9  3.0  .3  .3  .3  .3  .3  .3  1.3  .3  .3  .2
.3  .3  .6  .4  .3
 120. *  2.8  2.7  2.5  2.6  2.5  .2  .1  .1  .1  .1  .1  1.6  .1  .1  .1
.2  .2  .5  .3  .3
 130. *  2.8  2.8  2.8  2.8  2.7  .1  .1  .1  .1  .1  .1  1.7  .1  .1  .1
.2  .4  .7  .4  .3
 140. *  3.1  3.0  3.0  2.9  2.8  .1  .1  .1  .1  .1  .1  2.0  .1  .1  .1
.2  .6  1.2  .8  .5
 150. *  3.6  3.4  3.4  3.2  3.2  .1  .1  .1  .1  .1  .1  2.1  .1  .0  .3
.6  1.0  1.9  1.4  1.0
 160. *  3.9  3.8  3.7  3.5  3.5  .1  .1  .1  .0  .0  .0  2.2  .2  .4  .8
1.2  1.9  3.0  2.5  1.9
 170. *  4.5  4.3  4.0  4.0  3.8  .1  .1  .1  .1  .1  .1  2.3  .6  1.0
1.4  2.0  2.8  3.7  3.3  2.8
 180. *  4.9  4.6  4.3  3.9  4.0  .3  .3  .3  .2  .3  .4  2.9  1.5  1.9
2.3  2.8  3.4  4.0  3.8  3.6
 190. *  4.3  3.8  3.4  3.0  2.9  .7  .7  .7  .7  .8  .8  3.6  2.4  2.8
3.3  3.8  4.2  4.8  4.6  4.3
```

```
 200. *  2.7  2.2  1.8  1.6  1.6  1.3  1.3  1.3  1.3  1.5  1.6  4.7  3.2
3.5  4.0  4.4  4.6  5.0  4.8  4.9
 210. *  1.5  1.2  .9  .7  .7  2.0  1.9  2.0  1.9  2.0  2.3  4.9  3.7  4.0
4.4  4.5  4.9  5.4  5.4  5.3
 220. *  .6  .5  .4  .4  .4  2.3  2.3  2.2  2.1  2.3  2.5  4.7  3.8  4.1
4.4  4.7  5.0  5.2  5.1  5.0
 230. *  .4  .3  .2  .3  .4  2.6  2.6  2.6  2.5  2.7  2.7  4.2  3.8  4.1
4.2  4.6  4.8  4.9  4.9  4.8
 240. *  .3  .2  .2  .4  .4  2.5  2.5  2.5  2.5  2.7  2.8  3.7  3.7  3.8
4.0  4.3  4.6  4.7  4.7  4.5
 250. *  .2  .2  .3  .4  .4  2.4  2.4  2.6  2.6  2.7  2.8  3.3  3.7  3.8
4.1  4.2  4.6  4.7  4.7  4.4
 260. *  .2  .3  .3  .3  .3  2.6  2.6  2.6  2.7  2.8  2.9  3.2  3.5  3.7
3.8  4.2  4.4  4.5  4.4  4.2
 270. *  .3  .3  .3  .3  .3  2.5  2.5  2.6  2.6  2.7  2.7  3.2  3.7  3.7
3.7  4.0  4.2  4.3  4.3  4.1
 280. *  .3  .3  .3  .3  .5  2.7  2.7  2.6  2.7  2.7  2.7  4.3  3.4  3.6
3.9  3.9  4.1  4.3  4.2  4.1
 290. *  .9  .9  1.0  1.2  1.3  3.3  3.2  3.1  3.0  3.0  3.3  4.2  4.0
4.3  4.4  4.6  4.9  5.1  5.0  4.8
 300. *  2.0  2.0  2.0  2.3  2.5  3.8  3.8  3.8  3.7  3.7  4.0  3.2  4.9
5.0  5.2  5.6  6.0  6.2  6.0  5.9
 310. *  2.6  2.7  2.9  3.1  3.2  4.0  3.9  4.0  3.9  4.0  4.2  2.4  5.2
5.3  5.6  6.0  6.5  7.0  6.6  6.6
 320. *  2.4  2.6  2.8  3.0  3.1  3.4  3.3  3.4  3.3  3.2  3.5  1.9  4.7
4.9  5.2  5.7  6.5  7.1  6.6  6.5
 330. *  2.2  2.2  2.4  2.6  2.5  3.1  3.0  2.8  2.8  2.9  3.0  2.4  4.0
4.4  4.8  5.2  6.1  7.0  6.3  5.9
 340. *  1.8  1.8  1.9  2.0  2.1  3.1  3.1  3.0  2.9  2.8  2.9  2.5  3.3
3.5  3.9  4.5  5.1  6.2  5.5  5.1
 350. *  2.1  1.9  2.0  2.0  2.1  2.9  2.8  2.8  2.8  2.7  2.8  2.4  3.3
3.4  3.5  3.8  4.3  5.2  4.9  4.3
 360. *  3.1  2.9  2.8  2.7  2.7  2.2  2.1  2.1  2.1  2.4  2.4  1.9  2.7
2.9  3.1  3.2  3.7  4.1  3.9  3.6
 ------*------------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.9  5.0  5.2  5.0  5.0  4.0  3.9  4.0  3.9  4.0  4.2  4.9  5.2
5.3  5.6  6.0  6.5  7.1  6.6  6.6
 DEGR. *  20  20  20  20  30  310  310  310  310  310  310  210  310  310
310  310  320  320  310  310
```

THE HIGHEST CONCENTRATION OF 7.10 PPM OCCURRED AT RECEPTOR REC58.

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:32:53

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 # *	320	320	330	320	330	330	330	340	300	350	350	350	350	350	350	30	30	20	20	20
1 *	.3	.3	.1	.3	.1	.2	.2	.1	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
2 *	.4	.5	.6	.5	.6	.6	.7	.7	.7	.5	.6	.7	.7	.8	.9	.0	.0	.4	.5	.5
3 *	.0	.0	.1	.0	.1	.1	.1	.2	.0	.3	.3	.3	.3	.3	.3	.4	.4	.3	.4	.4
4 *	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.1	.1	.4	.4	.2	.2	.2
5 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2
6 *	.0	.0	.0	.0	.0	.0	.0	.1	.0	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3
7 *	.1	.1	.2	.1	.2	.2	.2	.3	.1	.4	.4	.4	.4	.4	.4	1.0	1.0	.4	.4	.4
8 *	.3	.3	.3	.3	.3	.3	.4	.3	.6	.2	.2	.2	.2	.2	.3	.2	.2	.6	.6	.6
9 *	.3	.3	.1	.4	.2	.2	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.7	2.9	2.9
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	.0	.0	.0	.0	.0	.0	.0
13 *	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	.2	.2	.1	.1	.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 *	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1
17 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18 *	.4	.3	.3	.5	.5	.6	.7	.8	.0	.8	.7	.6	.4	.2	.0	.0	.0	.0	.0	.0
19 *	.3	.3	.4	.3	.5	.5	.5	.6	.2	.7	.7	.7	.7	.6	.6	.0	.0	.0	.0	.1

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 *	.5	.6	.8	.6	.9	.9	.9	1.2	.4	1.4	1.4	1.4	1.3	1.1	.9	.0	.0	.1	.1	.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	.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	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
28 *	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
29 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0
30 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.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	.0
36 *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37 *	.2	.2	.1	.2	.1	.1	.2	.1	.4	.0	.0	.0	.0	.1	.1	.4	.4	.1	.1	.1
38 *	.1	.1	.1	.1	.1	.1	.1	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
39 *	.2	.2	.1	.2	.1	.1	.1	.0	.5	.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	.1	.1	.8	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.1
42 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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
44 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45 *	.0	.0	.1	.0	.1	.0	.0	.1	.2	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.1

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

* 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
ANGLE	320	320	330	320	330	330	330	340	300	350	350	350	350	350	350	30	30	20	20	20
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	.1	.1	.2	.1	.2	.2	.2	.1	.4	.1	.1	.1	.1	.1	.1	.4	.5	.1	.1	.1
50	.1	.1	.1	.1	.1	.1	.1	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
51	.1	.1	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
52	.1	.1	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:32:53

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
ANGLE	20	20	20	20	20	30	30	30	30	30	30	140	30	30	150	20	20	20	150	180
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.2	.0	.0	.0	.2	1.2
2	.6	.6	.5	.4	.4	.6	.6	.5	.4	.4	.0	.7	.0	.1	.7	.0	.1	.1	.8	.0
3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.0	.5	.6	.0	.4	.4	.5	.0	.0
4	.2	.2	.3	.3	.3	.2	.2	.2	.2	.2	.4	.0	.4	.4	.0	.4	.4	.4	.0	.0
5	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.2	.0	.2	.2	.0	.2	.2	.2	.0	.0
6	.3	.3	.3	.4	.4	.2	.2	.2	.2	.2	.4	.0	.4	.4	.0	.6	.6	.6	.0	.0
7	.4	.4	.5	.5	.5	.3	.3	.4	.4	.4	1.0	.2	1.0	.9	.1	1.0	1.0	1.0	.1	.0
8	.6	.6	.6	.7	.7	.6	.6	.7	.7	.7	.2	.6	.3	.5	.8	.6	.7	.8	.9	.0
9	2.9	2.8	2.8	2.7	2.4	2.4	2.2	1.9	1.4	1.0	.0	.1	.0	.0	.2	.0	.0	.0	.1	3.9
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	.0	.0	.0	.0	.0	.0	.0
13	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.2	.2	.1	.2	.2	.2	.1	.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	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.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	.1	.0	.0	.0	.1	.1
19	.1	.1	.1	.0	.0	.1	.1	.1	.0	.0	.0	.2	.0	.0	.2	.0	.0	.0	.3	.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	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.4	.0	.0	.4	.0	.0	.0	.5	.0
23	*	.0	.0	.0	.0	.0	.1	.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	.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	.1	.1	.1	.0	.0
28	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0
29	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.0	.0	.1	.0
30	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.1	.1	.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	.1	.1	.0	.1	.1	.1	.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	.0
36	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37	*	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.4	.4	.4	.4	.5	.4	.3	.4	.5	.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	*	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.2	.0	.0	.1	.0	.0	.0	.2	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
44	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45	*	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.0	.0	.1	.0	.0	.0	.1	.0

```
                                                                PAGE 11
JOB: I25/US 24-2035 Action                 RUN: 2035 PM Peak

     *  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 # *  20  20  20  20  20  30  30  30  30  30  30  140  30  30  150
20  20  20  150  180
  -------*------------------------------------------------------------
--------------------------------------------------------
   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 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .5  1.7  .4  .4  1.6  .4
.4  .4  1.6  .0
   50 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   51 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   52 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
```

JOB: I25/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:32:53

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
LINK # *	20	20	20	20	30	310	310	310	310	310	310	210	310	310	310	310	320	320	310	310
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.1	.1	.0	.0	.1	.6	.6	.6	.6	.6	.7	.4	.7	.7	.8	.8	.9	.9	.8	.8
3 *	.5	.5	.5	.4	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4 *	.4	.4	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5 *	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.5	.6	.6	.6	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7 *	1.0	1.0	1.1	1.1	1.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.2	.2	.1	.1
8 *	.9	.8	.7	.4	.6	.4	.4	.4	.4	.4	.4	.0	.5	.5	.5	.5	.6	.6	.6	.6
9 *	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.8	.1	.1	.1	.2	.0	.0	.1	.1
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	.1	.0	.0	.0	.0	.0	.0	.0	.0
13 *	.2	.2	.2	.3	.3	.3	.3	.3	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.3
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 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.2	.2	.2	.2
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	.3	.3	.3	.3	.4	.4	.3	.7	.7	.8	.9	1.0	1.1	1.0	1.0

```
   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  .5  .5  .6  .6  .6  .7  .5  1.2  1.3  1.5
1.7  2.0  2.5  2.1  1.9
   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 *  .1  .1  .1  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   28 *  .0  .0  .1  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   29 *  .0  .0  .1  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   30 *  .1  .1  .1  .1  .1  .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 *  .1  .1  .1  .1  .1  .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  .0
   36 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   37 *  .3  .4  .4  .5  .5  .2  .2  .2  .2  .2  .2  .0  .3  .3  .3  .3
.3  .3  .3  .3
   38 *  .0  .0  .0  .0  .0  .2  .2  .2  .2  .2  .2  .0  .2  .2  .2  .2
.1  .1  .2  .2
   39 *  .0  .0  .0  .0  .0  .3  .3  .3  .3  .3  .3  .0  .4  .4  .4  .4
.2  .2  .4  .4
   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  .2  .1  .1  .1  .1  .1  .3  .1  .1  .0  .0
.1  .1  .0  .1
   42 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .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
   44 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   45 *  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1  .1  .6  .0  .0  .0  .0
.1  .1  .0  .0
```

```
JOB: I25/US 24-2035 Action              RUN: 2035 PM Peak

     *  CO/LINK (PPM)
     *  ANGLE (DEGREES)
     * REC41 REC42 REC43 REC44 REC45 REC46 REC47 REC48 REC49 REC50 REC51
REC52 REC53 REC54 REC55 REC56 REC57 REC58 REC59 REC60
  LINK # *  20  20  20  20  30  310  310  310  310  310  310  210  310
310  310  310  320  320  310  310
  -------*--------------------------------------------------------------
--------------------------------------------------------
   46 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .7  .0  .0  .0  .0
.0  .0  .0  .0
   47 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .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 *  .4  .4  .5  .5  .5  .2  .2  .2  .2  .2  .2  .0  .2  .2  .2  .2
.3  .3  .2  .2
   50 *  .0  .0  .0  .0  .0  .2  .2  .2  .2  .2  .2  .0  .2  .2  .2  .2
.2  .2  .2  .2
   51 *  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1  .1  .0  .1  .1  .1  .1
.0  .0  .1  .1
   52 *  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1  .1  .0  .1  .1  .1  .1
.1  .1  .1  .1
```

7. No-Action Alternative (Existing Interchange) for 2020 PM Peak Period

Location:	US 24 at 8th Street
Configuration:	At-grade signalized intersection
1-hour Result:	Worst case average of 5.1 parts per million as indicated on Page 6 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	2.91 ppm
Assumed Background:	1.84 ppm
Total Concentration:	**4.75 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221
PAGE 1

JOB: 8th/US 24-No Action                RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:53:27

The MODE flag has been set to C for calculating CO averages.

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. US24 EB Appr 1   *  -325.9   179.2  -1000.0   605.0 *   797.  302.
AG  1480. 17.1  .0 44.0
    2. US24 EB Appr    *   -8.6   -21.2  -325.9   179.2 *   375.  302. AG
1480. 17.1  .0 68.0
    3. US24 EB thru Q   *  -61.6   12.3  -432.9   246.8 *   439.  302. AG
332. 100.0  .0 24.0 1.01 22.3
    4. US24 EB left Q   *  -55.7   28.6  -109.0   62.5 *   63.  303. AG
223. 100.0  .0 12.0 .35  3.2
    5. US24 EB right Q   *  -67.5   -4.7   -99.0   13.5 *   36.  300. AG
101. 100.0  .0 12.0 .14  1.8
    6. US24 EB Dptr 1   *   -8.6   -21.1   317.6  -209.0 *   376.  120. AG
1445. 17.1  .0 44.0
    7. US24 EB Dptr RMrg  *   57.3   -80.0   308.6  -224.6 *   290.  120.
AG  798. 17.1  .0 32.0
    8. US24 EB Dptr 2   *  317.6  -209.0   759.0  -463.0 *   509.  120. AG
2243. 17.1  .0 44.0
    9. US24 WB Appr 1   *  310.4  -154.2   782.7  -421.5 *   543.  120. AG
2408. 17.1  .0 44.0
   10. US24 WB Appr 2   *   5.4   18.4   310.4  -154.2 *   350.  120. AG
2408. 17.1  .0 68.0
   11. US24 WB Thru Q   *   58.7   -11.7   348.4  -175.7 *   333.  120. AG
243. 100.0  .0 24.0 .94 16.9
   12. US24 WB Left Q   *   56.3   -38.6   404.6  -234.6 *   400.  119. AG
433. 100.0  .0 24.0 1.03 20.3
   13. US24 WB Right Q   *   60.5    7.9   81.4   -3.9 *   24.  120. AG
101. 100.0  .0 12.0 .09  1.2
   14. US24 WB Dptr 1   *   5.4   18.4  -498.5   330.3 *   593.  302. AG
2135. 17.1  .0 44.0
   15. US24 WB Dptr RMrg  *  -41.9   68.9  -491.1   342.3 *   526.  301.
AG   88. 17.1  .0 32.0
   16. US24 WB Dptr 2   *  -498.5   330.3  -1000.0   640.7 *   590.  302.
AG  2223. 17.1  .0 44.0
```

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   17. 8th NB Appr 1    *   10.1  -269.8   -7.6  -1082.7 *   813.  181. AG
1735. 16.9  .0 44.0
   18. 8th NB Appr 2    *   15.8   -8.9   10.1  -269.8 *   261.  181. AG
1735. 16.9  .0 68.0
   19. 8th NB Thru Q    *   14.4   -71.5   11.8  -191.2 *   120.  181. AG
400. 100.0  .0 24.0 .53  6.1
   20. 8th NB Left Q    *   -9.5   -59.9   -28.8  -983.2 *   924.  181. AG
481. 100.0  .0 24.0 1.37 46.9
   21. 8th NB Right Q   *   32.2   -80.2   30.3  -167.4 *   87.  181. AG
40. 100.0  .0 12.0 .60  4.4
   22. 8th NB Dptr     *   15.8   -8.9   501.7   791.8 *   937.  31. AG
630. 16.9  .0 44.0
   23. 8th SB Appr 1    *  -19.8   132.6   -16.4   917.1 *   785.   0. AG
748. 16.9  .0 44.0
   24. 8th SB Appr 2    *  -20.3   15.4   -19.8   132.6 *   117.   0. AG
748. 16.9  .0 68.0
   25. 8th SB Thru Q    *  -20.1   69.3   -19.5   193.1 *   124.   0. AG
408. 100.0  .0 24.0 .57  6.3
   26. 8th SB Left Q    *   1.4   52.5    1.4  1517.1 *  1465.  360. AG
258. 100.0  .0 12.0 2.54 74.4
   27. 8th SB Right Q   *  -38.3   82.9   -38.2   93.8 *   11.   1. AG
40. 100.0  .0 12.0 .08  .6
   28. 8th SB Dptr     *  -35.8   25.8   -61.1  -1082.7 *  1109.  181. AG
1263. 16.9  .0 44.0
```

PAGE 2
JOB: 8th/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:53:27

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. US24 EB thru Q	140	82	2.0	1243	1600	105.70	1	3
4. US24 EB left Q	140	110	2.0	105	1600	105.70	1	3
5. US24 EB right Q	140	50	2.0	133	1600	105.70	1	3
11. US24 WB Thru Q	140	60	2.0	1635	1600	105.70	1	3
12. US24 WB Left Q	140	107	2.0	685	1600	105.70	1	3
13. US24 WB Right Q	140	50	2.0	88	1600	105.70	1	3
19. 8th NB Thru Q	140	100	2.0	438	1600	104.50	1	3
20. 8th NB Left Q	140	120	2.0	500	1600	104.50	1	3
21. 8th NB Right Q	140	20	2.0	798	1600	104.50	1	3
25. 8th SB Thru Q	140	102	2.0	445	1600	104.50	1	3
26. 8th SB Left Q	140	129	2.0	203	1600	104.50	1	3
27. 8th SB Right Q	140	20	2.0	100	1600	104.50	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Rec 1	46.9	-146.0	6.0
2. Rec 2	47.1	-137.3	6.0
3. Rec 3	47.2	-128.5	6.0
4. Rec 4	47.4	-119.7	6.0
5. Rec 5	47.5	-111.0	6.0
6. Rec 6	47.8	-102.2	6.0
7. Rec 7	48.9	-93.6	6.0
8. Rec 8	56.5	-98.0	6.0
9. Rec 9	64.0	-102.4	6.0
10. Rec 10	71.6	-106.7	6.0
11. Rec 11	79.2	-111.1	6.0
12. Rec 12	86.8	-115.5	6.0

13. Rec 13	*	94.4	-119.8	6.0	*
14. Rec 14	*	-65.4	-79.2	6.0	*
15. Rec 15	*	-65.4	-70.4	6.0	*
16. Rec 16	*	-65.2	-61.7	6.0	*
17. Rec 17	*	-65.0	-52.9	6.0	*
18. Rec 18	*	-64.9	-44.2	6.0	*
19. Rec 19	*	-64.7	-35.5	6.0	*
20. Rec 20	*	-64.5	-26.8	6.0	*
21. Rec 21	*	-71.0	-21.2	6.0	*
22. Rec 22	*	-78.6	-16.8	6.0	*
23. Rec 23	*	-86.2	-12.4	6.0	*
24. Rec 24	*	-93.8	-8.0	6.0	*
25. Rec 25	*	-101.3	-3.7	6.0	*
26. Rec 26	*	-107.8	.0	6.0	*
27. Rec 27	*	-115.3	4.3	6.0	*
28. Rec 28	*	-122.9	8.7	6.0	*
29. Rec 29	*	-98.9	122.0	6.0	*
30. Rec 30	*	-91.4	117.4	6.0	*
31. Rec 31	*	-83.9	112.9	6.0	*
32. Rec 32	*	-76.5	108.3	6.0	*
33. Rec 33	*	-69.0	103.8	6.0	*

PAGE 3
JOB: 8th/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:53:27

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
34. Rec 34	-61.6	99.1	6.0
35. Rec 35	-54.0	94.7	6.0
36. Rec 36	-54.0	103.4	6.0
37. Rec 37	-54.0	112.2	6.0
38. Rec 38	-54.0	120.9	6.0
39. Rec 39	-54.1	129.7	6.0
40. Rec 40	-46.2	133.3	6.0
41. Rec 41	17.4	65.2	6.0
42. Rec 42	17.4	56.5	6.0
43. Rec 43	17.4	48.2	6.0
44. Rec 44	17.4	39.4	6.0
45. Rec 45	25.8	53.2	6.0
46. Rec 46	30.5	61.3	6.0
47. Rec 47	35.1	68.7	6.0
48. Rec 48	117.7	-6.1	6.0
49. Rec 49	106.9	.0	6.0
50. Rec 50	98.7	6.0	6.0
51. Rec 51	90.3	10.8	6.0
52. Rec 52	81.6	14.3	6.0
53. Rec 53	71.1	21.3	6.0
54. Rec 54	59.6	26.8	6.0
55. Rec 55	64.7	35.1	6.0
56. Rec 56	70.2	44.1	6.0
57. Rec 57	75.4	52.7	6.0
58. Rec 58	81.3	62.4	6.0
59. Rec 59	87.0	71.5	6.0
60. Rec 60	17.4	74.0	6.0

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: 10.-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
 ------*------------------------------------------------------------
----------------------------------------------------
 10. *  2.3  2.3  2.4  2.5  2.6  2.7  2.8  2.9  3.1  3.1  3.2  3.2  3.2
2.7  2.9  2.9  3.0  2.9  3.2  3.2
 20. *  2.2  2.2  2.4  2.4  2.5  2.6  2.8  3.1  3.2  3.2  3.1  3.0  3.0
2.7  2.8  2.7  2.8  3.1  3.2  3.2
 30. *  2.1  2.1  2.3  2.6  2.6  2.7  2.9  3.1  3.1  3.2  3.2  3.2  3.2
2.5  2.4  2.5  2.6  2.7  2.9  3.0
 40. *  2.0  2.1  2.4  2.5  2.5  2.7  3.0  3.0  3.1  3.1  3.1  3.0  3.1
2.6  2.6  2.5  2.6  2.5  2.9  2.6
 50. *  2.0  2.2  2.4  2.5  2.5  2.8  3.0  3.1  3.1  3.0  3.0  3.0  3.0
2.5  2.2  2.2  2.3  2.6  2.5  2.5
 60. *  2.0  2.2  2.4  2.5  2.8  2.9  3.1  3.1  3.1  3.1  3.1  3.1  3.1
2.5  2.4  2.4  2.4  2.3  2.4  2.6
 70. *  2.1  2.3  2.4  2.5  2.7  3.0  3.4  3.4  3.3  3.3  3.3  3.3  3.3
3.1  2.8  2.7  2.5  2.5  2.6  2.7
 80. *  2.2  2.4  2.4  2.8  2.8  3.2  3.5  3.6  3.6  3.6  3.7  3.6  3.6
3.8  3.5  3.2  3.0  2.9  3.1  3.1
 90. *  2.3  2.4  2.5  2.9  3.3  3.4  3.7  3.8  3.9  3.9  4.0  4.0  3.9
4.3  4.2  4.0  4.0  4.0  3.7  3.6
 100. *  1.9  2.3  2.4  2.7  3.1  3.5  4.1  4.0  4.0  4.1  4.1  4.1  4.0
4.3  4.5  4.4  4.4  4.3  4.4  4.6
 110. *  1.4  1.7  1.8  2.2  2.3  2.8  3.6  3.6  3.6  3.7  3.6  3.4  3.4
4.1  4.2  4.2  4.3  4.5  4.5  4.8
 120. *  .9  .9  .9  1.2  1.4  1.9  2.5  2.4  2.3  2.2  2.2  2.1  2.1  3.4
3.5  3.6  3.8  3.7  3.8  4.1
 130. *  .2  .2  .3  .4  .6  .8  1.1  1.0  1.0  1.0  1.0  1.0  1.0  2.8
2.8  3.2  3.1  3.1  3.1  3.3
 140. *  .1  .1  .1  .1  .1  .2  .4  .3  .3  .3  .3  .3  .3  2.8  2.7  2.8
2.8  2.8  2.8  2.9
 150. *  .1  .1  .1  .1  .1  .1  .2  .1  .1  .1  .1  .1  .1  2.8  2.8  2.8
2.8  2.9  3.0  3.1
 160. *  .3  .3  .3  .3  .3  .3  .3  .2  .1  .1  .1  .1  .1  2.9  2.9  3.0
3.0  3.0  2.9  3.0
 170. *  .7  .7  .7  .8  .9  .9  .8  .5  .4  .2  .2  .2  .2  2.7  2.7  2.7
2.8  2.8  2.8  2.9
 180. *  1.8  1.8  1.9  2.0  2.1  2.0  1.9  1.6  1.1  1.0  .8  .7  .6  2.0
2.0  2.0  2.0  2.0  2.0  2.0
 190. *  2.7  2.8  2.9  2.8  3.0  3.1  3.1  2.5  2.1  1.8  1.5  1.4  1.3
.9  .9  .9  .9  .9  .9  .9
```

```
 200. *  3.1  3.2  3.4  3.4  3.5  3.6  3.5  3.1  2.6  2.1  2.0  1.7  1.6
.2  .2  .2  .3  .3  .3  .3
 210. *  3.0  3.2  3.4  3.4  3.5  3.5  3.5  3.0  2.7  2.3  2.0  1.8  1.8
.1  .1  .1  .1  .1  .1  .1
 220. *  3.1  3.2  3.2  3.3  3.3  3.3  3.3  3.0  2.6  2.3  2.1  1.9  1.7
.0  .0  .0  .0  .0  .0  .0
 230. *  3.1  3.1  3.2  3.3  3.4  3.4  3.2  2.9  2.6  2.4  2.1  1.9  1.8
.0  .0  .0  .0  .0  .0  .0
 240. *  3.0  3.0  3.0  3.0  3.0  3.0  3.0  2.7  2.5  2.4  2.2  2.0  1.9
.0  .0  .0  .0  .0  .0  .0
 250. *  2.9  2.9  2.9  2.9  2.9  2.9  2.9  2.6  2.5  2.2  2.2  2.0  1.7
.0  .0  .0  .0  .0  .0  .1
 260. *  2.9  2.9  2.9  2.9  2.9  2.9  2.9  2.7  2.5  2.2  2.2  2.2  1.7
.0  .0  .0  .0  .0  .0  .1
 270. *  3.0  3.0  3.0  3.0  3.0  3.0  3.0  2.7  2.5  2.3  2.3  2.3  1.8
.0  .0  .0  .0  .0  .0  .1
 280. *  2.9  2.9  2.9  2.9  2.9  2.8  2.8  2.6  2.4  2.4  2.3  2.1  1.9
.0  .0  .0  .0  .0  .1  .2
 290. *  2.9  3.1  3.2  3.2  3.2  3.2  3.2  2.9  3.0  2.8  2.5  2.4  2.3
.1  .1  .1  .3  .3  .5  .9
 300. *  3.6  3.6  3.6  3.9  3.7  3.8  3.8  3.7  3.3  3.4  3.2  3.3  3.2
.6  .7  .8  .9  1.1  1.4  2.0
 310. *  4.1  4.3  4.3  4.4  4.4  4.2  4.1  4.2  4.0  4.1  3.9  3.9  3.7
1.3  1.4  1.5  1.8  2.0  2.5  2.8
 320. *  4.5  4.3  4.4  4.5  4.4  4.4  4.1  4.1  3.9  4.0  4.2  4.0  3.9
1.7  1.8  1.9  2.2  2.4  3.0  3.3
 330. *  4.4  4.0  4.0  3.9  3.7  3.6  3.6  3.4  3.6  3.6  3.7  4.0  3.9
1.6  1.8  2.0  2.2  2.4  2.6  3.0
 340. *  3.8  3.6  3.7  3.4  3.4  3.3  3.2  3.5  3.6  3.7  3.8  3.9  3.9
1.8  1.9  2.0  2.1  2.3  2.5  2.8
 350. *  3.5  3.3  3.2  3.2  3.5  3.3  3.6  3.6  3.8  3.9  3.6  3.6  3.6
2.1  2.1  2.2  2.4  2.5  2.7  2.8
 360. *  2.8  2.9  3.0  2.9  3.1  3.1  3.3  3.3  3.4  3.5  3.4  3.5  3.5
2.5  2.6  2.7  2.7  3.0  3.0  3.1
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.5  4.3  4.4  4.5  4.4  4.4  4.1  4.2  4.0  4.1  4.2  4.1  4.0
4.3  4.5  4.4  4.4  4.5  4.5  4.8
 DEGR. * 320  310  320  320  310  320  310  310  100  100  320  100  100
90  100  100  100  110  110  110
```

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: 10.-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
10. *	3.4	3.6	3.4	3.4	3.0	2.8	2.8	2.6	.5	.5	.6	.7	.9	1.1	1.5	1.4	1.4	1.3	1.2	1.6
20. *	3.2	3.5	3.7	3.5	3.4	3.2	2.9	2.8	.6	.6	.8	.9	1.1	1.3	1.8	1.7	1.6	1.6	1.4	1.7
30. *	3.1	3.4	3.7	3.8	3.6	3.5	3.3	3.3	.7	.7	.8	1.0	1.3	1.5	1.9	1.9	1.7	1.6	1.5	1.9
40. *	2.7	2.9	3.2	3.6	3.6	3.6	3.2	3.2	.8	.9	1.1	1.2	1.5	1.7	2.0	2.0	1.9	1.9	1.7	2.2
50. *	2.5	2.6	3.0	3.2	3.4	3.3	3.3	3.2	.9	1.0	1.1	1.3	1.4	1.8	2.0	2.0	2.0	1.8	1.9	2.1
60. *	2.3	2.5	2.7	2.7	3.1	3.1	3.3	3.0	.9	1.1	1.3	1.4	1.4	1.6	1.8	1.8	1.8	1.7	1.7	2.2
70. *	2.5	2.5	2.5	2.4	3.1	3.2	3.0	3.1	1.1	1.2	1.2	1.4	1.4	1.5	1.7	1.8	1.7	1.7	1.7	2.0
80. *	2.8	2.7	2.6	2.9	2.9	3.1	3.1	2.9	1.0	1.1	1.3	1.4	1.4	1.5	1.7	1.7	1.6	1.7	1.6	1.9
90. *	3.4	3.3	3.2	3.0	3.3	3.3	3.3	3.2	1.1	1.1	1.2	1.4	1.4	1.5	1.7	1.7	1.7	1.6	1.6	2.0
100. *	4.4	4.3	3.9	3.8	3.8	4.0	3.8	3.7	1.1	1.1	1.2	1.4	1.5	1.6	1.9	1.8	1.7	1.6	1.7	1.8
110. *	4.8	4.7	4.4	4.3	4.0	3.9	3.9	3.9	1.8	1.8	1.9	2.0	2.0	2.3	2.5	2.4	2.3	2.2	2.0	2.1
120. *	4.1	3.8	3.8	3.7	3.5	3.5	3.5	3.3	2.9	3.1	3.0	3.0	3.2	3.2	3.4	3.3	3.3	3.1	2.8	2.9
130. *	3.1	2.9	2.9	2.7	2.6	2.6	2.6	2.5	3.8	3.8	3.9	3.9	4.0	4.1	4.3	4.1	4.1	3.9	3.8	3.9
140. *	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.9	3.8	3.8	3.7	4.1	4.1	4.2	4.2	4.1	4.0	3.7	3.7	4.0
150. *	2.8	2.5	2.3	2.1	2.0	1.9	1.7	1.7	3.8	3.7	3.9	3.8	4.0	3.9	3.9	3.8	3.6	3.5	3.5	4.0
160. *	2.8	2.5	2.4	2.2	1.9	1.9	1.9	1.7	4.2	4.0	4.1	3.8	3.9	4.2	3.8	3.6	3.7	3.6	3.7	4.0
170. *	2.6	2.3	2.0	1.8	1.7	1.6	1.5	1.4	3.9	3.8	3.9	4.2	4.3	4.4	4.4	4.2	4.1	3.9	3.8	3.9
180. *	1.8	1.5	1.3	1.1	1.0	.9	.8	.7	3.3	3.4	3.6	3.7	3.8	3.7	3.9	3.8	3.5	3.5	3.4	3.6
190. *	.6	.5	.5	.4	.3	.3	.2	.2	2.4	2.7	2.6	2.7	2.8	3.0	3.0	2.9	2.7	2.7	2.6	2.5

200. *	.1	.1	.0	.0	.0	.0	.0	.0	2.1	2.1	2.2	2.3	2.3	2.4	2.6	2.3	2.1	1.9	1.9	2.0
210. *	.0	.0	.0	.0	.0	.0	.0	.0	2.1	2.2	2.2	2.3	2.3	2.4	2.3	2.0	1.8	1.7	1.7	1.6
220. *	.0	.0	.0	.0	.0	.0	.0	.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.0	1.8	1.6	1.6	1.7
230. *	.0	.0	.0	.0	.0	.0	.0	.0	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.0	1.7	1.7	1.6	1.7
240. *	.0	.0	.0	.0	.0	.0	.0	.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2	1.9	1.7	1.6	1.5	1.5
250. *	.1	.1	.1	.1	.1	.1	.1	.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.1	1.7	1.6	1.5	1.5
260. *	.1	.1	.1	.1	.1	.1	.1	.1	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.2	1.9	1.7	1.6	1.5
270. *	.1	.1	.1	.1	.1	.1	.1	.1	2.5	2.5	2.5	2.5	2.5	2.7	2.6	2.3	2.2	1.8	1.7	1.6
280. *	.2	.2	.2	.2	.2	.2	.1	.1	2.7	2.7	2.8	2.8	2.8	2.9	2.8	2.5	2.2	1.9	1.8	1.6
290. *	.9	.9	.9	.9	.8	.8	.8	.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.3	2.0	1.8	1.5	1.4
300. *	2.1	1.9	1.8	1.8	1.8	1.9	1.8	1.7	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.6	1.2	1.1	.9	.8
310. *	3.0	2.8	2.8	2.8	2.8	2.8	2.7	2.7	.9	.9	.9	.9	.9	.9	.9	.5	.4	.4	.3	.3
320. *	3.3	3.1	3.1	3.0	3.0	3.1	3.0	2.9	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0
330. *	3.1	3.1	3.0	2.8	2.6	2.6	2.6	2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
340. *	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
350. *	2.9	3.1	2.9	2.8	2.6	2.4	2.4	2.3	.1	.1	.2	.2	.2	.2	.4	.3	.3	.3	.3	.5
360. *	3.3	3.3	3.3	3.0	2.8	2.6	2.5	2.3	.3	.3	.4	.4	.5	.7	.9	.8	.8	.7	.7	1.0
MAX *	4.8	4.7	4.4	4.3	4.0	4.0	3.9	3.9	4.2	4.0	4.1	4.2	4.3	4.4	4.4	4.2	4.1	3.9	3.8	4.0
DEGR. *	110	110	110	110	110	100	110	110	160	160	160	170	170	170	170	170	170	170	170	160

```
JOB: 8th/US 24-No Action              RUN: 2020 PM Peak

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: 10.-360.

 WIND * CONCENTRATION
 ANGLE *   (PPM)
 (DEGR)* REC41 REC42 REC43 REC44 REC45 REC46 REC47 REC48 REC49 REC50 REC51
REC52 REC53 REC54 REC55 REC56 REC57 REC58 REC59 REC60
 ------*------------------------------------------------------------------
------------------------------------------------------
 10. *  .8  .8  .9  .9  .5  .5  .4  .2  .3  .4  .4  .4  .6  .7  .7  .7  .7
.7  .7  .7
 20. *  .2  .2  .3  .3  .3  .3  .3  .2  .2  .2  .3  .3  .5  .7  .7  .7  .7
.7  .7  .2
 30. *  .3  .3  .4  .5  .5  .5  .5  .1  .1  .2  .2  .2  .4  .6  .6  .6  .6
.6  .6  .2
 40. *  .4  .4  .5  .7  .6  .6  .6  .0  .0  .1  .1  .1  .2  .4  .4  .4  .4
.4  .4  .3
 50. *  .4  .5  .5  .7  .6  .6  .6  .0  .0  .0  .0  .0  .1  .2  .2  .2  .2
.2  .2  .4
 60. *  .4  .4  .5  .7  .5  .5  .5  .1  .1  .1  .1  .1  .1  .2  .1  .1  .1
.1  .1  .3
 70. *  .3  .4  .5  .6  .5  .4  .4  .1  .1  .1  .1  .1  .1  .2  .1  .1  .1
.1  .1  .3
 80. *  .3  .3  .5  .7  .5  .4  .4  .1  .1  .1  .1  .1  .1  .1  .0  .0  .0
.0  .0  .3
 90. *  .3  .4  .5  .7  .4  .3  .3  .2  .2  .2  .2  .2  .2  .2  .1  .0  .0
.0  .0  .3
 100. *  .4  .5  .7  1.3  .5  .4  .3  .4  .4  .4  .4  .4  .4  .3  .1  .0
.0  .0  .0  .3
 110. *  1.0  1.3  1.8  2.5  1.3  1.0  .9  1.2  1.2  1.2  1.2  1.2  1.2
1.4  .9  .7  .3  .2  .1  .9
 120. *  2.3  2.6  3.3  4.2  2.6  2.1  1.8  2.7  2.8  2.6  2.6  2.8  2.8
2.9  2.0  1.5  1.1  .9  .8  1.9
 130. *  3.3  3.8  4.4  5.0  4.0  3.2  3.0  3.9  3.8  3.8  3.8  4.1  4.0
4.1  3.3  2.7  2.2  1.8  1.7  3.0
 140. *  3.5  3.8  4.1  4.4  4.1  3.6  3.2  4.1  4.1  4.1  4.1  4.2  4.3
4.2  3.7  3.1  2.8  2.3  2.0  3.2
 150. *  3.0  3.5  3.6  3.9  3.5  3.5  3.2  3.9  4.0  3.9  3.9  4.0  4.0
4.0  3.6  3.2  2.6  2.5  2.2  2.9
 160. *  3.0  3.0  3.4  3.5  3.3  3.1  3.1  3.6  3.6  3.5  3.5  3.7  3.7
3.6  3.2  2.9  2.6  2.3  2.0  3.0
 170. *  3.6  3.8  3.9  4.1  3.9  3.6  3.5  3.4  3.5  3.4  3.4  3.5  3.6
3.7  3.2  3.1  2.8  2.4  2.3  3.4
 180. *  4.3  4.6  4.9  4.9  4.3  4.2  4.0  3.6  3.7  3.8  3.8  4.2  4.2
4.3  4.1  3.7  3.3  3.1  2.8  4.2
 190. *  4.3  4.4  4.6  4.9  4.4  4.2  4.2  4.0  4.3  4.1  4.3  4.7  4.8
4.6  4.5  4.3  4.0  3.7  3.6  4.0
```

```
 200. *  3.4  3.6  3.9  4.2  4.1  3.7  3.5  4.7  4.8  4.7  4.9  5.1  4.8
4.7  4.5  4.2  4.0  3.8  3.5  3.3
 210. *  2.6  2.7  3.1  3.4  2.9  2.8  2.7  4.7  4.7  4.8  4.7  4.8  4.4
4.0  3.7  3.5  3.2  3.2  3.2  2.7
 220. *  2.4  2.1  2.3  2.6  2.4  2.3  2.1  4.4  4.5  4.2  4.1  4.0  3.5
3.4  3.1  2.8  2.6  2.6  2.4  2.3
 230. *  2.4  2.3  2.2  2.3  2.2  1.9  2.0  4.1  3.9  3.6  3.5  3.3  3.0
3.0  2.8  2.4  2.2  2.2  2.1  2.6
 240. *  2.8  2.4  2.5  2.4  2.3  2.1  2.1  3.6  3.5  3.4  3.2  2.9  2.6
2.8  2.5  2.4  2.3  2.1  2.0  2.7
 250. *  3.1  2.6  2.6  3.0  2.6  2.3  2.4  3.4  3.2  3.0  2.9  2.8  2.6
2.8  2.5  2.3  2.0  2.1  2.0  3.0
 260. *  3.2  3.1  3.1  3.1  2.9  2.7  2.6  3.4  3.1  3.1  2.9  2.8  2.8
2.9  2.6  2.4  2.4  2.4  2.4  3.3
 270. *  3.6  3.4  3.3  3.4  3.1  3.0  2.8  3.2  3.2  3.3  3.1  3.2  3.0
3.3  3.1  3.0  2.6  2.7  2.6  3.7
 280. *  3.7  3.8  3.7  3.7  3.4  3.3  3.1  3.4  3.6  3.4  3.3  3.2  3.6
3.7  3.3  2.9  2.7  2.7  2.5  3.7
 290. *  3.7  3.8  3.9  3.9  3.5  3.3  2.9  3.9  3.7  3.7  3.5  3.6  3.7
3.8  3.2  2.8  2.6  2.6  2.3  3.6
 300. *  3.2  3.3  3.3  3.6  3.0  2.7  2.6  2.9  2.9  3.1  3.0  3.1  3.2
3.2  2.8  2.5  2.3  2.2  2.0  3.2
 310. *  2.4  2.7  2.6  2.7  2.3  2.1  1.9  2.2  2.0  2.0  1.9  2.0  2.3
2.3  2.0  1.8  1.6  1.5  1.5  2.4
 320. *  2.2  2.2  2.3  2.2  1.9  1.8  1.6  1.2  1.3  1.3  1.3  1.5  1.4
1.7  1.5  1.2  1.3  1.1  1.0  2.1
 330. *  2.3  2.3  2.2  2.3  2.0  1.7  1.5  1.0  1.0  1.0  1.0  1.3  1.4
1.6  1.5  1.3  1.2  1.1  1.0  2.3
 340. *  2.4  2.4  2.3  2.4  1.9  1.6  1.5  .9  .9  .9  1.0  1.1  1.2  1.6
1.2  1.1  1.1  1.1  1.0  2.2
 350. *  2.2  2.1  2.1  2.4  1.5  1.3  1.2  .7  .7  .7  .9  1.0  1.2  1.3
1.1  1.0  1.0  1.0  .9  2.1
 360. *  1.5  1.6  1.6  1.7  1.1  .9  .7  .6  .6  .6  .7  .7  .9  1.0  .9
.9  .9  .8  .8  1.5
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.3  4.6  4.9  5.0  4.4  4.2  4.2  4.7  4.8  4.8  4.9  5.1  4.8
4.7  4.5  4.3  4.0  3.8  3.6  4.2
 DEGR. * 180  180  180  130  190  180  190  200  200  210  200  200  200
200  190  190  190  200  190  180
```

THE HIGHEST CONCENTRATION OF 5.10 PPM OCCURRED AT RECEPTOR REC52.

PAGE 7
JOB: 8th/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:53:27

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 # *	320	310	320	320	310	320	310	310	100	100	320	100	100	90	100	100	100	110	110	110
1 *	.1	.2	.1	.1	.2	.1	.2	.2	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.4	.4	.5	.5	.5	.5	.6	.6	.0	.0	.4	.0	.0	.0	.0	.0	.0	.1	.2	.4
3 *	.3	.3	.3	.3	.4	.3	.4	.4	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
4 *	.1	.0	.1	.1	.1	.1	.1	.1	.0	.0	.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 *	.1	.0	.1	.2	.1	.4	.3	.4	.9	.9	.7	.9	.9	.5	.5	.5	.6	.6	.7	.7
7 *	.0	.0	.0	.0	.0	.0	.0	.1	.8	.8	.4	.8	.8	.1	.2	.2	.2	.2	.2	.2
8 *	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.0	.2	.2	.0	.1	.1	.1	.2	.2	.2
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.3	.4	.0	.4	.4	.1	.2	.2	.2	.3	.3	.3
10 *	.0	.0	.0	.1	.0	.1	.0	.1	.6	.6	.3	.6	.5	.6	.5	.5	.6	.4	.5	.6
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.0	.3	.3	.3	.2	.3	.3	.2	.2	.3
12 *	.0	.0	.0	.0	.0	.0	.0	.0	.9	.9	.1	.9	.9	.5	.6	.6	.6	.6	.6	.7
13 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14 *	.5	.4	.5	.6	.5	.7	.6	.6	.0	.0	.6	.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 *	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.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 *	1.0	.9	1.0	1.0	.9	.9	.9	.8	.0	.0	.5	.0	.0	.5	.5	.5	.5	.5	.5	.5
19 *	.9	.9	.8	.7	.7	.4	.3	.3	.0	.0	.1	.0	.0	.3	.4	.3	.2	.3	.2	.1

20 *	.6	.7	.5	.4	.5	.2	.2	.2	.0	.0	.1	.0	.0	.7	.7	.6	.5	.5	.3	.2
21 *	.1	.1	.1	.1	.1	.1	.1	.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	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
25 *	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.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 *	.3	.3	.3	.3	.3	.3	.3	.3	.0	.0	.2	.0	.0	.7	.6	.6	.6	.6	.6	.6

PAGE 8
JOB: 8th/US 24-No Action RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:53:27

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 # *	110	110	110	110	110	100	110	110	160	160	160	170	170	170	170	170	170	170	170	160
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2 *	.5	.5	.5	.6	.6	.7	.7	.7	.5	.5	.5	.5	.5	.5	.4	.4	.4	.3	.3	.2
3 *	.0	.0	.0	.0	.0	.1	.0	.1	.3	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.0
4 *	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.0
5 *	.0	.0	.0	.0	.1	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6 *	.7	.7	.6	.6	.5	.4	.5	.4	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2
7 *	.2	.2	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
8 *	.2	.2	.2	.2	.2	.1	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9 *	.3	.3	.3	.3	.2	.1	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.6	.6	.7	.6	.6	.8	.6	.6	.1	.1	.1	.0	.0	.1	.1	.1	.1	.1	.1	.3
11 *	.3	.3	.3	.3	.2	.3	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
12 *	.6	.6	.6	.6	.5	.4	.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.1	.0	.0	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.0	.8	.8	.7	.5
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.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	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.1
18 *	.5	.5	.4	.4	.4	.3	.3	.3	.3	.3	.4	.3	.3	.4	.4	.4	.4	.4	.4	.3
19 *	.1	.1	.1	.1	.1	.0	.1	.1	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2

```
   20 *  .2  .2  .1  .1  .1  .0  .1  .1  .5  .5  .5  .7  .7  .7  .7  .7
.7  .7  .6  .3
   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  .1  .1  .1  .1  .1  .2  .3  .3
.3  .3  .3  .5
   25 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.1  .1  .2  .7
   26 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .1
   27 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   28 *  .6  .5  .5  .4  .4  .4  .3  .3  .4  .4  .4  .6  .6  .6  .7  .6
.6  .5  .5  .2
```

```
JOB: 8th/US 24-No Action              RUN: 2020 PM Peak

DATE : 6/10/ 9
TIME : 10:53:27


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 REC49 REC50 REC51
REC52 REC53 REC54 REC55 REC56 REC57 REC58 REC59 REC60
  LINK # *  180  180  180  130  190  180  190  200  200  210  200  200
200  200  190  190  190  200  190  180
  -------*------------------------------------------------------------------
--------------------------------------------------------
    1 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
    2 *  .1  .1  .1  .0  .1  .0  .1  .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  .0  .0
    4 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .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 *  .3  .3  .4  .4  .3  .4  .3  .4  .4  .4  .4  .4  .4  .4  .4  .3
.3  .3  .3  .3
    7 *  .0  .0  .0  .1  .0  .0  .0  .2  .1  .1  .1  .1  .0  .0  .1  .1
.1  .0  .1  .0
    8 *  .0  .0  .0  .3  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
    9 *  .0  .0  .0  .3  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   10 *  .8  .9  1.0  2.1  .9  1.0  .8  1.2  1.2  1.2  1.2  1.2  1.2  1.2
1.1  1.0  .9  .8  .7  .7
   11 *  .0  .0  .0  .6  .0  .0  .0  .6  .6  .5  .5  .5  .3  .1  .2  .2
.2  .1  .2  .0
   12 *  .1  .1  .0  .8  .0  .1  .0  .7  .7  .6  .6  .4  .2  .1  .2  .3
.3  .2  .3  .1
   13 *  .0  .0  .0  .1  .0  .0  .0  .0  .0  .0  .1  .2  .2  .0  .1  .1
.1  .1  .1  .0
   14 *  .2  .2  .2  .0  .1  .0  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .2
   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 *  .3  .3  .3  .0  .2  .3  .2  .3  .3  .1  .2  .2  .2  .2  .3  .3
.3  .2  .3  .3
   18 *  .7  .8  .8  .0  .7  .7  .7  .3  .4  .6  .5  .6  .7  .8  .6  .6
.5  .6  .4  .7
   19 *  .3  .3  .4  .0  .3  .3  .3  .1  .2  .4  .3  .4  .4  .4  .3  .3
.2  .3  .2  .3
```

20	*	.8	.9	.9	.0	1.0	.7	.9	.6	.6	.6	.7	.8	.8	.9	.8	.7	.7	.7	.6	.8
21	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	*	.2	.2	.3	.3	.3	.4	.4	.0	.0	.0	.0	.0	.0	.2	.1	.1	.1	.2	.1	.2
23	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	*	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
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	*	.4	.4	.4	.0	.5	.3	.4	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.4

8. No-Action Alternative for 2030 PM Peak Period

Location:	US 24 at 8th Street
Configuration:	At-grade signalized intersection
1-hour Result:	Worst case average of 5.2 parts per million as indicated on Page 6 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	2.96 ppm
Assumed Background:	1.65 ppm
Total Concentration:	**4.61 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: 8th/US 24-No Action               RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 8:22: 5

The MODE flag has been set to C for calculating CO averages.

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. US24 EB Appr 1   *  -325.9   179.2  -1000.0   605.0 *   797.  302.
AG  1677. 15.7  .0 44.0
    2. US24 EB Appr    *   -8.6   -21.2  -325.9   179.2 *   375.  302. AG
1677. 15.7  .0 68.0
    3. US24 EB thru Q   *  -61.6   12.3  -1133.3   689.1 *  1268.  302. AG
305. 100.0  .0 24.0 1.13 64.4
    4. US24 EB left Q   *  -55.7   28.6  -123.8   72.0 *   81.  303. AG
219. 100.0  .0 12.0 .61  4.1
    5. US24 EB right Q   *  -67.5   -4.7  -103.3   15.9 *   41.  300. AG
93. 100.0  .0 12.0 .15  2.1
    6. US24 EB Dptr 1   *   -8.6   -21.1   317.6  -209.0 *   376.  120. AG
1652. 15.7  .0 44.0
    7. US24 EB Dptr RMrg  *   57.3   -80.0   308.6  -224.6 *   290.  120.
AG  906. 15.7  .0 32.0
    8. US24 EB Dptr 2   *  317.6  -209.0   759.0  -463.0 *   509.  120. AG
2558. 15.7  .0 44.0
    9. US24 WB Appr 1   *  310.4  -154.2   782.7  -421.5 *   543.  120. AG
2733. 15.7  .0 44.0
   10. US24 WB Appr 2   *   5.4   18.4   310.4  -154.2 *   350.  120. AG
2733. 15.7  .0 68.0
   11. US24 WB Thru Q   *   58.7   -11.7   574.6  -303.8 *   593.  120. AG
216. 100.0  .0 24.0 1.02 30.1
   12. US24 WB Left Q   *   56.3   -38.6   824.6  -471.1 *   882.  119. AG
390. 100.0  .0 24.0 1.16 44.8
   13. US24 WB Right Q   *   60.5    7.9   84.1   -5.4 *   27.  120. AG
93. 100.0  .0 12.0 .10  1.4
   14. US24 WB Dptr 1   *   5.4   18.4  -498.5   330.3 *   593.  302. AG
2318. 15.7  .0 44.0
   15. US24 WB Dptr RMrg  *  -41.9   68.9  -491.1   342.3 *   526.  301.
AG   99. 15.7  .0 32.0
   16. US24 WB Dptr 2   *  -498.5   330.3  -1000.0   640.7 *   590.  302.
AG  2418. 15.7  .0 44.0
```

```
   17. 8th NB Appr 1    *   10.1  -269.8   -7.6  -1082.7 *   813.  181. AG
1895. 15.7  .0 44.0
   18. 8th NB Appr 2    *   15.8   -8.9   10.1  -269.8 *   261.  181. AG
1895. 15.7  .0 68.0
   19. 8th NB Thru Q    *   14.4   -71.5   11.5  -207.0 *   136.  181. AG
379. 100.0  .0 24.0 .63  6.9
   20. 8th NB Left Q    *   -9.5   -59.9   -13.1  -230.9 *   171.  181. AG
409. 100.0  .0 24.0 .85  8.7
   21. 8th NB Right Q   *   32.2   -80.2   30.0  -179.3 *   99.  181. AG
37. 100.0  .0 12.0 .68  5.0
   22. 8th NB Dptr     *   15.8   -8.9   501.7   791.8 *   937.  31. AG
710. 15.7  .0 44.0
   23. 8th SB Appr 1    *  -19.8   132.6   -16.4   917.1 *   785.   0. AG
833. 15.7  .0 44.0
   24. 8th SB Appr 2    *  -20.3   15.4   -19.8   132.6 *   117.   0. AG
833. 15.7  .0 68.0
   25. 8th SB Thru Q    *  -20.1   69.3   -19.5   201.4 *   132.   0. AG
390. 100.0  .0 24.0 .65  6.7
   26. 8th SB Left Q    *   1.4   52.5    1.4   986.9 *   934.  360. AG
223. 100.0  .0 12.0 1.38 47.5
   27. 8th SB Right Q   *  -38.3   82.9   -38.2   96.0 *   13.   1. AG
37. 100.0  .0 12.0 .09  .7
   28. 8th SB Dptr     *  -35.8   25.8   -61.1  -1082.7 *  1109.  181. AG
1431. 15.7  .0 44.0
```

JOB: 8th/US 24-No Action RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 8:22: 5

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. US24 EB thru Q	*	140	82	2.0	1401	1600	97.00	1	3
4. US24 EB left Q	*	140	118	2.0	125	1600	97.00	1	3
5. US24 EB right Q	*	140	50	2.0	151	1600	97.00	1	3
11. US24 WB Thru Q	*	140	58	2.0	1815	1600	97.00	1	3
12. US24 WB Left Q	*	140	105	2.0	818	1600	97.00	1	3
13. US24 WB Right Q	*	140	50	2.0	99	1600	97.00	1	3
19. 8th NB Thru Q	*	140	102	2.0	486	1600	97.00	1	3
20. 8th NB Left Q	*	140	110	2.0	503	1600	97.00	1	3
21. 8th NB Right Q	*	140	20	2.0	906	1600	97.00	1	3
25. 8th SB Thru Q	*	140	105	2.0	461	1600	97.00	1	3
26. 8th SB Left Q	*	140	120	2.0	251	1600	97.00	1	3
27. 8th SB Right Q	*	140	20	2.0	120	1600	97.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. Rec 1	*	46.9	-146.0	6.0	*
2. Rec 2	*	47.1	-137.3	6.0	*
3. Rec 3	*	47.2	-128.5	6.0	*
4. Rec 4	*	47.4	-119.7	6.0	*
5. Rec 5	*	47.5	-111.0	6.0	*
6. Rec 6	*	47.8	-102.2	6.0	*
7. Rec 7	*	48.9	-93.6	6.0	*
8. Rec 8	*	56.5	-98.0	6.0	*
9. Rec 9	*	64.0	-102.4	6.0	*
10. Rec 10	*	71.6	-106.7	6.0	*
11. Rec 11	*	79.2	-111.1	6.0	*
12. Rec 12	*	86.8	-115.5	6.0	*

13. Rec 13	*	94.4	-119.8	6.0	*
14. Rec 14	*	-65.4	-79.2	6.0	*
15. Rec 15	*	-65.4	-70.4	6.0	*
16. Rec 16	*	-65.2	-61.7	6.0	*
17. Rec 17	*	-65.0	-52.9	6.0	*
18. Rec 18	*	-64.9	-44.2	6.0	*
19. Rec 19	*	-64.7	-35.5	6.0	*
20. Rec 20	*	-64.5	-26.8	6.0	*
21. Rec 21	*	-71.0	-21.2	6.0	*
22. Rec 22	*	-78.6	-16.8	6.0	*
23. Rec 23	*	-86.2	-12.4	6.0	*
24. Rec 24	*	-93.8	-8.0	6.0	*
25. Rec 25	*	-101.3	-3.7	6.0	*
26. Rec 26	*	-107.8	.0	6.0	*
27. Rec 27	*	-115.3	4.3	6.0	*
28. Rec 28	*	-122.9	8.7	6.0	*
29. Rec 29	*	-98.9	122.0	6.0	*
30. Rec 30	*	-91.4	117.4	6.0	*
31. Rec 31	*	-83.9	112.9	6.0	*
32. Rec 32	*	-76.5	108.3	6.0	*
33. Rec 33	*	-69.0	103.8	6.0	*

JOB: 8th/US 24-No Action RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 8:22: 5

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
34. Rec 34	-61.6	99.1	6.0
35. Rec 35	-54.0	94.7	6.0
36. Rec 36	-54.0	103.4	6.0
37. Rec 37	-54.0	112.2	6.0
38. Rec 38	-54.0	120.9	6.0
39. Rec 39	-54.1	129.7	6.0
40. Rec 40	-46.2	133.3	6.0
41. Rec 41	17.4	65.2	6.0
42. Rec 42	17.4	56.5	6.0
43. Rec 43	17.4	48.2	6.0
44. Rec 44	17.4	39.4	6.0
45. Rec 45	25.8	53.2	6.0
46. Rec 46	30.5	61.3	6.0
47. Rec 47	35.1	68.7	6.0
48. Rec 48	117.7	-6.1	6.0
49. Rec 49	106.9	.0	6.0
50. Rec 50	98.7	6.0	6.0
51. Rec 51	90.3	10.8	6.0
52. Rec 52	81.6	14.3	6.0
53. Rec 53	71.1	21.3	6.0
54. Rec 54	59.6	26.8	6.0
55. Rec 55	64.7	35.1	6.0
56. Rec 56	70.2	44.1	6.0
57. Rec 57	75.4	52.7	6.0
58. Rec 58	81.3	62.4	6.0
59. Rec 59	87.0	71.5	6.0
60. Rec 60	17.4	74.0	6.0

Coordinates in FT.

```
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: 10.-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
 ------*------------------------------------------------------------------
------------------------------------------------------
 10. *  2.2  2.4  2.4  2.6  2.7  2.7  2.9  2.9  3.0  3.2  3.3  3.3  3.2
2.6  2.8  2.9  2.9  2.8  3.1  3.1
 20. *  2.2  2.2  2.3  2.4  2.6  2.7  2.7  3.0  3.2  3.2  3.2  3.1  3.1
2.8  2.8  2.8  2.8  2.9  3.1  3.3
 30. *  2.0  2.1  2.3  2.4  2.5  2.8  2.9  3.1  3.1  3.1  3.1  3.1  3.1
2.4  2.6  2.7  2.6  2.9  2.8  3.1
 40. *  1.9  2.2  2.3  2.3  2.6  2.8  3.0  3.0  3.0  3.0  3.0  3.0  3.0
2.6  2.5  2.7  2.7  2.5  2.8  2.9
 50. *  2.0  2.2  2.3  2.4  2.7  2.8  3.0  3.0  3.0  3.0  3.0  3.0  3.0
2.5  2.4  2.3  2.4  2.6  2.8  2.7
 60. *  2.0  2.2  2.3  2.5  2.7  2.9  3.1  3.1  3.1  3.0  3.0  3.0  3.0
2.6  2.5  2.5  2.6  2.4  2.5  2.7
 70. *  2.0  2.1  2.4  2.6  2.7  3.0  3.2  3.3  3.3  3.3  3.2  3.2  3.3
2.9  2.9  2.7  2.6  2.6  2.7  2.8
 80. *  2.2  2.4  2.5  2.7  3.0  3.0  3.5  3.5  3.5  3.5  3.6  3.6  3.6
3.7  3.5  3.3  3.1  3.2  3.2  3.1
 90. *  2.4  2.5  2.5  2.9  3.2  3.6  3.9  3.9  4.0  4.0  4.0  4.0  4.0
4.2  4.1  4.1  4.0  3.9  3.8  3.7
 100. *  2.2  2.5  2.8  2.9  3.3  3.7  4.3  4.3  4.4  4.3  4.3  4.1  4.1
4.7  4.6  4.6  4.5  4.4  4.5  4.8
 110. *  1.9  1.9  2.1  2.5  2.8  3.1  3.8  3.8  4.0  4.0  3.9  3.9  3.9
4.4  4.4  4.4  4.4  4.7  4.8  4.9
 120. *  1.0  1.2  1.2  1.5  1.7  2.1  2.6  2.7  2.6  2.6  2.6  2.5  2.5
3.6  3.7  3.7  3.8  4.0  4.0  4.4
 130. *  .3  .3  .4  .5  .7  .9  1.2  1.1  1.1  1.1  1.1  1.1  1.1  2.7
2.8  3.0  3.0  3.0  3.1  3.3
 140. *  .1  .1  .1  .1  .1  .2  .4  .3  .3  .4  .4  .4  .4  2.6  2.5  2.6
2.7  2.6  2.6  2.8
 150. *  .1  .1  .1  .1  .1  .1  .2  .1  .1  .1  .1  .1  .1  2.6  2.5  2.6
2.6  2.7  2.7  2.8
 160. *  .3  .3  .3  .3  .3  .3  .3  .2  .1  .1  .1  .1  .1  2.4  2.5  2.5
2.6  2.6  2.7  2.7
 170. *  .7  .6  .7  .7  .7  .7  .7  .4  .3  .1  .1  .1  .1  2.1  2.2  2.2
2.2  2.3  2.4  2.4
 180. *  1.3  1.4  1.5  1.5  1.5  1.6  1.5  1.1  .8  .6  .5  .4  .4  1.5
1.4  1.4  1.4  1.4  1.5  1.5
 190. *  1.9  2.2  2.2  2.3  2.4  2.5  2.6  1.8  1.5  1.2  1.0  .8  .8  .6
.6  .6  .6  .6  .6  .6
```

200. *	2.2	2.5	2.6	2.8	2.8	2.8	2.9	2.4	2.0	1.6	1.3	1.1	1.0	.2	.2	.2	.2	.2	.2	.2
210. *	2.6	2.8	2.9	3.0	3.0	3.0	3.0	2.6	2.3	2.0	1.6	1.4	1.2	.1	.1	.1	.1	.1	.1	.1
220. *	2.8	2.9	3.0	3.1	3.1	3.2	3.1	2.8	2.4	2.1	1.8	1.6	1.3	.0	.0	.0	.0	.0	.0	.0
230. *	2.9	3.0	3.1	3.1	3.1	3.1	3.1	2.8	2.5	2.2	1.9	1.7	1.6	.0	.0	.0	.0	.0	.0	.0
240. *	2.9	3.0	3.0	3.0	3.0	3.0	2.9	2.6	2.5	2.2	2.2	1.9	1.8	.0	.0	.0	.0	.0	.0	.0
250. *	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4	2.2	2.1	1.9	1.7	.0	.0	.0	.0	.0	.0	.1
260. *	2.8	2.8	2.9	2.9	2.9	2.9	2.7	2.6	2.4	2.2	2.2	2.0	1.8	.0	.0	.0	.0	.0	.0	.1
270. *	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4	2.2	2.2	2.0	1.8	.0	.0	.0	.0	.0	.0	.1
280. *	2.8	2.7	2.7	2.7	2.7	2.6	2.7	2.5	2.3	2.4	2.1	2.0	1.9	.0	.0	.0	.0	.0	.1	.2
290. *	2.9	3.1	3.1	3.0	3.1	3.2	3.0	2.9	2.8	2.6	2.6	2.6	2.4	.2	.2	.2	.3	.3	.6	.9
300. *	3.5	3.6	3.6	3.8	3.7	3.9	3.8	3.7	3.5	3.4	3.4	3.4	3.4	.8	.8	.9	1.1	1.2	1.5	2.1
310. *	4.1	4.3	4.3	4.5	4.4	4.3	4.3	4.3	4.1	4.1	4.0	3.9	3.9	1.5	1.5	1.7	1.9	2.1	2.6	3.0
320. *	4.4	4.5	4.3	4.5	4.4	4.5	4.3	4.1	3.9	4.1	4.2	4.1	4.1	1.8	1.9	2.0	2.2	2.7	3.0	3.4
330. *	4.2	4.2	3.9	3.9	3.8	3.5	3.8	3.5	3.8	3.7	3.8	4.0	4.0	1.8	1.8	2.1	2.2	2.4	2.7	3.1
340. *	3.7	3.5	3.6	3.6	3.3	3.4	3.4	3.5	3.5	3.6	3.7	3.8	3.8	1.8	1.9	2.2	2.2	2.3	2.6	2.9
350. *	3.4	3.3	3.4	3.2	3.3	3.3	3.6	3.7	3.8	3.8	3.9	3.6	3.5	2.0	2.2	2.2	2.4	2.5	2.6	3.0
360. *	2.8	2.9	2.9	2.8	3.0	3.2	3.2	3.1	3.3	3.5	3.3	3.4	3.3	2.4	2.4	2.6	2.7	2.8	2.8	3.0
MAX *	4.4	4.5	4.3	4.5	4.4	4.5	4.3	4.3	4.4	4.3	4.3	4.1	4.1	4.7	4.6	4.6	4.5	4.7	4.8	4.9
DEGR. *	320	320	320	310	310	320	100	100	100	100	100	100	100	100	100	100	100	110	110	110

JOB: 8th/US 24-No Action RUN: 2030 PM Peak

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: 10.-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
10. *	3.2	3.3	3.3	3.2	3.0	2.9	2.8	2.6	.4	.5	.6	.7	.8	1.0	1.5	1.4	1.3	1.3	1.1	1.5
20. *	3.2	3.4	3.4	3.4	3.4	3.2	2.9	2.9	.6	.7	.7	.9	1.0	1.4	1.7	1.7	1.6	1.5	1.3	1.8
30. *	3.1	3.3	3.5	3.5	3.6	3.5	3.3	3.3	.7	.8	.9	1.0	1.2	1.5	1.9	2.0	1.7	1.7	1.6	1.9
40. *	2.9	2.9	3.2	3.5	3.5	3.6	3.3	3.2	.7	.9	1.1	1.2	1.5	1.6	1.9	1.8	1.8	1.8	1.7	2.2
50. *	2.6	2.5	3.0	3.2	3.2	3.2	3.3	3.2	.9	.9	1.0	1.3	1.5	1.7	1.8	1.8	1.9	1.8	1.8	2.1
60. *	2.4	2.4	2.7	2.7	3.0	3.1	3.2	3.0	1.0	1.0	1.2	1.2	1.5	1.7	1.8	1.8	1.8	1.8	1.8	2.0
70. *	2.6	2.6	2.7	2.5	3.1	3.2	3.1	3.0	1.1	1.1	1.1	1.2	1.4	1.7	1.8	1.8	1.8	1.8	1.7	1.9
80. *	2.8	2.8	2.9	2.9	2.9	2.9	3.1	3.0	1.0	1.1	1.2	1.2	1.3	1.5	1.8	1.8	1.6	1.7	1.7	1.8
90. *	3.5	3.4	3.2	3.1	3.3	3.5	3.4	3.4	1.1	1.1	1.1	1.2	1.3	1.6	1.8	1.7	1.7	1.6	1.6	1.8
100. *	4.6	4.2	4.1	4.1	3.8	4.1	4.0	3.8	1.1	1.1	1.3	1.3	1.4	1.5	1.8	1.8	1.7	1.7	1.7	1.8
110. *	4.9	4.8	4.6	4.5	4.5	4.5	4.2	4.2	1.8	1.9	2.0	2.0	2.2	2.3	2.5	2.4	2.3	2.3	2.1	2.2
120. *	4.2	4.1	4.0	3.9	3.8	3.6	3.7	3.6	2.9	3.0	3.0	3.4	3.5	3.6	3.8	3.7	3.4	3.2	3.0	3.0
130. *	3.2	3.1	2.9	2.8	2.7	2.6	2.6	2.6	4.0	3.9	4.2	4.1	4.0	4.3	4.2	4.4	4.1	3.9	4.0	4.0
140. *	2.5	2.3	2.2	2.0	1.9	1.7	1.7	1.8	4.0	3.9	3.9	4.1	4.0	4.1	4.3	4.2	4.0	3.7	3.7	3.9
150. *	2.5	2.3	2.0	2.0	1.7	1.6	1.5	1.4	3.7	3.7	3.8	3.7	4.1	3.9	3.8	3.6	3.5	3.5	3.5	4.0
160. *	2.3	2.2	2.0	1.9	1.6	1.5	1.4	1.3	3.9	3.8	3.9	3.8	3.8	4.0	3.8	3.5	3.5	3.4	3.5	3.9
170. *	2.0	1.8	1.6	1.3	1.1	1.1	1.0	1.0	3.5	3.4	3.6	3.9	3.9	4.1	4.1	3.8	3.7	3.5	3.6	3.7
180. *	1.3	1.2	.9	.7	.7	.6	.5	.5	3.2	3.2	3.3	3.2	3.5	3.5	3.4	3.3	3.1	3.0	2.9	3.2
190. *	.4	.4	.3	.3	.2	.2	.1	.1	2.4	2.6	2.6	2.6	2.7	2.7	3.0	2.7	2.5	2.4	2.3	2.3

```
 200. *  .1  .1  .0  .0  .0  .0  .0  .0  2.2  2.2  2.3  2.4  2.4  2.4  2.6
2.2  1.9  1.8  1.8  1.9
 210. *  .0  .0  .0  .0  .0  .0  .0  .0  2.1  2.2  2.2  2.3  2.3  2.3  2.3
2.1  1.9  1.6  1.6  1.6
 220. *  .0  .0  .0  .0  .0  .0  .0  .0  2.1  2.1  2.2  2.2  2.3  2.3  2.3
2.0  1.9  1.7  1.6  1.6
 230. *  .0  .0  .0  .0  .0  .0  .0  .0  2.0  2.0  2.1  2.2  2.2  2.2  2.3
2.0  1.9  1.7  1.5  1.5
 240. *  .0  .0  .0  .0  .0  .0  .0  .0  2.0  2.0  2.0  2.1  2.1  2.2  2.2
2.0  1.8  1.7  1.6  1.5
 250. *  .1  .1  .1  .1  .1  .1  .1  .1  2.2  2.2  2.2  2.2  2.3  2.3  2.4
2.1  1.9  1.6  1.5  1.4
 260. *  .1  .1  .1  .1  .1  .1  .1  .1  2.4  2.4  2.4  2.4  2.4  2.5  2.5
2.3  1.8  1.8  1.6  1.5
 270. *  .1  .1  .1  .1  .1  .1  .1  .1  2.5  2.6  2.6  2.6  2.6  2.6  2.6
2.3  2.2  1.8  1.7  1.7
 280. *  .3  .2  .2  .2  .2  .2  .2  .1  2.9  2.9  2.9  2.9  2.9  2.9  2.9
2.5  2.3  2.0  1.8  1.8
 290. *  1.0  .9  .9  .9  .9  .8  .8  .8  2.9  2.9  2.9  2.9  2.9  2.9
2.9  2.5  2.2  2.0  1.7  1.6
 300. *  2.3  2.0  2.0  2.0  2.0  2.0  2.0  2.0  2.1  2.1  2.1  2.1  2.1
2.2  2.2  1.9  1.4  1.3  1.1  .9
 310. *  3.2  3.2  3.1  2.9  2.9  2.9  2.9  2.9  1.1  1.0  1.0  1.0  1.0
1.0  1.0  .6  .5  .5  .4  .4
 320. *  3.4  3.4  3.3  3.1  3.1  3.1  3.1  3.1  .1  .1  .1  .1  .1  .1
.1  .1  .1  .0  .0  .0
 330. *  3.2  3.2  3.1  2.9  2.7  2.6  2.6  2.7  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0  .0  .0
 340. *  3.0  2.9  2.9  2.9  2.7  2.6  2.5  2.4  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0  .0  .1
 350. *  3.0  3.1  3.0  2.8  2.7  2.5  2.4  2.4  .0  .0  .1  .1  .2  .2
.4  .3  .3  .3  .3  .4
 360. *  3.2  3.2  3.1  2.9  2.8  2.6  2.5  2.5  .2  .2  .3  .4  .4  .6
.8  .9  .8  .7  .7  1.0
 ------*------------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.9  4.8  4.6  4.5  4.5  4.5  4.2  4.2  4.0  3.9  4.2  4.1  4.1
4.3  4.3  4.4  4.1  3.9  4.0  4.0
 DEGR. * 110  110  110  110  110  110  110  110  140  140  130  130  150
130  140  130  130  130  130  130
```

JOB: 8th/US 24-No Action RUN: 2030 PM Peak

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: 10.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
10.	.7	.7	.8	.8	.4	.4	.4	.2	.2	.3	.3	.5	.6	.7	.7	.7	.7	.6	.6	.7
20.	.2	.2	.3	.4	.4	.3	.3	.2	.2	.3	.3	.4	.5	.7	.7	.7	.7	.7	.7	.2
30.	.3	.3	.4	.5	.5	.5	.5	.1	.1	.2	.2	.3	.4	.7	.7	.7	.7	.7	.7	.2
40.	.4	.5	.5	.7	.6	.6	.6	.0	.0	.1	.1	.1	.2	.4	.4	.4	.4	.4	.4	.4
50.	.4	.5	.5	.7	.6	.6	.6	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.2	.4
60.	.4	.4	.6	.7	.5	.5	.5	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.4
70.	.4	.4	.5	.6	.5	.4	.4	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.3
80.	.3	.4	.5	.7	.5	.4	.4	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.3
90.	.3	.4	.5	.8	.5	.4	.4	.2	.2	.2	.2	.2	.2	.2	.1	.0	.0	.0	.0	.3
100.	.4	.5	.7	1.3	.5	.4	.3	.4	.4	.4	.4	.4	.4	.5	.1	.0	.0	.0	.0	.3
110.	1.1	1.5	1.9	2.7	1.5	1.1	.9	1.5	1.4	1.4	1.4	1.5	1.4	1.5	1.0	.7	.5	.3	.2	.9
120.	2.4	2.9	3.5	4.4	3.0	2.4	2.0	3.1	3.0	3.0	3.0	3.1	3.0	3.0	2.3	1.8	1.3	1.2	1.0	2.2
130.	3.7	4.1	4.6	5.2	4.2	3.4	3.1	4.2	4.2	4.1	4.2	4.3	4.3	4.3	3.5	3.0	2.4	2.1	1.9	3.2
140.	3.6	4.0	4.2	4.5	4.2	3.7	3.3	4.3	4.2	4.0	4.2	4.3	4.4	4.4	3.9	3.2	2.8	2.5	2.3	3.3
150.	3.3	3.4	3.6	3.8	3.6	3.5	3.2	4.0	4.0	3.9	3.9	3.9	4.0	4.1	3.5	3.2	2.9	2.5	2.2	3.1
160.	2.8	3.2	3.5	3.6	3.4	3.0	2.8	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.2	2.9	2.6	2.3	2.0	2.8
170.	3.4	3.6	3.7	3.9	3.6	3.4	3.2	3.4	3.4	3.4	3.4	3.5	3.6	3.5	3.1	2.9	2.7	2.4	2.1	3.4
180.	3.9	4.2	4.4	4.4	4.0	3.8	3.8	3.2	3.3	3.3	3.4	3.8	3.8	4.0	3.8	3.4	3.2	2.9	2.7	3.7
190.	3.9	4.0	4.2	4.5	4.0	3.9	3.8	3.6	3.8	3.7	4.1	4.2	4.2	4.3	4.0	3.8	3.6	3.3	3.3	3.7

```
 200. *  3.2  3.4  3.9  4.0  3.8  3.5  3.3  4.1  4.2  4.2  4.4  4.6  4.4
4.3  4.2  3.9  3.6  3.4  3.1  3.1
 210. *  2.5  2.8  3.0  3.3  2.9  2.7  2.7  4.2  4.4  4.6  4.5  4.4  4.1
3.8  3.7  3.2  3.2  3.1  3.0  2.6
 220. *  2.4  2.1  2.4  2.9  2.5  2.3  2.1  4.4  4.3  4.1  4.0  3.8  3.4
3.4  3.2  2.9  2.7  2.5  2.5  2.3
 230. *  2.4  2.3  2.2  2.4  2.3  2.0  2.0  4.1  4.0  3.5  3.4  3.5  3.0
3.2  2.7  2.5  2.3  2.2  2.2  2.5
 240. *  2.6  2.4  2.5  2.5  2.3  2.3  2.2  3.7  3.4  3.3  3.3  2.9  2.8
2.8  2.4  2.4  2.4  2.1  2.0  2.8
 250. *  2.9  2.5  2.7  2.9  2.6  2.3  2.3  3.4  3.2  3.1  3.1  2.8  2.8
2.9  2.6  2.3  2.2  2.1  2.1  2.8
 260. *  3.1  3.0  3.1  3.1  2.8  2.8  2.7  3.5  3.2  3.0  2.9  2.9  2.9
2.9  2.7  2.5  2.5  2.4  2.4  3.4
 270. *  3.6  3.4  3.3  3.5  3.0  2.9  2.9  3.3  3.3  3.4  3.2  3.2  3.1
3.3  3.0  3.0  2.7  2.7  2.5  3.4
 280. *  3.8  3.7  3.7  3.9  3.2  3.2  3.2  3.4  3.8  3.3  3.3  3.4  3.6
3.8  3.3  3.0  2.8  2.8  2.7  3.8
 290. *  3.6  3.8  3.8  4.1  3.6  3.3  3.1  4.0  3.9  3.9  3.7  3.8  3.8
4.0  3.5  3.2  2.8  2.7  2.6  3.8
 300. *  3.3  3.5  3.4  3.9  3.1  2.7  2.6  3.2  3.1  3.1  3.1  3.2  3.4
3.5  2.9  2.6  2.6  2.3  2.2  3.2
 310. *  2.4  2.5  2.7  2.7  2.3  2.2  1.9  2.2  2.1  2.1  2.1  2.3  2.3
2.6  2.0  1.9  1.8  1.7  1.6  2.4
 320. *  2.1  2.2  2.2  2.1  1.9  1.7  1.6  1.2  1.2  1.2  1.2  1.5  1.5
1.7  1.5  1.3  1.4  1.2  1.2  2.0
 330. *  2.2  2.2  2.2  2.2  1.9  1.7  1.5   .9  1.0  1.0  1.2  1.4  1.3
1.6  1.4  1.3  1.1  1.1  1.0  2.2
 340. *  2.2  2.3  2.3  2.2  1.8  1.6  1.4   .8   .9   .9   .9  1.1  1.1  1.5
1.2  1.1  1.0  1.0   .9  2.1
 350. *  2.0  2.0  2.0  2.2  1.5  1.3  1.0   .6   .6   .7   .9   .9  1.1  1.3
1.1  1.0  1.0  1.0  1.0  1.9
 360. *  1.4  1.4  1.5  1.5   .9   .8   .7   .5   .5   .6   .6   .7   .8   .9   .8
.8   .8   .8   .7  1.3
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX   *  3.9  4.2  4.6  5.2  4.2  3.9  3.8  4.4  4.4  4.6  4.5  4.6  4.4
4.4  4.2  3.9  3.6  3.4  3.3  3.8
 DEGR. * 190  180  130  130  140  190  190  220  210  210  210  200  200
140  200  200  200  200  190  280

 THE HIGHEST CONCENTRATION OF  5.20 PPM OCCURRED AT RECEPTOR REC44.
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JOB: 8th/US 24-No Action                RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 8:22: 5


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 # *  320  320  320  310  310  320  100  100  100  100  100  100
100  100  100  100  100  110  110  110
  -------*------------------------------------------------------------
--------------------------------------------------------
    1 *  .1  .1  .1  .2  .2  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
    2 *  .4  .5  .5  .5  .5  .5  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .1  .2  .4
    3 *  .4  .4  .4  .5  .5  .4  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
    4 *  .1  .1  .1  .1  .1  .1  .0  .0  .0  .0  .0  .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 *  .1  .1  .1  .1  .1  .4  1.0  1.0  1.0  1.0  1.0  .9  .9  .5  .5
.6  .6  .6  .7  .8
    7 *  .0  .0  .0  .0  .0  .0  .8  .8  .8  .8  .8  .8  .8  .2  .2  .2
.2  .2  .2  .2
    8 *  .0  .0  .0  .0  .0  .0  .2  .2  .2  .2  .2  .2  .2  .2  .1  .1
.1  .2  .2  .2
    9 *  .0  .0  .0  .0  .0  .0  .3  .3  .4  .4  .4  .4  .4  .3  .2  .2
.2  .3  .3  .3
   10 *  .0  .0  .0  .0  .0  .1  .7  .7  .7  .6  .6  .6  .6  .4  .5  .6
.6  .5  .5  .6
   11 *  .0  .0  .0  .0  .0  .0  .4  .4  .4  .4  .4  .3  .3  .2  .3  .3
.3  .3  .3  .3
   12 *  .0  .0  .0  .0  .0  .0  .9  .9  .9  .9  .9  .9  .9  .6  .6  .6
.7  .7  .7  .7
   13 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   14 *  .5  .5  .5  .4  .5  .7  .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 *  .1  .1  .1  .1  .1  .1  .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 *  1.0  1.0  1.0  .9  .9  1.0  .0  .0  .0  .0  .0  .0  .0  .5  .5
.5  .5  .6  .6  .5
   19 *  .8  .8  .7  .8  .7  .4  .0  .0  .0  .0  .0  .0  .0  .4  .4  .3
.2  .2  .2  .1
```

20	*	.5	.5	.4	.5	.4	.1	.0	.0	.0	.0	.0	.0	.0	.7	.6	.5	.4	.4	.3	.2
21	*	.1	.1	.1	.1	.1	.1	.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	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	*	.0	.0	.0	.0	.0	.1	.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	*	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0	.7	.7	.7	.7	.6	.6	.6

JOB: 8th/US 24-No Action RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 8:22: 5

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
(angle)	110	110	110	110	110	110	110	110	140	140	130	130	150	130	140	130	130	130	130	130
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.5	.5	.6	.6	.6	.7	.7	.7	.2	.2	.1	.1	.3	.0	.1	.0	.0	.0	.0	.0
3	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	.7	.7	.6	.6	.6	.5	.5	.5	.3	.3	.3	.3	.3	.3	.4	.3	.3	.2	.2	.2
7	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
8	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.2	.2	.0	.2	.1	.2	.2	.2	.2	.2
9	.3	.3	.3	.3	.3	.3	.2	.2	.1	.1	.2	.2	.0	.2	.1	.2	.2	.2	.2	.2
10	.7	.7	.7	.7	.7	.7	.6	.6	.5	.5	.8	.8	.4	.9	.8	.9	.8	.8	.7	.6
11	.3	.3	.3	.3	.3	.3	.3	.3	.1	.1	.3	.3	.1	.3	.2	.3	.3	.3	.3	.3
12	.7	.7	.7	.6	.6	.6	.6	.6	.3	.3	.5	.5	.2	.6	.4	.6	.5	.5	.5	.5
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	1.1	1.1	.7	.7	1.1	.6	.8	.3	.2	.1	.1	.0
15	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.1	.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	.5	.5	.4	.4	.4	.4	.3	.3	.2	.2	.1	.1	.4	.1	.2	.1	.1	.0	.0	.0
19	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.2	.0	.1	.0	.0	.0	.0	.0

```
   20 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .0  .0  .2  .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  .1  .1  .1  .1  .0  .1  .1  .1
.1  .1  .1  .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  .2  .2  .3  .3  .3  .4  .4  .4
.4  .4  .4  .4
   25 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1  .2  .3  .1  .4  .3  .6
.7  .8  .9  1.1
   26 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1  .0  .1  .1  .2
.2  .2  .3  .3
   27 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1
.0  .0  .0  .0
   28 *  .6  .5  .5  .5  .4  .4  .4  .3  .2  .2  .1  .0  .3  .0  .1  .0
.0  .0  .0  .0
```

JOB: 8th/US 24-No Action RUN: 2030 PM Peak

DATE : 6/10/ 9
TIME : 8:22: 5

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
ANGLE	190	180	130	130	140	190	190	220	210	210	210	200	200	140	200	200	200	200	190	280
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
2	.2	.1	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	.3	.4	.3	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.0
7	.0	.0	.1	.1	.2	.0	.0	.1	.1	.1	.0	.1	.0	.2	.0	.0	.0	.0	.1	.0
8	.0	.0	.3	.3	.2	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0
9	.0	.0	.3	.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0
10	.6	.9	1.9	2.2	1.7	.9	.8	1.2	1.3	1.3	1.3	1.2	1.2	1.8	1.1	1.0	.9	.8	.8	.0
11	.0	.0	.5	.6	.5	.0	.0	.5	.5	.5	.4	.4	.3	.7	.1	.1	.1	.1	.2	.0
12	.0	.0	.8	.9	.7	.0	.0	.6	.6	.5	.4	.4	.2	.8	.1	.1	.1	.1	.3	.0
13	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.2	.2	.2	.1	.1	.1	.1	.1	.1	.0
14	.3	.2	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	.2	.3	.0	.0	.0	.2	.2	.0	.1	.1	.1	.2	.2	.0	.2	.2	.2	.2	.3	.0
18	.6	.8	.0	.0	.0	.7	.7	.5	.5	.6	.6	.6	.7	.0	.8	.7	.6	.6	.4	.0
19	.3	.3	.0	.0	.0	.3	.3	.4	.3	.4	.4	.4	.4	.0	.4	.3	.3	.3	.2	.0

```
   20 *  .4  .4  .0  .0  .0  .4  .4  .4  .3  .4  .4  .3  .4  .0  .4  .4
.4  .3  .2  .0
   21 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   22 *  .2  .3  .3  .3  .3  .4  .4  .0  .0  .0  .0  .0  .0  .0  .2  .2
.2  .2  .1  .0
   23 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   24 *  .2  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .4
   25 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .7
   26 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .6
   27 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   28 *  .6  .4  .0  .0  .0  .5  .5  .3  .3  .3  .3  .4  .4  .0  .4  .4
.4  .4  .3  .0
```

9. No-Action Alternative for 2035 PM Peak Period

Location: US 24 at 8th Street

Configuration: At-grade signalized intersection

1-hour Result: Worst case average of 5.4 parts per million
as indicated on Page 6 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution: 3.08 ppm

Assumed Background: 1.62 ppm

Total Concentration: **4.70 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221
PAGE 1

JOB: 8th/US 24-No Action               RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 12:43:31

The MODE flag has been set to C for calculating CO averages.

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. US24 EB Appr 1   *  -325.9   179.2  -1000.0   605.0 *   797.  302.
AG  1775. 15.4  .0 44.0
    2. US24 EB Appr    *   -8.6   -21.2  -325.9   179.2 *   375.  302. AG
1775. 15.4  .0 68.0
    3. US24 EB thru Q   *  -61.6   12.3  -1488.0   913.0 *  1687.  302. AG
299. 100.0  .0 24.0 1.20 85.7
    4. US24 EB left Q   *  -55.7   28.6  -136.5   80.1 *   96.  303. AG
219. 100.0  .0 12.0 .74  4.9
    5. US24 EB right Q   *  -67.5   -4.7  -105.4   17.2 *   44.  300. AG
91. 100.0  .0 12.0 .16  2.2
    6. US24 EB Dptr 1   *   -8.6   -21.1   317.6  -209.0 *   376.  120. AG
1755. 15.4  .0 44.0
    7. US24 EB Dptr RMrg  *   57.3   -80.0   308.6  -224.6 *   290.  120.
AG  960. 15.4  .0 32.0
    8. US24 EB Dptr 2   *  317.6  -209.0   759.0  -463.0 *   509.  120. AG
2715. 15.4  .0 44.0
    9. US24 WB Appr 1   *  310.4  -154.2   782.7  -421.5 *   543.  120. AG
2895. 15.4  .0 44.0
   10. US24 WB Appr 2   *   5.4   18.4   310.4  -154.2 *   350.  120. AG
2895. 15.4  .0 68.0
   11. US24 WB Thru Q   *   58.7   -11.7   978.9  -532.6 *  1057.  120. AG
212. 100.0  .0 24.0 1.07 53.7
   12. US24 WB Left Q   *   56.3   -38.6  1434.7  -814.5 *  1582.  119. AG
394. 100.0  .0 24.0 1.38 80.4
   13. US24 WB Right Q   *   60.5    7.9   85.5   -6.2 *   29.  120. AG
91. 100.0  .0 12.0 .11  1.5
   14. US24 WB Dptr 1   *   5.4   18.4  -498.5   330.3 *   593.  302. AG
2410. 15.4  .0 44.0
   15. US24 WB Dptr RMrg  *  -41.9   68.9  -491.1   342.3 *   526.  301.
AG  105. 15.4  .0 32.0
   16. US24 WB Dptr 2   *  -498.5   330.3  -1000.0   640.7 *   590.  302.
AG  2515. 15.4  .0 44.0
```

```
   17. 8th NB Appr 1    *   10.1  -269.8   -7.6  -1082.7 *   813.  181. AG
1975. 15.4  .0 44.0
   18. 8th NB Appr 2    *   15.8   -8.9   10.1  -269.8 *   261.  181. AG
1975. 15.4  .0 68.0
   19. 8th NB Thru Q    *   14.4   -71.5   11.2  -219.5 *   148.  181. AG
383. 100.0  .0 24.0 .72  7.5
   20. 8th NB Left Q    *   -9.5   -59.9   -29.2  -1004.9 *   945.  181.
AG  438. 100.0  .0 24.0 1.38 48.0
   21. 8th NB Right Q   *   32.2   -80.2   29.9  -185.2 *   105.  181. AG
36. 100.0  .0 12.0 .72  5.3
   22. 8th NB Dptr     *   15.8   -8.9   501.7   791.8 *   937.  31. AG
750. 15.4  .0 44.0
   23. 8th SB Appr 1    *  -19.8   132.6   -16.4   917.1 *   785.   0. AG
875. 15.4  .0 44.0
   24. 8th SB Appr 2    *  -20.3   15.4   -19.8   132.6 *   117.   0. AG
875. 15.4  .0 68.0
   25. 8th SB Thru Q    *  -20.1   69.3   -19.4   211.9 *   143.   0. AG
394. 100.0  .0 24.0 .73  7.2
   26. 8th SB Left Q    *   1.4   52.5    1.4  1247.5 *  1195.  360. AG
219. 100.0  .0 12.0 1.51 60.7
   27. 8th SB Right Q   *  -38.3   82.9   -38.2   97.1 *   14.   1. AG
36. 100.0  .0 12.0 .10  .7
   28. 8th SB Dptr     *  -35.8   25.8   -61.1  -1082.7 *  1109.  181. AG
1515. 15.4  .0 44.0
```

JOB: 8th/US 24-No Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 12:43:31

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. US24 EB thru Q	140	82	2.0	1480	1600	95.20	1	3
4. US24 EB left Q	140	120	2.0	135	1600	95.20	1	3
5. US24 EB right Q	140	50	2.0	160	1600	95.20	1	3
11. US24 WB Thru Q	140	58	2.0	1905	1600	95.20	1	3
12. US24 WB Left Q	140	108	2.0	885	1600	95.20	1	3
13. US24 WB Right Q	140	50	2.0	105	1600	95.20	1	3
19. 8th NB Thru Q	140	105	2.0	510	1600	95.20	1	3
20. 8th NB Left Q	140	120	2.0	505	1600	95.20	1	3
21. 8th NB Right Q	140	20	2.0	960	1600	95.20	1	3
25. 8th SB Thru Q	140	108	2.0	470	1600	95.20	1	3
26. 8th SB Left Q	140	120	2.0	275	1600	95.20	1	3
27. 8th SB Right Q	140	20	2.0	130	1600	95.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Rec 1	46.9	-146.0	6.0
2. Rec 2	47.1	-137.3	6.0
3. Rec 3	47.2	-128.5	6.0
4. Rec 4	47.4	-119.7	6.0
5. Rec 5	47.5	-111.0	6.0
6. Rec 6	47.8	-102.2	6.0
7. Rec 7	48.9	-93.6	6.0
8. Rec 8	56.5	-98.0	6.0
9. Rec 9	64.0	-102.4	6.0
10. Rec 10	71.6	-106.7	6.0
11. Rec 11	79.2	-111.1	6.0
12. Rec 12	86.8	-115.5	6.0

13.	Rec 13	*	94.4	-119.8	6.0	*
14.	Rec 14	*	-65.4	-79.2	6.0	*
15.	Rec 15	*	-65.4	-70.4	6.0	*
16.	Rec 16	*	-65.2	-61.7	6.0	*
17.	Rec 17	*	-65.0	-52.9	6.0	*
18.	Rec 18	*	-64.9	-44.2	6.0	*
19.	Rec 19	*	-64.7	-35.5	6.0	*
20.	Rec 20	*	-64.5	-26.8	6.0	*
21.	Rec 21	*	-71.0	-21.2	6.0	*
22.	Rec 22	*	-78.6	-16.8	6.0	*
23.	Rec 23	*	-86.2	-12.4	6.0	*
24.	Rec 24	*	-93.8	-8.0	6.0	*
25.	Rec 25	*	-101.3	-3.7	6.0	*
26.	Rec 26	*	-107.8	.0	6.0	*
27.	Rec 27	*	-115.3	4.3	6.0	*
28.	Rec 28	*	-122.9	8.7	6.0	*
29.	Rec 29	*	-98.9	122.0	6.0	*
30.	Rec 30	*	-91.4	117.4	6.0	*
31.	Rec 31	*	-83.9	112.9	6.0	*
32.	Rec 32	*	-76.5	108.3	6.0	*
33.	Rec 33	*	-69.0	103.8	6.0	*

JOB: 8th/US 24-No Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 12:43:31

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
34. Rec 34	-61.6	99.1	6.0
35. Rec 35	-54.0	94.7	6.0
36. Rec 36	-54.0	103.4	6.0
37. Rec 37	-54.0	112.2	6.0
38. Rec 38	-54.0	120.9	6.0
39. Rec 39	-54.1	129.7	6.0
40. Rec 40	-46.2	133.3	6.0
41. Rec 41	17.4	65.2	6.0
42. Rec 42	17.4	56.5	6.0
43. Rec 43	17.4	48.2	6.0
44. Rec 44	17.4	39.4	6.0
45. Rec 45	25.8	53.2	6.0
46. Rec 46	30.5	61.3	6.0
47. Rec 47	35.1	68.7	6.0
48. Rec 48	117.7	-6.1	6.0
49. Rec 49	106.9	.0	6.0
50. Rec 50	98.7	6.0	6.0
51. Rec 51	90.3	10.8	6.0
52. Rec 52	81.6	14.3	6.0
53. Rec 53	71.1	21.3	6.0
54. Rec 54	59.6	26.8	6.0
55. Rec 55	64.7	35.1	6.0
56. Rec 56	70.2	44.1	6.0
57. Rec 57	75.4	52.7	6.0
58. Rec 58	81.3	62.4	6.0
59. Rec 59	87.0	71.5	6.0
60. Rec 60	17.4	74.0	6.0

JOB: 8th/US 24-No Action RUN: 2035 PM Peak

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: 10.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
10.	2.3	2.4	2.5	2.5	2.7	2.8	3.0	2.9	3.1	3.2	3.3	3.3	3.3	2.7	2.8	2.9	2.9	3.2	3.1	3.3
20.	2.2	2.3	2.4	2.4	2.6	2.7	2.7	3.0	3.2	3.2	3.2	3.2	3.1	2.9	2.8	2.9	2.9	3.1	3.2	3.4
30.	2.0	2.2	2.4	2.4	2.5	2.9	2.9	3.1	3.1	3.1	3.1	3.1	3.1	2.4	2.7	2.8	2.7	2.9	3.1	3.1
40.	2.0	2.2	2.3	2.3	2.6	2.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.6	2.7	2.7	2.8	2.8	2.8	2.9
50.	2.1	2.2	2.3	2.3	2.8	2.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.6	2.4	2.5	2.8	2.7	2.8	2.8
60.	2.1	2.2	2.3	2.7	2.8	2.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	2.8	2.5	2.6	2.6	2.5	2.5	2.7
70.	2.1	2.2	2.4	2.7	2.8	3.1	3.3	3.4	3.4	3.4	3.4	3.3	3.3	3.2	3.1	2.9	2.7	2.7	2.9	3.0
80.	2.2	2.4	2.6	2.7	3.1	3.2	3.6	3.5	3.5	3.5	3.6	3.6	3.6	3.8	3.6	3.3	3.3	3.3	3.2	3.1
90.	2.5	2.6	2.8	2.9	3.2	3.6	4.0	4.1	4.1	4.2	4.2	4.1	4.0	4.3	4.3	4.2	4.0	3.9	3.8	3.8
100.	2.4	2.7	2.8	3.1	3.4	4.0	4.4	4.5	4.5	4.5	4.4	4.4	4.5	5.0	5.0	4.9	4.8	4.6	4.7	5.0
110.	2.1	2.2	2.4	2.7	3.1	3.5	4.2	4.2	4.1	4.1	4.0	4.0	4.0	4.6	4.7	4.8	4.7	4.9	5.1	5.4
120.	1.2	1.3	1.3	1.6	2.1	2.5	3.0	2.9	2.8	2.8	2.8	2.8	2.8	3.7	3.8	3.8	4.1	4.2	4.4	4.8
130.	.3	.3	.4	.6	.8	1.0	1.3	1.2	1.2	1.2	1.2	1.2	1.2	2.9	3.0	3.2	3.3	3.3	3.3	3.6
140.	.1	.1	.1	.1	.1	.2	.4	.3	.4	.4	.4	.4	.4	2.9	2.8	2.8	2.8	2.8	2.8	2.9
150.	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	2.9	2.9	2.9	3.0	3.0	3.0	3.1
160.	.3	.3	.3	.3	.3	.3	.3	.2	.1	.1	.1	.1	.1	3.0	3.0	3.0	3.1	3.1	3.2	3.1
170.	.9	.8	.9	.9	.9	.9	1.0	.5	.4	.2	.2	.2	.2	2.8	2.8	2.8	2.8	2.8	2.9	3.0
180.	1.9	2.0	2.0	2.0	2.1	2.1	2.0	1.5	1.2	.9	.8	.7	.6	2.0	2.0	2.0	2.0	2.0	2.0	2.1
190.	2.9	3.0	3.1	3.3	3.3	3.3	3.2	2.6	2.2	1.8	1.6	1.3	1.3	.9	.9	.9	.9	.9	.9	.9

```
 200. *  3.5  3.5  3.7  3.7  3.7  3.7  3.7  3.1  2.7  2.3  2.1  1.8  1.7
.2  .2  .2  .2  .2  .2  .2
 210. *  3.4  3.4  3.5  3.4  3.5  3.5  3.5  3.1  2.9  2.4  2.2  1.9  1.8
.1  .1  .1  .1  .1  .1  .1
 220. *  3.3  3.4  3.3  3.3  3.3  3.4  3.3  3.1  2.7  2.7  2.2  2.0  1.8
.0  .0  .0  .0  .0  .0  .0
 230. *  3.2  3.2  3.2  3.2  3.2  3.2  3.2  2.9  2.6  2.4  2.2  2.0  1.8
.0  .0  .0  .0  .0  .0  .0
 240. *  3.0  3.0  3.0  3.0  3.0  3.0  3.0  2.7  2.5  2.3  2.3  1.9  1.9
.0  .0  .0  .0  .0  .0  .0
 250. *  2.9  2.9  2.9  2.9  2.9  2.9  2.9  2.7  2.4  2.3  2.1  1.9  1.9
.0  .0  .0  .0  .0  .0  .1
 260. *  2.9  2.9  2.9  2.9  2.9  2.9  2.9  2.6  2.4  2.3  2.2  2.0  1.9
.0  .0  .0  .0  .0  .0  .1
 270. *  3.0  3.0  3.0  3.0  3.0  3.0  2.9  2.5  2.5  2.3  2.2  2.0  2.0
.0  .0  .0  .0  .0  .0  .1
 280. *  3.0  3.0  3.0  3.0  3.0  2.9  2.9  2.6  2.3  2.4  2.1  2.1  1.9
.0  .0  .0  .0  .0  .1  .2
 290. *  3.0  3.2  3.2  3.2  3.3  3.3  3.2  3.0  2.9  2.7  2.6  2.6  2.5
.2  .2  .3  .3  .4  .7  1.0
 300. *  3.8  3.9  4.2  4.0  4.1  4.2  4.0  3.8  3.8  3.6  3.6  3.5  3.6
.8  .9  1.0  1.2  1.3  1.6  2.3
 310. *  4.6  4.6  4.8  4.5  4.4  4.4  4.3  4.3  4.4  4.3  4.1  4.3  4.1
1.5  1.6  1.8  2.1  2.3  2.8  3.3
 320. *  4.8  4.5  4.5  4.5  4.5  4.7  4.3  4.1  4.2  4.1  4.3  4.4  4.1
1.9  1.9  2.0  2.4  2.7  3.0  3.4
 330. *  4.3  4.2  4.2  3.9  3.8  3.7  3.8  3.8  3.9  3.7  3.9  4.1  4.1
1.8  1.9  2.1  2.2  2.6  2.8  3.1
 340. *  3.9  3.7  3.6  3.7  3.3  3.5  3.5  3.5  3.6  3.7  3.9  4.0  3.9
1.8  2.0  2.2  2.2  2.3  2.5  2.9
 350. *  3.5  3.5  3.5  3.2  3.3  3.6  3.7  3.7  3.8  3.9  4.0  3.9  3.7
2.2  2.2  2.2  2.4  2.6  2.6  3.0
 360. *  2.8  3.1  3.0  3.3  3.2  3.3  3.3  3.3  3.5  3.7  3.6  3.6  3.7
2.4  2.5  2.6  2.8  2.9  2.9  3.0
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.8  4.6  4.8  4.5  4.5  4.7  4.4  4.5  4.5  4.5  4.4  4.4  4.5
5.0  5.0  4.9  4.8  4.9  5.1  5.4
 DEGR. * 320  310  310  310  320  320  100  100  100  100  100  100  100
100  100  100  100  110  110  110
```

JOB: 8th/US 24-No Action RUN: 2035 PM Peak

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: 10.-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
10. *	3.3	3.4	3.5	3.3	3.1	2.9	2.8	2.8	.4	.6	.6	.7	.9	1.2	1.6	1.4	1.4	1.3	1.2	1.6
20. *	3.4	3.5	3.5	3.6	3.5	3.5	2.9	2.9	.6	.7	.7	.9	1.1	1.4	1.8	1.8	1.7	1.6	1.5	1.9
30. *	3.2	3.3	3.5	3.5	3.6	3.5	3.5	3.3	.7	.8	.9	1.0	1.3	1.5	1.9	2.0	1.9	1.7	1.7	2.0
40. *	2.9	2.9	3.2	3.5	3.5	3.5	3.5	3.2	.9	1.0	1.2	1.3	1.5	1.7	1.9	1.9	1.9	1.8	1.8	2.2
50. *	2.8	2.7	3.0	3.2	3.2	3.3	3.3	3.3	.9	1.0	1.1	1.4	1.5	1.7	1.9	2.0	2.0	1.8	1.9	2.1
60. *	2.5	2.6	2.8	3.1	3.1	3.2	3.3	3.0	1.0	1.0	1.2	1.4	1.5	1.7	1.8	1.8	1.8	1.8	1.8	2.1
70. *	2.6	2.6	2.7	2.6	3.0	3.1	3.1	3.3	1.1	1.2	1.1	1.2	1.4	1.7	1.8	1.8	1.8	1.8	1.8	1.9
80. *	3.0	2.9	2.9	3.0	3.1	3.0	3.1	3.0	1.0	1.1	1.2	1.3	1.3	1.7	1.8	1.8	1.8	1.7	1.7	1.8
90. *	3.6	3.6	3.3	3.3	3.3	3.6	3.4	3.3	1.1	1.2	1.1	1.2	1.3	1.6	1.9	1.7	1.7	1.8	1.7	1.8
100. *	4.7	4.4	4.3	4.2	4.3	4.1	4.1	4.2	1.1	1.1	1.3	1.3	1.4	1.5	1.8	1.8	1.8	1.7	1.7	1.8
110. *	5.3	5.0	4.8	4.6	4.7	4.7	4.5	4.5	1.9	2.1	2.2	2.2	2.3	2.4	2.6	2.4	2.4	2.4	2.1	2.2
120. *	4.4	4.3	4.3	4.2	4.0	3.9	3.9	4.0	3.3	3.4	3.4	3.6	3.7	3.9	4.0	3.8	3.7	3.4	3.2	3.3
130. *	3.6	3.3	3.2	3.1	2.9	2.8	2.8	2.7	4.1	4.3	4.3	4.2	4.2	4.4	4.5	4.4	4.2	4.2	4.1	4.2
140. *	2.8	2.5	2.5	2.4	2.0	2.0	1.9	2.0	4.1	3.9	4.1	4.2	4.4	4.3	4.3	4.3	4.0	3.9	3.7	4.1
150. *	2.7	2.6	2.3	2.2	2.0	2.0	1.8	1.7	3.8	3.8	3.9	3.9	4.1	4.0	4.1	3.8	3.7	3.6	3.6	4.0
160. *	2.8	2.6	2.4	2.2	2.1	1.9	1.8	1.8	4.1	4.2	4.2	4.2	4.2	4.1	3.9	3.8	3.8	3.5	3.6	4.2
170. *	2.7	2.4	2.1	1.9	1.7	1.6	1.5	1.4	4.0	4.0	4.3	4.3	4.4	4.6	4.6	4.3	4.1	4.1	3.9	4.0
180. *	1.8	1.6	1.3	1.1	1.1	.9	.9	.8	3.6	3.6	3.7	3.7	4.0	4.0	4.1	3.8	3.8	3.4	3.3	3.8
190. *	.7	.6	.5	.4	.3	.3	.2	.2	2.6	2.7	2.8	2.9	2.9	3.0	3.2	3.0	2.7	2.6	2.6	2.6

```
 200. *  .1  .1  .0  .0  .0  .0  .0  .0  2.3  2.3  2.3  2.4  2.4  2.4  2.6
2.3  2.1  2.0  1.9  2.1
 210. *  .0  .0  .0  .0  .0  .0  .0  .0  2.2  2.3  2.3  2.3  2.3  2.3  2.3
2.1  1.9  1.7  1.6  1.7
 220. *  .0  .0  .0  .0  .0  .0  .0  .0  2.2  2.2  2.2  2.3  2.3  2.3  2.3
2.1  1.9  1.7  1.6  1.7
 230. *  .0  .0  .0  .0  .0  .0  .0  .0  2.1  2.1  2.2  2.2  2.3  2.3  2.3
2.0  1.9  1.8  1.6  1.7
 240. *  .1  .0  .0  .0  .0  .0  .0  .0  2.1  2.2  2.2  2.3  2.3  2.3  2.3
2.1  2.0  1.8  1.5  1.5
 250. *  .1  .1  .1  .1  .1  .1  .1  .1  2.2  2.2  2.3  2.3  2.4  2.4  2.4
2.2  1.9  1.8  1.6  1.5
 260. *  .1  .1  .1  .1  .1  .1  .1  .1  2.4  2.4  2.4  2.5  2.5  2.5  2.6
2.3  2.1  1.8  1.6  1.5
 270. *  .1  .1  .1  .1  .1  .1  .1  .1  2.6  2.6  2.6  2.6  2.6  2.7  2.7
2.4  2.2  1.8  1.7  1.7
 280. *  .3  .3  .3  .2  .2  .2  .2  .2  3.0  3.0  3.0  3.0  3.0  3.0  3.0
2.6  2.4  2.0  1.9  1.8
 290. *  1.0  1.0  1.0  1.0  .9  .9  .8  .8  3.0  2.9  2.9  2.9  2.9  2.9
3.0  2.5  2.3  2.0  1.7  1.6
 300. *  2.3  2.3  2.2  2.2  2.1  2.0  2.0  2.0  2.1  2.1  2.1  2.1  2.2
2.2  2.2  1.9  1.6  1.3  1.1  1.1
 310. *  3.3  3.2  3.2  3.1  3.0  2.9  2.9  2.9  1.1  1.1  1.0  1.0  1.0
1.0  1.0  .7  .6  .5  .4  .4
 320. *  3.4  3.4  3.3  3.4  3.2  3.2  3.1  3.1  .1  .1  .1  .1  .1  .1
.1  .1  .1  .0  .0  .0
 330. *  3.2  3.2  3.2  3.0  3.0  2.9  3.0  2.8  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0  .0  .0
 340. *  3.0  3.0  3.0  2.9  2.8  2.7  2.6  2.6  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0  .0  .1
 350. *  3.1  3.0  3.1  2.8  2.7  2.5  2.5  2.5  .0  .0  .2  .2  .2  .2
.5  .4  .3  .3  .3  .5
 360. *  3.1  3.2  3.1  3.0  2.8  2.7  2.6  2.5  .2  .2  .4  .4  .4  .6
1.0  1.0  1.0  .8  .8  1.0
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  5.3  5.0  4.8  4.6  4.7  4.7  4.5  4.5  4.1  4.3  4.3  4.3  4.4
4.6  4.6  4.4  4.2  4.2  4.1  4.2
 DEGR. * 110  110  110  110  110  110  110  110  160  130  170  170  140
170  170  130  130  130  130  130
```

JOB: 8th/US 24-No Action RUN: 2035 PM Peak

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: 10.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
10. *	.7	.7	.8	.8	.5	.4	.4	.2	.3	.3	.4	.5	.6	.7	.7	.7	.7	.7	.7	.7
20. *	.2	.2	.3	.4	.4	.4	.3	.2	.2	.3	.3	.4	.5	.7	.7	.7	.7	.7	.7	.2
30. *	.3	.3	.4	.5	.5	.5	.5	.1	.1	.2	.2	.3	.4	.7	.7	.7	.7	.7	.7	.2
40. *	.4	.5	.6	.8	.7	.6	.7	.0	.1	.1	.1	.1	.2	.5	.5	.5	.5	.5	.4	.4
50. *	.5	.5	.6	.7	.6	.6	.6	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.2	.4
60. *	.4	.4	.6	.7	.5	.5	.5	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.4
70. *	.4	.4	.5	.7	.6	.5	.5	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.3
80. *	.3	.4	.5	.7	.5	.4	.4	.2	.2	.1	.1	.2	.1	.3	.1	.1	.1	.1	.0	.3
90. *	.3	.4	.6	.9	.5	.4	.4	.2	.2	.2	.2	.2	.2	.2	.1	.0	.0	.0	.0	.3
100. *	.4	.5	.8	1.4	.5	.4	.3	.4	.5	.4	.4	.6	.4	.6	.1	.0	.0	.0	.0	.3
110. *	1.3	1.6	2.1	2.9	1.6	1.3	1.1	1.6	1.6	1.4	1.4	1.5	1.5	1.5	1.1	.8	.5	.4	.3	1.0
120. *	2.6	3.1	3.8	4.7	3.1	2.6	2.3	3.4	3.4	3.2	3.3	3.4	3.3	3.4	2.5	2.0	1.6	1.3	1.2	2.3
130. *	3.9	4.2	5.0	5.4	4.4	3.7	3.3	4.5	4.6	4.5	4.6	4.5	4.5	4.6	3.8	3.2	2.6	2.3	2.0	3.4
140. *	3.7	4.2	4.5	4.7	4.3	3.9	3.4	4.4	4.4	4.4	4.4	4.5	4.6	4.8	4.1	3.3	2.9	2.5	2.6	3.5
150. *	3.3	3.5	3.5	3.9	3.8	3.7	3.3	4.0	4.0	4.0	3.9	4.1	4.0	4.1	3.6	3.3	2.9	2.6	2.2	3.1
160. *	3.1	3.3	3.5	3.8	3.6	3.3	3.1	3.6	3.6	3.5	3.5	3.7	3.7	3.8	3.2	2.9	2.7	2.4	2.2	3.0
170. *	3.8	3.7	4.0	4.1	3.8	3.7	3.5	3.4	3.4	3.5	3.5	3.6	3.7	3.8	3.4	3.0	2.8	2.6	2.3	3.6
180. *	4.5	4.7	4.8	5.0	4.5	4.3	4.1	3.7	3.8	3.7	3.9	4.3	4.4	4.5	4.1	3.9	3.7	3.1	2.8	4.2
190. *	4.4	4.6	4.7	5.1	4.8	4.4	4.4	4.1	4.3	4.3	4.6	4.9	4.9	5.1	4.6	4.3	4.1	3.8	3.7	4.3

200. * 3.5 3.7 4.1 4.3 4.1 3.9 3.7 4.7 4.9 4.9 5.0 5.2 5.0
4.9 4.6 4.3 4.0 3.8 3.6 3.5
210. * 2.7 2.8 3.0 3.4 3.2 3.0 2.8 4.7 5.0 4.9 4.7 4.9 4.4
4.1 3.9 3.6 3.6 3.4 3.2 2.7
220. * 2.4 2.4 2.5 2.9 2.5 2.3 2.2 4.7 4.7 4.3 4.1 4.0 3.6
3.6 3.3 3.1 2.8 2.8 2.5 2.3
230. * 2.5 2.4 2.3 2.4 2.3 2.0 2.0 4.2 4.1 3.7 3.6 3.5 3.1
3.2 2.9 2.5 2.5 2.2 2.2 2.7
240. * 2.7 2.4 2.6 2.6 2.4 2.3 2.2 3.9 3.7 3.5 3.3 3.0 2.8
2.9 2.5 2.5 2.4 2.2 2.1 2.8
250. * 2.9 2.6 2.7 2.9 2.6 2.5 2.3 3.4 3.3 3.3 3.1 3.0 2.8
2.9 2.7 2.4 2.2 2.2 2.1 3.0
260. * 3.1 3.1 3.1 3.5 2.9 2.8 2.7 3.4 3.3 3.1 2.9 3.1 3.1
3.0 2.8 2.6 2.5 2.5 2.4 3.4
270. * 3.6 3.4 3.3 3.6 3.2 2.9 3.0 3.3 3.4 3.4 3.2 3.4 3.1
3.5 3.0 3.0 2.8 2.6 2.5 3.6
280. * 3.8 3.8 3.8 3.9 3.4 3.4 3.2 3.6 3.8 3.5 3.4 3.6 3.8
4.0 3.4 3.1 2.9 3.0 2.8 3.8
290. * 3.9 4.0 4.0 4.2 3.6 3.4 3.2 4.0 3.9 4.0 3.9 4.0 3.8
4.2 3.7 3.2 2.9 2.7 2.7 3.8
300. * 3.5 3.5 3.5 3.9 3.1 2.9 2.7 3.3 3.3 3.3 3.3 3.5 3.6
3.7 3.1 2.6 2.6 2.4 2.2 3.2
310. * 2.4 2.7 2.6 2.7 2.4 2.2 2.0 2.3 2.3 2.2 2.3 2.4 2.4
2.6 2.1 2.0 1.8 1.6 1.6 2.5
320. * 2.1 2.2 2.2 2.1 1.8 1.8 1.6 1.3 1.2 1.2 1.3 1.5 1.5
1.7 1.5 1.3 1.4 1.2 1.2 2.0
330. * 2.2 2.2 2.3 2.1 1.9 1.6 1.5 1.0 1.0 1.0 1.3 1.4 1.4
1.6 1.4 1.3 1.2 1.1 1.1 2.2
340. * 2.3 2.3 2.3 2.2 1.8 1.6 1.3 .8 .9 .9 1.0 1.1 1.2 1.5
1.2 1.1 1.0 1.0 1.0 2.2
350. * 2.0 2.0 2.2 2.2 1.5 1.3 1.1 .6 .6 .8 .9 1.0 1.1 1.3
1.2 1.1 1.0 1.0 1.0 2.0
360. * 1.4 1.5 1.5 1.5 1.1 .8 .7 .5 .5 .6 .7 .7 .8 1.1 .9
.9 .9 .9 .9 1.3
------*--

MAX * 4.5 4.7 5.0 5.4 4.8 4.4 4.4 4.7 5.0 4.9 5.0 5.2 5.0
5.1 4.6 4.3 4.1 3.8 3.7 4.3
DEGR. * 180 180 130 130 190 190 190 220 210 200 200 200 200
190 190 190 190 200 190 190

THE HIGHEST CONCENTRATION OF 5.40 PPM OCCURRED AT RECEPTOR REC44.

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                                                                          PAGE 7
JOB: 8th/US 24-No Action                          RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 12:43:31


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 # *  320  310  310  310  320  320  100  100  100  100  100  100
100  100  100  100  100  110  110  110
  -------*------------------------------------------------------------------
---------------------------------------------------------
    1 *  .1  .2  .2  .2  .1  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
    2 *  .5  .4  .5  .5  .5  .6  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .1  .2  .4
    3 *  .4  .5  .5  .5  .4  .4  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
    4 *  .1  .0  .1  .1  .1  .1  .0  .0  .0  .0  .0  .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 *  .1  .0  .1  .1  .3  .4  1.0  1.0  1.0  1.0  1.0  1.0  1.0  .5  .5
.6  .7  .6  .7  .8
    7 *  .0  .0  .0  .0  .0  .0  .8  .8  .8  .8  .8  .8  .8  .2  .2  .2
.2  .2  .2  .2
    8 *  .0  .0  .0  .0  .0  .0  .2  .2  .2  .2  .2  .2  .2  .2  .1  .1
.1  .2  .2  .2
    9 *  .0  .0  .0  .0  .0  .0  .3  .4  .4  .4  .4  .4  .5  .3  .3  .2
.2  .3  .3  .3
   10 *  .0  .0  .0  .0  .1  .1  .7  .7  .7  .7  .6  .6  .6  .5  .5  .6
.7  .5  .6  .7
   11 *  .0  .0  .0  .0  .0  .0  .4  .4  .4  .4  .4  .4  .4  .3  .3  .3
.3  .3  .3  .4
   12 *  .0  .0  .0  .0  .0  .0  1.0  1.0  1.0  1.0  1.0  1.0  1.0  .6  .7
.7  .7  .8  .8  .8
   13 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   14 *  .5  .4  .4  .4  .6  .7  .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 *  .1  .1  .1  .1  .1  .1  .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 *  1.0  1.0  1.0  .9  1.0  1.0  .0  .0  .0  .0  .0  .0  .0  .6  .6
.6  .6  .6  .6  .6
   19 *  .9  .9  .8  .8  .5  .4  .0  .0  .0  .0  .0  .0  .0  .4  .4  .3
.2  .2  .2  .1
```

```
   20 *  .6  .6  .6  .5  .3  .2  .0  .0  .0  .0  .0  .0  .0  .7  .7  .6
.4  .4  .3  .2
   21 *  .1  .1  .1  .1  .1  .1  .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  .1  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   25 *  .0  .0  .0  .0  .0  .1  .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 *  .4  .4  .4  .3  .3  .3  .0  .0  .0  .0  .0  .0  .0  .7  .7  .7
.7  .7  .7  .7
```

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JOB: 8th/US 24-No Action               RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 12:43:31


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 # *  110  110  110  110  110  110  110  110  160  130  170  170
140  170  170  130  130  130  130  130
  -------*------------------------------------------------------------
--------------------------------------------------------
    1 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
    2 *  .5  .5  .6  .6  .7  .7  .7  .7  .5  .1  .6  .5  .2  .5  .5  .0
.0  .0  .0  .0
    3 *  .0  .0  .0  .0  .0  .0  .0  .1  .2  .0  .3  .2  .0  .1  .1  .0
.0  .0  .0  .0
    4 *  .0  .0  .0  .0  .0  .0  .0  .0  .2  .0  .2  .2  .0  .1  .1  .0
.0  .0  .0  .0
    5 *  .0  .0  .0  .0  .1  .1  .1  .1  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
    6 *  .8  .7  .7  .6  .6  .6  .5  .5  .1  .3  .0  .1  .4  .1  .1  .3
.3  .3  .2  .2
    7 *  .2  .2  .2  .1  .1  .1  .1  .1  .0  .1  .0  .0  .1  .0  .0  .1
.1  .1  .1  .1
    8 *  .2  .2  .2  .2  .2  .2  .2  .2  .0  .2  .0  .0  .1  .0  .0  .2
.2  .2  .2  .2
    9 *  .3  .3  .3  .3  .3  .3  .3  .3  .0  .2  .0  .0  .1  .0  .0  .2
.2  .2  .2  .3
   10 *  .7  .7  .7  .7  .7  .7  .7  .7  .1  .7  .0  .0  .7  .1  .1  .9
.8  .8  .7  .7
   11 *  .4  .3  .3  .3  .3  .3  .3  .3  .0  .3  .0  .0  .2  .0  .0  .3
.3  .3  .3  .3
   12 *  .8  .8  .7  .7  .7  .7  .7  .6  .0  .6  .0  .0  .4  .0  .0  .6
.6  .6  .6  .5
   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  1.2  .8  1.1  1.1  1.0  1.1  1.1
.3  .2  .1  .1  .0
   15 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1  .1  .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  .2  .0  .3  .3  .0  .3  .3  .0
.0  .0  .0  .0
   18 *  .5  .5  .4  .4  .4  .4  .3  .3  .3  .1  .3  .3  .2  .4  .4  .1
.1  .1  .0  .0
   19 *  .1  .1  .1  .1  .1  .1  .1  .1  .2  .0  .2  .2  .1  .2  .2  .0
.0  .0  .0  .0
```

20 *	.2	.1	.1	.1	.1	.1	.1	.1	.5	.0	.6	.6	.1	.7	.7	.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	.1	.0	.0	.1	.0	.0	.1	.1	.1	.1	.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	.1	.3	.0	.1	.3	.2	.3	.4	.4	.4	.4	.4
25 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.2	.0	.0	.6	.7	.8	.9	1.1
26 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.2	.2	.2	.3	.3
27 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
28 *	.6	.6	.5	.5	.4	.4	.4	.4	.4	.1	.6	.6	.1	.7	.7	.0	.0	.0	.0	.0

JOB: 8th/US 24-No Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 12:43:31

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
	180	180	130	130	190	190	190	220	210	200	200	200	200	190	190	190	190	200	190	190
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.1	.1	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.4	.4	.4	.4	.4	.3	.3	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.3	.3	.2
7	.0	.0	.1	.1	.0	.0	.0	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.1	.0
8	.0	.0	.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	.0	.0	.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.9	.9	2.0	2.3	1.0	.9	.9	1.3	1.4	1.3	1.2	1.3	1.3	1.2	1.1	1.0	.9	.8	.8	.6
11	.0	.0	.6	.6	.0	.0	.0	.5	.5	.5	.5	.4	.2	.2	.2	.2	.2	.1	.2	.0
12	.1	.0	.9	.9	.0	.0	.0	.6	.6	.6	.5	.4	.2	.2	.2	.2	.3	.2	.3	.0
13	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.1	.2	.2	.1	.1	.1	.1	.1	.1	.0
14	.2	.2	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4
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	.3	.3	.0	.0	.3	.3	.3	.0	.1	.3	.2	.2	.2	.3	.3	.3	.3	.2	.3	.2
18	.7	.8	.0	.0	.8	.7	.7	.5	.5	.4	.5	.6	.8	.8	.7	.6	.5	.6	.4	.6
19	.3	.4	.0	.0	.3	.3	.3	.4	.4	.3	.4	.4	.4	.4	.4	.3	.3	.3	.2	.3

20 *	.8	.8	.0	.0	.9	.8	.8	.5	.6	.6	.7	.7	.8	.8	.7	.7	.6	.6	.6	.8
21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.2	.3	.3	.4	.3	.4	.4	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.2	.1	.1
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
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	.1
27 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28 *	.4	.4	.0	.0	.6	.5	.5	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.4	.3	.6

10 Proposed Action for 2020 PM Peak Period

Location:	US 24 at 8th Street
Configuration:	Improved intersection with US24 through lanes overhead
1-hour Result:	Worst case average of 4.30 parts per million as indicated on Page 6 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	2.45 ppm
Assumed Background:	1.84 ppm
Total Concentration:	**4.29 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221  PAGE 1

JOB: 8th/US 24-2020 Action               RUN: 2020 PM Peak
DATE : 2/11/10
TIME : 9:33: 6

The MODE flag has been set to C for calculating CO averages.

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. US 24 Main WB Appr *  106.0   -64.9   725.3  -593.8 *   814.  130.
FL  1995. 17.3 18.0 44.0
    2. US 24 Main WB Appr *   9.9   17.1   106.0   -64.9 *   126.  130. BR
1995. 17.3 27.0 44.0
    3. US 24 Main WB Dptr *  -87.1   83.9    9.9   17.1 *   118.  125. BR
1995. 17.3 27.0 44.0
    4. US 24 Main WB Dptr * -1000.0   712.1   -87.1   83.9 *  1108.  125.
FL  1995. 17.3 18.0 44.0
    5. US 24 Main EB Appr *  -111.8   48.7  -1000.0   662.3 *  1080.  305.
FL  1365. 17.3 18.0 44.0
    6. US 24 Main EB Appr *  -14.9   -18.2  -111.8   48.7 *   118.  305.
BR  1365. 17.3 27.0 44.0
    7. US 24 Main EB Dptr *   80.7   -87.0   -14.9   -18.2 *   118.  306.
BR  1365. 17.3 27.0 44.0
    8. US 24 Main EB Dptr *  696.4  -529.8   80.7   -87.0 *   758.  306.
FL  1365. 17.3 18.0 44.0
    9. US 24 Ramp WB Appr *  550.1  -264.7   770.8  -430.6 *   276.  127.
AG  1455. 16.9  .0 56.0
   10. US 24 Ramp WB Appr *   -.2   127.9   550.1  -264.7 *   676.  126.
AG  890. 16.9  .0 68.0
```

11. US 24 Ramp WB LAppr *   70.6   -2.8   536.1 -284.2 *   544. 121.
AG 565. 16.9 .0 56.0

12. US 24 Ramp WB LQ *   70.6   -2.8   133.9   -41.1 *   74. 121. AG
605. 100.0 .0 36.0 .49 3.8

13. US 24 Ramp WB TQ *   98.5   57.5   206.6   -19.6 *   133. 126. AG
364. 100.0 .0 24.0 .74 6.7

14. US 24 Ramp WB RQ * 109.1   78.1   139.8   56.3 *   38. 125. AG
126. 100.0 .0 12.0 .19 1.9

15. US 24 Ramp WB Dptr * -1000.0   771.5   -.2   127.9 * 1189. 123.
AG 1237. 15.8 .0 44.0

16. US 24 Ramp EB Appr * -496.4   267.2 -1000.0   708.1 *   669.
311. AG 1151. 15.8 .0 56.0

17. US 24 Ramp EB Appr *   -.2 -144.0 -496.4   267.2 *   644. 310.
AG 901. 15.8 .0 68.0

18. US 24 Ramp EB LAppr * -64.9   -1.0 -477.3   290.3 *   505. 305.
AG 250. 15.8 .0 44.0

19. US 24 Ramp EB LQ * -64.9   -1.0 -113.8   33.6 *   60. 305. AG
471. 100.0 .0 24.0 .65 3.0

20. US 24 Ramp EB TQ * -71.7   -84.1 -175.9   2.1 *   135. 310. AG
647. 100.0 .0 36.0 .86 6.9

21. US 24 Ramp EB RQ * -77.7 -110.9 -104.8   -88.4 *   35. 310. AG
160. 100.0 .0 12.0 .18 1.8

22. US 24 Ramp EB Dptr * 662.9 -697.9   -.2 -144.0 *   864. 310.
AG 1533. 16.9 .0 56.0

23. 8th Street NB Appr *   26.3 -474.8   50.6 -1000.0 *   526. 177.
AG 1590. 15.8 .0 56.0

24. 8th Street NB Appr *   19.9   -13.1   26.3 -474.8 *   462. 179.
AG 1590. 15.8 .0 92.0

25. 8th Street NB LQ * -17.6 -148.9   -12.8 -260.5 *   112. 178.
AG 443. 100.0 .0 24.0 .82 5.7

26. 8th Street NB TQ *   19.9 -208.9   21.3 -266.2 *   57. 179. AG
521. 100.0 .0 36.0 .31 2.9

27. 8th Street NB RQ *   43.9   -12.8   44.9   -82.6 *   70. 179. AG
56. 100.0 .0 12.0 .52 3.5

28. 8th Street NB Dptr * 526.9   760.4   19.9   -13.1 *   925. 213.
AG 910. 16.2 .0 56.0

29. 8th Street SB Appr *   59.5   466.7   13.7 1000.0 *   535. 355.
AG 758. 16.9 .0 56.0

30. 8th Street SB Appr * -29.8   24.4   59.5   466.7 *   451. 11. AG
758. 16.9 .0 92.0

31. 8th Street SB LQ *   27.0   156.0   32.2   181.8 *   26. 11. AG
499. 100.0 .0 24.0 .48 1.3

32. 8th Street SB TQ *   2.6   162.9   17.0   239.5 *   78. 11. AG
605. 100.0 .0 36.0 .52 4.0

33. 8th Street SB RQ * -19.9 194.6 -18.7 200.5 * 6. 11. AG
56. 100.0 .0 12.0 .05 .3

34. 8th Street SB Dptr * -29.8 24.4 -52.2 -1000.0 * 1025. 181.
AG 1273. 15.8 .0 56.0

PAGE 2

JOB: 8th/US 24-2020 Action RUN: 2020 PM Peak

DATE : 2/11/10

TIME : 9:33: 6

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
12. US 24 Ramp WB LQ	100	72	2.0	565	1600	104.50	1	3
13. US 24 Ramp WB TQ	100	65	2.0	737	1600	104.50	1	3
14. US 24 Ramp WB RQ	100	45	2.0	153	1600	104.50	1	3
19. US 24 Ramp EB LQ	100	84	2.0	250	1600	104.50	1	3
20. US 24 Ramp EB TQ	100	77	2.0	788	1600	104.50	1	3
21. US 24 Ramp EB RQ	100	57	2.0	113	1600	104.50	1	3
25. 8th Street NB LQ	100	79	2.0	445	1600	104.50	1	3
26. 8th Street NB TQ	100	62	2.0	508	1600	104.50	1	3
27. 8th Street NB RQ	100	20	2.0	638	1600	104.50	1	3
31. 8th Street SB LQ	100	89	2.0	108	1600	104.50	1	3
32. 8th Street SB TQ	100	72	2.0	595	1600	104.50	1	3
33. 8th Street SB RQ	100	20	2.0	55	1600	104.50	1	3

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
	COORDINATES (FT)		
1. Rec 1	63.3	-251.6	6.0
2. Rec 2	63.3	-242.4	6.0
3. Rec 3	63.3	-234.1	6.0
4. Rec 4	63.3	-225.8	6.0
5. Rec 5	63.3	-217.1	6.0
6. Rec 6	71.6	-217.1	6.0
7. Rec 7	78.8	-262.8	6.0
8. Rec 8	85.9	-268.7	6.0
9. Rec 9	93.1	-274.2	6.0
10. Rec 10	99.9	-280.1	6.0
11. Rec 11	71.5	-167.5	6.0
12. Rec 12	62.2	-159.7	6.0
13. Rec 13	61.8	-138.4	6.0
14. Rec 14	-63.8	-175.7	6.0
15. Rec 15	-63.5	-168.5	6.0
16. Rec 16	-63.5	-160.5	6.0
17. Rec 17	-63.5	-154.0	6.0
18. Rec 18	-61.4	-145.2	6.0
19. Rec 19	-70.2	-140.5	6.0
20. Rec 20	-74.3	-136.0	6.0
21. Rec 21	-80.4	-130.1	6.0
22. Rec 22	-85.3	-126.4	6.0
23. Rec 23	-91.2	-120.9	6.0
24. Rec 24	-68.6	-52.2	6.0
25. Rec 25	-59.9	-55.2	6.0
26. Rec 26	-59.0	-32.1	6.0
27. Rec 27	-49.9	117.0	6.0
28. Rec 28	-45.8	124.0	6.0
29. Rec 29	-56.7	131.0	6.0
30. Rec 30	-53.4	195.5	6.0
31. Rec 31	-46.3	190.9	6.0
32. Rec 32	-40.4	187.1	6.0
33. Rec 33	-36.1	185.9	6.0

JOB: 8th/US 24-2020 Action RUN: 2020 PM Peak

DATE : 2/11/10

TIME : 9:33: 6

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
34. Rec 34	-31.7	181.6	6.0
35. Rec 35	-31.0	185.9	6.0
36. Rec 36	-30.2	194.6	6.0
37. Rec 37	-27.8	205.4	6.0
38. Rec 38	-26.0	214.0	6.0
39. Rec 39	52.2	163.2	6.0
40. Rec 40	49.0	147.0	6.0
41. Rec 41	59.7	131.0	6.0
42. Rec 42	70.4	114.9	6.0
43. Rec 43	77.6	125.8	6.0
44. Rec 44	73.6	17.6	6.0
45. Rec 45	89.3	44.4	6.0
46. Rec 46	96.8	40.3	6.0
47. Rec 47	159.0	73.6	6.0
48. Rec 48	152.2	79.2	6.0
49. Rec 49	145.5	85.0	6.0
50. Rec 50	138.5	91.0	6.0
51. Rec 51	131.6	96.4	6.0
52. Rec 52	124.5	102.1	6.0
53. Rec 53	116.4	93.8	6.0
54. Rec 54	123.3	100.7	6.0
55. Rec 55	127.5	123.4	6.0
56. Rec 56	131.7	131.4	6.0
57. Rec 57	135.6	139.1	6.0
58. Rec 58	139.7	146.8	6.0
59. Rec 59	-26.0	222.1	6.0
60. Rec 60	-60.4	200.0	6.0

JOB: 8th/US 24-2020 Action RUN: 2020 PM Peak

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: 10.-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
10. *	2.4	2.4	2.7	2.7	2.7	2.4	2.1	2.0	2.0	1.9	2.1	2.2	2.2	2.7	2.7	2.6	2.5	2.7	2.4	2.5
20. *	2.0	2.2	2.2	2.3	2.2	2.3	1.9	1.7	1.7	1.7	2.0	2.0	2.2	2.5	2.3	2.4	2.5	2.6	2.5	2.7
30. *	1.8	1.9	2.0	2.0	1.9	1.9	1.7	1.7	1.7	1.6	1.7	1.7	2.3	2.7	2.7	2.7	2.6	2.8	2.7	2.3
40. *	1.7	1.8	1.8	1.9	1.8	1.8	1.5	1.5	1.5	1.5	1.4	1.5	2.0	2.7	2.7	2.5	2.5	2.7	2.6	2.4
50. *	1.6	1.6	1.8	1.8	1.7	1.7	1.5	1.5	1.5	1.5	1.3	1.4	1.6	2.9	2.9	2.9	2.8	2.8	2.6	2.4
60. *	1.5	1.6	1.6	1.8	1.7	1.6	1.5	1.5	1.5	1.5	1.1	1.2	1.5	2.9	2.8	2.6	2.6	2.5	2.7	2.6
70. *	1.5	1.6	1.7	1.7	1.7	1.6	1.5	1.6	1.6	1.6	1.3	1.3	1.3	2.9	3.2	2.8	2.8	2.6	2.4	2.4
80. *	1.6	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.4	1.4	1.5	3.1	3.0	2.9	2.6	2.5	2.4	2.4
90. *	1.8	1.9	2.0	2.0	2.0	2.0	1.8	1.8	1.8	1.8	1.3	1.3	1.5	3.3	3.4	3.3	3.1	3.0	2.8	2.6
100. *	1.7	1.8	1.9	2.1	2.3	2.4	1.7	1.7	1.7	1.7	1.5	1.5	1.7	3.7	3.6	3.7	3.5	3.4	3.0	3.0
110. *	1.7	2.0	2.1	2.2	2.3	2.2	1.6	1.6	1.6	1.6	1.6	1.7	1.8	3.5	3.5	3.6	3.7	3.7	3.4	3.2

```
 120. *  1.3  1.6  1.8  2.2  2.3  2.2  1.3  1.3  1.3  1.3  1.6  1.7  1.6
3.3  3.3  3.2  3.4  3.6  3.3  3.3
 130. *  .8  1.1  1.3  1.7  2.0  2.0  .8  .8  .8  .8  1.7  1.7  1.3  3.0
3.0  3.1  3.2  3.5  3.1  3.0
 140. *  .4  .5  .7  1.0  1.3  1.5  .3  .3  .3  .3  1.6  1.6  1.2  2.4
2.6  2.6  2.6  3.0  2.6  2.4
 150. *  .2  .2  .4  .6  .8  1.0  .1  .1  .1  .1  1.4  1.4  1.0  2.1  2.2
2.2  2.5  2.8  2.3  2.2
 160. *  .2  .3  .3  .4  .6  .6  .1  .0  .0  .0  1.2  1.4  1.2  2.0  2.0
2.1  2.2  2.4  1.9  1.8
 170. *  .7  .7  .8  .9  .8  .8  .3  .2  .1  .1  1.4  1.6  1.5  1.7  1.7
1.8  1.8  1.9  1.5  1.3
 180. *  1.1  1.1  1.2  1.3  1.4  1.3  .8  .6  .5  .4  1.9  2.2  2.0  1.1
1.1  1.1  1.2  1.3  .9  .8
 190. *  1.5  1.5  1.5  1.6  1.7  1.6  1.1  .9  .8  .7  2.3  2.7  2.6  .5
.5  .5  .5  .6  .3  .3
 200. *  1.4  1.4  1.5  1.6  1.7  1.6  1.2  1.1  1.0  1.0  2.6  3.0  2.8
.2  .2  .2  .2  .2  .1  .1
 210. *  1.3  1.4  1.5  1.6  1.9  1.6  1.1  1.1  1.0  .9  2.7  2.9  2.7
.1  .1  .1  .1  .1  .0  .0
 220. *  1.2  1.3  1.5  1.7  2.1  1.9  1.0  1.0  .9  .9  2.8  2.9  2.7  .1
.1  .1  .1  .1  .0  .0
 230. *  1.3  1.5  1.8  2.0  2.3  2.1  1.0  .9  .9  .9  2.7  2.7  2.4  .1
.1  .0  .0  .1  .0  .0
 240. *  1.3  1.7  2.0  2.3  2.5  2.3  .9  .9  .8  .7  2.4  2.5  2.2  .0
.0  .0  .0  .0  .0  .0
 250. *  1.6  1.9  2.2  2.5  2.6  2.6  1.1  .9  .8  .7  2.3  2.3  1.9  .0
.0  .0  .0  .0  .0  .0
 260. *  2.0  2.3  2.6  2.7  2.7  2.6  1.3  1.2  1.0  .8  2.2  2.4  2.0
.0  .0  .0  .0  .0  .0  .0
 270. *  2.4  2.6  2.7  2.8  2.7  2.6  1.7  1.5  1.3  1.0  2.4  2.3  1.9
.0  .0  .0  .0  .0  .0  .0
 280. *  2.6  2.7  2.7  2.7  2.5  2.4  2.1  1.8  1.6  1.3  2.3  2.4  2.0
.0  .0  .0  .0  .0  .0  .0
 290. *  2.6  2.6  2.8  2.6  2.6  2.6  2.3  1.9  1.7  1.6  2.4  2.4  2.1
.0  .0  .0  .0  .1  .1  .1
 300. *  3.1  3.3  3.1  3.1  3.3  3.2  2.7  2.6  2.4  2.2  3.0  3.0  2.9
.3  .3  .4  .4  .7  .5  .5
 310. *  3.9  3.8  3.8  3.8  4.0  4.0  3.3  3.3  3.2  3.2  3.3  3.4  3.1
1.0  1.0  1.2  1.4  1.7  1.6  1.6
 320. *  4.1  4.0  4.0  4.0  4.1  4.0  3.7  3.6  3.6  3.4  2.9  3.0  2.6
1.7  2.0  2.1  2.4  2.8  2.6  2.7
 330. *  3.9  3.9  3.7  3.7  3.8  3.7  3.3  3.1  2.9  3.0  2.5  2.6  2.3
2.3  2.5  2.8  3.0  3.2  3.2  3.3
```

```
 340. *  3.2  3.3  3.3  3.4  3.4  3.3  3.0  2.9  2.6  2.6  2.3  2.2  2.3
2.4  2.4  2.5  2.8  3.0  3.1  3.3

 350. *  2.9  3.0  3.0  3.1  2.9  2.9  2.6  2.5  2.5  2.6  2.2  2.2  2.2
2.4  2.5  2.5  2.5  2.7  2.8  3.0

 360. *  2.7  2.7  2.8  3.0  2.9  2.6  2.4  2.4  2.4  2.3  2.4  2.4  2.2
2.4  2.4  2.5  2.4  2.5  2.5  2.6

 ------*-----------------------------------------------------------------
------------------------------------------------------

 MAX  *  4.1  4.0  4.0  4.0  4.1  4.0  3.7  3.6  3.6  3.4  3.3  3.4  3.1
3.7  3.6  3.7  3.7  3.7  3.4  3.3

 DEGR. * 320  320  320  320  320  310  320  320  320  320  310  310  310
100  100  100  110  110  110  120
```

JOB: 8th/US 24-2020 Action RUN: 2020 PM Peak

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: 10.-360.

WIND ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
10.	2.9	3.1	3.4	2.0	1.9	2.0	1.2	1.5	1.1	.3	.4	.5	.5	.7	.7	.5	.5	.5	.4	.6
20.	2.7	2.9	3.2	2.0	2.1	2.0	1.6	1.8	1.4	.4	.5	.7	.8	.9	.9	.8	.7	.6	.1	.1
30.	2.4	2.7	3.2	1.8	2.1	1.8	1.9	2.0	1.7	.5	.5	.8	.9	1.2	1.1	.9	.8	.7	.1	.2
40.	2.4	2.5	3.0	1.8	1.9	2.0	2.0	2.2	2.0	.7	.8	1.2	1.3	1.7	1.7	1.4	1.2	1.0	.3	.3
50.	2.3	2.2	2.5	2.1	2.3	1.9	1.9	2.1	2.0	.9	1.1	1.5	1.7	2.0	2.0	1.8	1.5	1.1	.4	.4
60.	2.6	2.6	2.8	2.2	2.2	1.9	1.7	1.9	2.0	1.2	1.5	1.8	1.9	2.1	2.1	2.0	1.7	1.5	.4	.4
70.	2.3	2.4	2.4	2.4	2.3	2.3	1.5	1.6	1.8	1.4	1.6	1.8	2.0	2.2	2.2	2.2	1.9	1.7	.3	.4
80.	2.4	2.3	2.3	2.6	2.8	2.5	1.2	1.4	1.6	1.6	1.8	1.9	2.0	2.2	2.1	2.1	1.9	1.8	.3	.3
90.	2.4	2.4	2.4	2.6	2.7	2.7	1.0	1.2	1.3	1.8	1.8	1.9	2.1	2.2	2.2	2.2	2.0	1.9	.3	.3
100.	2.8	2.8	2.7	2.3	2.6	3.0	1.1	1.3	1.5	1.7	1.9	2.1	2.1	2.3	2.3	2.3	2.2	2.1	.3	.3
110.	3.1	3.1	2.9	2.7	2.7	2.8	1.5	1.6	1.6	1.8	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.1	.3	.4

120. * 3.2 3.0 2.9 2.7 2.7 2.9 2.0 2.3 2.2 2.0 2.1 2.2 2.2
2.4 2.3 2.6 2.7 2.5 .5 .7

130. * 2.9 2.7 2.6 2.7 2.7 2.7 2.5 2.5 2.6 2.5 2.6 2.6 2.6
2.6 2.8 3.1 3.4 3.4 1.3 1.7

140. * 2.5 2.3 2.2 2.9 2.9 2.6 2.7 2.8 2.6 2.7 2.9 3.0 2.9
3.0 3.2 3.2 3.6 3.7 1.8 2.3

150. * 2.0 1.9 1.7 2.9 2.9 2.5 2.5 2.7 2.4 2.9 3.0 3.1 3.0
3.0 2.9 3.0 3.5 3.4 2.1 2.7

160. * 1.7 1.4 1.4 3.1 3.1 3.0 2.7 2.7 2.6 2.9 2.8 2.6 2.6
2.7 2.6 2.7 3.1 3.4 2.2 2.3

170. * 1.2 1.1 1.0 3.1 3.0 2.9 2.7 2.5 2.7 2.8 3.0 3.0 2.8
3.1 3.1 3.2 3.3 3.3 2.4 2.4

180. * .7 .6 .6 2.6 2.3 2.3 2.6 2.6 2.3 2.7 2.8 3.1 3.0 3.0
2.9 2.9 3.0 3.0 2.6 2.7

190. * .2 .2 .1 2.0 1.8 1.9 2.2 2.2 2.1 2.2 2.4 2.6 2.5 2.5
2.5 2.5 2.2 2.1 2.4 2.5

200. * .0 .0 .0 2.2 1.5 1.5 1.9 1.7 1.9 2.1 2.1 2.2 2.0 2.2
2.1 2.0 1.9 1.9 1.9 2.1

210. * .0 .0 .0 2.4 1.8 1.6 1.8 1.7 1.7 1.9 1.9 1.8 1.8 1.9
1.8 1.7 1.6 1.6 1.7 1.9

220. * .0 .0 .0 2.4 2.1 1.9 1.8 1.8 1.6 1.4 1.5 1.7 1.8 1.7
1.6 1.6 1.4 1.3 1.9 1.9

230. * .0 .0 .0 2.3 2.2 1.7 1.7 1.5 1.4 1.3 1.4 1.4 1.5 1.5
1.4 1.4 1.3 1.3 2.0 2.1

240. * .0 .0 .0 2.3 2.2 1.7 1.5 1.4 1.4 1.5 1.5 1.5 1.4 1.4
1.4 1.3 1.2 1.2 2.0 1.8

250. * .0 .0 .0 2.4 2.3 1.8 1.3 1.3 1.3 1.5 1.5 1.5 1.5 1.6
1.6 1.3 1.3 1.2 2.3 1.5

260. * .0 .0 .0 2.6 2.5 1.8 1.5 1.5 1.5 1.6 1.6 1.6 1.6 1.6
1.6 1.5 1.2 1.1 2.8 1.6

270. * .0 .0 .0 2.7 2.6 1.8 1.6 1.5 1.6 1.7 1.7 1.7 1.7 1.7
1.6 1.5 1.4 1.3 3.3 2.2

280. * .0 .0 .0 2.9 2.7 1.7 1.6 1.7 1.7 2.0 2.0 2.0 2.0 2.0
1.8 1.7 1.6 1.5 3.9 2.8

290. * .1 .1 .1 3.0 2.7 1.7 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9
1.8 1.5 1.3 1.2 3.8 3.2

300. * .6 .6 .6 3.0 2.8 2.2 1.8 1.9 1.9 1.6 1.6 1.6 1.4 1.6
1.2 1.1 .9 .9 3.4 3.1

310. * 1.6 1.5 1.4 2.9 2.9 2.9 1.4 1.6 1.6 .6 .6 .6 .5 .7
.6 .4 .3 .3 2.7 2.8

320. * 2.7 2.6 2.5 2.7 2.8 3.0 1.0 1.2 1.1 .2 .2 .2 .3 .3
.2 .2 .1 .1 2.1 2.6

330. * 3.4 3.3 3.2 2.2 2.3 2.6 .8 .9 .8 .1 .1 .1 .1 .2 .1
.1 .1 .1 1.8 2.4

340. * 3.4 3.6 3.5 2.0 2.0 2.3 .7 .8 .7 .0 .0 .1 .1 .1 .1 .1 .1 .1 1.2 2.0

350. * 3.3 3.5 3.7 2.0 2.0 2.1 .7 .9 .8 .0 .1 .1 .1 .2 .2 .2 .2 .2 .9 1.5

360. * 3.1 3.4 3.5 1.9 2.1 2.0 1.1 1.1 .9 .2 .2 .3 .3 .4 .4 .4 .4 .4 .6 .9

------*--

MAX * 3.4 3.6 3.7 3.1 3.1 3.0 2.7 2.8 2.7 2.9 3.0 3.1 3.0 3.1 3.2 3.2 3.6 3.7 3.9 3.2

DEGR. * 340 340 350 160 160 100 140 140 170 150 150 150 180 170 140 140 140 140 280 290

JOB: 8th/US 24-2020 Action RUN: 2020 PM Peak

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: 10.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
10. *	.2	.3	.3	1.3	1.2	1.8	.4	.4	.5	.5	.6	.7	.7	.7	.8	.8	.8	.8	.5	.2
20. *	.2	.3	.3	1.4	1.6	2.1	.3	.4	.5	.6	.7	.8	.9	.9	.9	.9	.9	.9	.6	.3
30. *	.3	.6	.6	1.5	1.8	2.3	.2	.3	.3	.4	.6	.8	.9	.8	1.0	1.0	1.0	1.0	.5	.4
40. *	.4	.8	.8	1.5	1.7	2.1	.1	.1	.2	.2	.3	.6	.6	.6	.8	.8	.8	.8	.8	.5
50. *	.5	.8	.8	1.3	1.7	1.9	.0	.0	.0	.1	.1	.3	.3	.3	.5	.5	.5	.6	.8	.6
60. *	.5	.7	.7	1.2	1.7	1.7	.0	.0	.0	.0	.0	.1	.2	.1	.3	.3	.3	.3	1.2	1.0
70. *	.4	.6	.6	1.2	1.8	1.8	.0	.0	.0	.0	.0	.1	.1	.1	.2	.2	.2	.2	1.4	1.2
80. *	.4	.6	.5	1.1	2.0	1.9	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.2	.2	1.6	1.4
90. *	.4	.6	.5	1.4	2.2	2.2	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	1.8	1.6
100. *	.5	.5	.4	1.6	2.4	2.4	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	1.9	1.5
110. *	.6	.8	.5	2.1	2.6	2.6	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	2.0	1.7

120. * 1.1 1.5 1.0 2.9 2.6 2.7 .3 .3 .3 .3 .3 .3 .5 .3 .2
.2 .2 .1 2.3 1.8

130. * 2.0 2.3 1.9 3.7 2.8 2.7 .9 .9 .9 .9 .9 .9 1.4 .9 .7
.7 .6 .4 3.3 2.5

140. * 2.6 2.9 2.5 4.3 2.7 2.6 1.5 1.5 1.5 1.6 1.6 1.6 2.1
1.6 1.4 1.2 1.1 1.0 3.7 2.7

150. * 2.8 3.2 3.1 4.1 2.7 2.7 1.9 1.9 1.8 1.9 1.9 2.0 2.8
2.2 1.7 1.5 1.4 1.3 3.5 2.9

160. * 2.7 3.0 2.8 3.7 2.7 2.8 2.3 2.2 2.2 2.2 2.4 2.5 3.1
2.7 2.1 1.8 1.6 1.6 3.5 2.9

170. * 2.8 3.0 3.0 3.4 3.0 2.9 2.0 2.1 2.1 2.3 2.3 2.6 3.2
2.6 2.1 2.2 1.9 1.8 3.2 2.9

180. * 3.0 3.4 3.2 3.5 3.1 3.0 2.4 2.5 2.6 2.7 2.9 3.0 3.3
3.0 2.7 2.6 2.5 2.5 2.9 2.8

190. * 2.8 2.9 2.7 3.5 3.2 3.2 2.8 2.9 3.2 3.4 3.4 3.5 3.7
3.5 3.1 3.1 3.1 3.1 2.1 2.2

200. * 2.4 2.7 2.8 3.0 3.0 3.3 3.2 3.5 3.5 3.5 3.5 3.6 3.7
3.7 3.3 3.1 3.1 3.0 1.8 1.8

210. * 2.2 2.3 2.4 2.5 2.7 2.8 3.2 3.3 3.2 3.4 3.3 3.1 3.3
3.2 2.8 2.8 2.7 2.5 1.6 1.6

220. * 1.9 2.1 2.1 2.0 2.2 2.3 3.1 3.3 3.2 2.9 2.7 2.5 2.5
2.5 2.5 2.6 2.6 2.5 1.2 1.4

230. * 1.9 2.0 1.8 1.8 2.1 2.0 2.8 2.8 2.8 2.5 2.3 2.2 2.5
2.3 2.4 2.4 2.2 2.1 1.1 1.3

240. * 1.8 1.9 2.0 2.1 2.1 2.0 2.8 2.8 2.6 2.6 2.4 2.2 2.2
2.2 2.1 2.0 1.9 1.8 1.2 1.5

250. * 1.8 1.6 1.6 2.2 2.3 2.2 2.7 2.4 2.3 2.2 2.1 2.2 2.2
2.2 2.0 2.0 2.0 1.9 1.1 1.5

260. * 1.5 1.8 1.3 2.2 2.2 2.2 2.4 2.3 2.1 1.8 1.8 2.0 2.0
2.0 2.1 1.8 1.7 1.8 1.1 1.6

270. * 1.7 1.7 1.7 2.3 2.3 2.2 2.2 2.1 2.1 2.1 1.9 1.9 2.1
1.9 2.0 1.9 1.8 1.8 1.1 1.7

280. * 2.1 2.1 2.1 2.3 2.3 2.3 2.0 1.9 2.1 2.2 2.1 2.2 2.2
2.2 2.1 2.3 2.3 2.3 1.3 2.0

290. * 2.6 2.5 2.3 2.5 2.5 2.4 2.1 2.1 2.3 2.4 2.4 2.3 2.6
2.3 2.4 2.3 2.3 2.3 1.2 1.9

300. * 2.5 2.3 2.1 2.5 2.7 2.6 1.8 2.0 2.0 2.1 2.0 2.3 2.4
2.2 2.1 2.0 1.9 1.7 .7 1.5

310. * 2.1 1.9 1.8 2.1 2.3 2.2 1.2 1.3 1.4 1.5 1.5 1.6 1.7
1.6 1.4 1.3 1.2 1.1 .2 .6

320. * 1.9 1.6 1.5 1.6 2.0 2.2 .9 1.0 1.0 1.1 1.1 1.2 1.5
1.2 1.0 .8 .8 .7 .1 .2

330. * 1.6 1.4 1.1 1.6 1.8 2.0 .5 .6 .7 .8 .8 .9 1.1 1.0
.7 .7 .7 .6 .1 .1

340. * 1.3 1.1 .7 1.6 1.7 2.0 .5 .5 .6 .7 .9 .9 .9 .9 .8
.8 .7 .6 .1 .0

350. * 1.0 .9 .6 1.6 1.8 1.9 .5 .6 .6 .6 .7 .8 .7 .8 .7
.7 .7 .7 .1 .0

360. * .6 .5 .4 1.4 1.4 1.7 .4 .5 .5 .6 .7 .8 .9 .8 .8 .7
.7 .7 .4 .1

------*--

MAX * 3.0 3.4 3.2 4.3 3.2 3.3 3.2 3.5 3.5 3.5 3.5 3.6 3.7
3.7 3.3 3.1 3.1 3.1 3.7 2.9

DEGR. * 180 180 180 140 190 200 200 200 200 200 200 200 190
200 200 200 200 190 140 150

THE HIGHEST CONCENTRATION OF 4.30 PPM OCCURRED AT RECEPTOR REC44.

JOB: 8th/US 24-2020 Action RUN: 2020 PM Peak

DATE : 2/11/10

TIME : 9:33: 6

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 # *	320	320	320	320	320	310	320	320	320	320	310	310	310	100	100	100	110	110	110	120
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4	.4	.3
2 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
4 *	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.0	.0	.0	.0	.0	.0	.0
5 *	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0
6 *	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
7 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
8 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.2
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0
10 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.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 * .1 .1 .1 .1 .2 .1 .1 .1 .1 .1 .1 .1 .1 .0 .0 .0
.0 .0 .0 .0

16 * .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .0 .0 .0
.0 .0 .0 .0

17 * .3 .3 .3 .3 .3 .4 .3 .3 .3 .2 .4 .4 .3 .0 .0 .1
.1 .2 .2 .2

18 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .1 .0 .0 .0
.0 .0 .0 .0

19 * .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .0 .0 .0
.0 .0 .0 .0

20 * .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .4 .5 .4 .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 * .4 .6 .8 1.0 1.0 1.1 .5 .5 .6 .6 .5 .4 .0 .6 .6 .6
.8 .8 .7 .8

23 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0

24 * .8 .8 .8 .8 .8 .7 .7 .7 .6 .6 .7 .7 .7 .5 .5 .5
.5 .5 .5 .5

25 * .4 .3 .3 .2 .2 .3 .3 .3 .3 .2 .0 .0 .0 .8 .8 .8
.8 .7 .6 .6

26 * .6 .4 .2 .1 .0 .0 .4 .3 .3 .3 .0 .0 .0 .2 .1 .1
.1 .1 .1 .2

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 * .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .6 .6 .6
.6 .6 .5 .5

DATE : 2/11/10

TIME : 9:33: 6

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
	340	340	350	160	160	100	140	140	170	150	150	150	180	170	140	140	140	140	280	290
1	.0	.0	.0	.0	.0	.3	.4	.4	.0	.3	.3	.3	.0	.0	.4	.4	.3	.3	.0	.0
2	.0	.0	.0	.0	.0	.3	.3	.3	.1	.2	.2	.2	.1	.2	.1	.1	.1	.1	.0	.0
3	.0	.0	.1	.0	.0	.0	.2	.1	.4	.1	.1	.1	.3	.2	.0	.0	.0	.0	.0	.0
4	.4	.4	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.5
5	.2	.3	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2
6	.1	.1	.1	.0	.0	.0	.0	.0	.2	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0
7	.0	.0	.0	.0	.0	.3	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
8	.0	.0	.0	.0	.0	.2	.3	.3	.0	.2	.2	.2	.0	.0	.2	.2	.2	.2	.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	.2	.1	.2	.0	.2	.2	.3	.0	.1	.5	.4	.4	.4	.0	.1
11	.0	.0	.0	.0	.0	.2	.1	.1	.0	.1	.1	.1	.0	.0	.1	.1	.1	.1	.0	.0
12	.0	.0	.0	.0	.0	.3	.3	.3	.0	.2	.2	.2	.0	.1	.2	.2	.2	.1	.0	.0
13	.0	.0	.0	.0	.0	.1	.0	.1	.0	.1	.1	.1	.0	.0	.2	.2	.2	.2	.0	.0
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

15 * .2 .2 .2 .0 .0 .0 .0 .0 .0 .6 .6 .6 .6 .6 .3 .2
.1 .0 .5 .7

16 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .1 .1

17 * .5 .5 .5 .5 .5 .0 .0 .0 .1 .0 .0 .0 .1 .1 .0 .0
.0 .0 .1 .0

18 * .1 .1 .1 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0

19 * .1 .1 .2 .0 .0 .0 .0 .0 .1 .0 .0 .0 .1 .0 .0 .0
.0 .0 .0 .0

20 * 1.5 1.6 1.6 .4 .1 .0 .0 .0 .1 .0 .0 .0 .1 .0 .0 .0
.0 .0 .0 .0

21 * .3 .3 .4 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0

22 * .0 .0 .0 .2 .2 .0 .2 .2 .1 .2 .2 .2 .1 .2 .1 .1
.1 .1 .0 .0

23 * .0 .0 .0 .1 .1 .0 .0 .0 .1 .0 .0 .0 .1 .1 .0 .0
.0 .0 .0 .0

24 * .0 .0 .0 .5 .6 .5 .1 .1 .4 .1 .1 .1 .3 .3 .0 .0
.0 .0 .0 .0

25 * .0 .0 .0 .4 .4 .0 .0 .0 .1 .0 .0 .0 .1 .1 .0 .0
.0 .0 .0 .0

26 * .0 .0 .0 .2 .2 .0 .0 .0 .1 .0 .0 .0 .1 .1 .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 .2 .2 .0 .1 .1 .1 .0 .1 .2 .2
.2 .2 .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 .4 .4 .3 .3 .4 .4 .4 .4 .4 .4
.4 .4 .3 .3

31 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .1 .1
.2 .3 1.2 .6

32 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .1 .1 .0 .0 .4 .6
1.0 1.3 .9 .7

33 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.1 .0 .0 .0

34 * .0 .0 .0 .8 1.0 .6 .0 .0 .5 .1 .0 .0 .4 .3 .0 .0
.0 .0 .0 .0

PAGE 9

JOB: 8th/US 24-2020 Action RUN: 2020 PM Peak

DATE : 2/11/10

TIME : 9:33: 6

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
ANGLE	180	180	180	140	190	200	200	200	200	200	200	200	190	200	200	200	200	190	140	150
1	.1	.1	.1	.9	.1	.0	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.3	.3
2	.3	.3	.3	.1	.3	.3	.1	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.1	.1	.2
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	.1	.1	.1	.0	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
8	.1	.1	.1	.5	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.5	.5	.4	.1	.1	.1	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.2
11	.1	.1	.1	.5	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
12	.3	.4	.4	2.0	.9	.9	.5	.6	.6	.6	.5	.5	.6	.5	.4	.3	.3	.3	.1	.2
13	.0	.1	.1	.0	.0	.0	.7	.7	.6	.6	.6	.5	.6	.5	.3	.3	.3	.4	.2	.1
14	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.0	.0

15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6
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 *	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.2	.1	.1	.1	.1	.2	.1	.2
23 *	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0
24 *	.4	.4	.3	.0	.5	.6	.3	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.0	.1
25 *	.1	.1	.1	.0	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0
26 *	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0
27 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28 *	.4	.6	.6	.0	.1	.0	.0	.0	.0	.0	.1	.3	.2	.3	.5	.5	.5	.4	.2	.1
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	.4	.3
31 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0
32 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	.0
33 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34 *	.2	.2	.2	.0	.3	.3	.2	.2	.2	.2	.3	.3	.2	.3	.3	.3	.3	.2	.0	.1

11. Proposed Action for 2030 PM Peak Period

Location:	US 24 at 8th Street
Configuration:	Improved intersection with US24 through lanes overhead
1-hour Result:	Worst case average of 4.40 parts per million as indicated on Page 6 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	2.51 ppm
Assumed Background:	1.65 ppm
Total Concentration:	**4.16 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: 8th/US 24-2030 Action              RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 14:26:35

The MODE flag has been set to C for calculating CO averages.

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. US 24 Main WB Appr *  106.0   -64.9   725.3  -593.8 *   814.  130.
FL  2128. 16.2 18.0 44.0
    2. US 24 Main WB Appr *   9.9   17.1   106.0   -64.9 *   126.  130. BR
2128. 16.2 27.0 44.0
    3. US 24 Main WB Dptr *  -87.1   83.9    9.9   17.1 *   118.  125. BR
2128. 16.2 27.0 44.0
    4. US 24 Main WB Dptr * -1000.0   712.1   -87.1   83.9 *  1108.  125.
FL  2128. 16.2 18.0 44.0
    5. US 24 Main EB Appr *  -111.8   48.7  -1000.0   662.3 *  1080.  305.
FL  1465. 16.2 18.0 44.0
    6. US 24 Main EB Appr *  -14.9   -18.2  -111.8   48.7 *   118.  305.
BR  1465. 16.2 27.0 44.0
    7. US 24 Main EB Dptr *   80.7   -87.0   -14.9   -18.2 *   118.  306.
BR  1465. 16.2 27.0 44.0
    8. US 24 Main EB Dptr *  696.4  -529.8   80.7   -87.0 *   758.  306.
FL  1465. 16.2 18.0 44.0
    9. US 24 Ramp WB Appr *  550.1  -264.7   770.8  -430.6 *   276.  127.
AG  1648. 16.0  .0 56.0
   10. US 24 Ramp WB Appr *   -.2   127.9   550.1  -264.7 *   676.  126.
AG  950. 16.0  .0 68.0
   11. US 24 Ramp WB LAppr *   70.6   -2.8   536.1  -284.2 *   544.  121.
AG  698. 16.0  .0 56.0
   12. US 24 Ramp WB LQ  *   70.6   -2.8   147.7   -49.4 *   90.  121. AG
561. 100.0  .0 36.0 .58  4.6
   13. US 24 Ramp WB TQ  *   98.5   57.5   219.3   -28.7 *   148.  126. AG
342. 100.0  .0 24.0 .79  7.5
   14. US 24 Ramp WB RQ  *  109.1   78.1   142.0   54.7 *   40.  125. AG
119. 100.0  .0 12.0 .20  2.0
   15. US 24 Ramp WB Dptr * -1000.0   771.5    -.2   127.9 *  1189.  123.
AG  1309. 15.0  .0 44.0
   16. US 24 Ramp EB Appr *  -496.4   267.2  -1000.0   708.1 *   669.
311. AG  1247. 14.8  .0 56.0
```

17. US 24 Ramp EB Appr * -.2 -144.0 -496.4 267.2 * 644. 310.
AG 977. 14.8 .0 68.0
18. US 24 Ramp EB LAppr * -64.9 -1.0 -477.3 290.3 * 505. 305.
AG 270. 14.8 .0 44.0
19. US 24 Ramp EB LQ * -64.9 -1.0 -116.7 35.6 * 63. 305. AG
432. 100.0 .0 24.0 .65 3.2
20. US 24 Ramp EB TQ * -71.7 -84.1 -198.5 20.8 * 165. 310. AG
601. 100.0 .0 36.0 .93 8.4
21. US 24 Ramp EB RQ * -77.7 -110.9 -109.1 -84.8 * 41. 310. AG
148. 100.0 .0 12.0 .21 2.1
22. US 24 Ramp EB Dptr * 662.9 -697.9 -.2 -144.0 * 864. 310.
AG 1748. 15.7 .0 56.0
23. 8th Street NB Appr * 26.3 -474.8 50.6 -1000.0 * 526. 177.
AG 1750. 14.8 .0 56.0
24. 8th Street NB Appr * 19.9 -13.1 26.3 -474.8 * 462. 179.
AG 1750. 14.8 .0 92.0
25. 8th Street NB LQ * -17.6 -148.9 -12.2 -274.3 * 125. 178.
AG 416. 100.0 .0 24.0 .88 6.4
26. 8th Street NB TQ * 19.9 -208.9 21.5 -273.6 * 65. 179. AG
500. 100.0 .0 36.0 .36 3.3
27. 8th Street NB RQ * 43.9 -12.8 45.0 -94.4 * 82. 179. AG
52. 100.0 .0 12.0 .61 4.1
28. 8th Street NB Dptr * 526.9 760.4 19.9 -13.1 * 925. 213.
AG 990. 15.1 .0 56.0
29. 8th Street SB Appr * 59.5 466.7 13.7 1000.0 * 535. 355.
AG 843. 15.1 .0 56.0
30. 8th Street SB Appr * -29.8 24.4 59.5 466.7 * 451. 11. AG
843. 15.1 .0 92.0
31. 8th Street SB LQ * 27.0 156.0 34.9 194.7 * 39. 11. AG
458. 100.0 .0 24.0 .61 2.0
32. 8th Street SB TQ * 2.6 162.9 17.4 241.8 * 80. 11. AG
562. 100.0 .0 36.0 .53 4.1
33. 8th Street SB RQ * -19.9 194.6 -18.3 202.6 * 8. 11. AG
52. 100.0 .0 12.0 .06 .4
34. 8th Street SB Dptr * -29.8 24.4 -52.2 -1000.0 * 1025. 181.
AG 1441. 14.7 .0 56.0

JOB: 8th/US 24-2030 Action RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 14:26:35

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
12. US 24 Ramp WB LQ	100	71	2.0	698	1600	98.20	1	3
13. US 24 Ramp WB TQ	100	65	2.0	786	1600	98.20	1	3
14. US 24 Ramp WB RQ	100	45	2.0	164	1600	98.20	1	3
19. US 24 Ramp EB LQ	100	83	2.0	270	1600	97.00	1	3
20. US 24 Ramp EB TQ	100	77	2.0	846	1600	97.00	1	3
21. US 24 Ramp EB RQ	100	57	2.0	131	1600	97.00	1	3
25. 8th Street NB LQ	100	80	2.0	448	1600	97.00	1	3
26. 8th Street NB TQ	100	64	2.0	556	1600	97.00	1	3
27. 8th Street NB RQ	100	20	2.0	746	1600	97.00	1	3
31. 8th Street SB LQ	100	88	2.0	156	1600	97.00	1	3
32. 8th Street SB TQ	100	72	2.0	612	1600	97.00	1	3
33. 8th Street SB RQ	100	20	2.0	75	1600	97.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Rec 1	63.3	-251.6	6.0
2. Rec 2	63.3	-242.4	6.0
3. Rec 3	63.3	-234.1	6.0
4. Rec 4	63.3	-225.8	6.0
5. Rec 5	63.3	-217.1	6.0
6. Rec 6	71.6	-217.1	6.0
7. Rec 7	78.8	-262.8	6.0
8. Rec 8	85.9	-268.7	6.0
9. Rec 9	93.1	-274.2	6.0
10. Rec 10	99.9	-280.1	6.0
11. Rec 11	71.5	-167.5	6.0
12. Rec 12	62.2	-159.7	6.0

13. Rec 13	*	61.8	-138.4	6.0	*
14. Rec 14	*	-63.8	-175.7	6.0	*
15. Rec 15	*	-63.5	-168.5	6.0	*
16. Rec 16	*	-63.5	-160.5	6.0	*
17. Rec 17	*	-63.5	-154.0	6.0	*
18. Rec 18	*	-61.4	-145.2	6.0	*
19. Rec 19	*	-70.2	-140.5	6.0	*
20. Rec 20	*	-74.3	-136.0	6.0	*
21. Rec 21	*	-80.4	-130.1	6.0	*
22. Rec 22	*	-85.3	-126.4	6.0	*
23. Rec 23	*	-91.2	-120.9	6.0	*
24. Rec 24	*	-68.6	-52.2	6.0	*
25. Rec 25	*	-59.9	-55.2	6.0	*
26. Rec 26	*	-59.0	-32.1	6.0	*
27. Rec 27	*	-49.9	117.0	6.0	*
28. Rec 28	*	-45.8	124.0	6.0	*
29. Rec 29	*	-56.7	131.0	6.0	*
30. Rec 30	*	-53.4	195.5	6.0	*
31. Rec 31	*	-46.3	190.9	6.0	*
32. Rec 32	*	-40.4	187.1	6.0	*
33. Rec 33	*	-36.1	185.9	6.0	*

JOB: 8th/US 24-2030 Action RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 14:26:35

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
34. Rec 34	-31.7	181.6	6.0
35. Rec 35	-31.0	185.9	6.0
36. Rec 36	-30.2	194.6	6.0
37. Rec 37	-27.8	205.4	6.0
38. Rec 38	-26.0	214.0	6.0
39. Rec 39	52.2	163.2	6.0
40. Rec 40	49.0	147.0	6.0
41. Rec 41	59.7	131.0	6.0
42. Rec 42	70.4	114.9	6.0
43. Rec 43	77.6	125.8	6.0
44. Rec 44	73.6	17.6	6.0
45. Rec 45	89.3	44.4	6.0
46. Rec 46	96.8	40.3	6.0
47. Rec 47	159.0	73.6	6.0
48. Rec 48	152.2	79.2	6.0
49. Rec 49	145.5	85.0	6.0
50. Rec 50	138.5	91.0	6.0
51. Rec 51	131.6	96.4	6.0
52. Rec 52	124.5	102.1	6.0
53. Rec 53	116.4	93.8	6.0
54. Rec 54	123.3	100.7	6.0
55. Rec 55	127.5	123.4	6.0
56. Rec 56	131.7	131.4	6.0
57. Rec 57	135.6	139.1	6.0
58. Rec 58	139.7	146.8	6.0
59. Rec 59	-26.0	222.1	6.0
60. Rec 60	-60.4	200.0	6.0

JOB: 8th/US 24-2030 Action RUN: 2030 PM Peak

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: 10.-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
 ------*-------------------------------------------------------------------
------------------------------------------------------
 10. *  2.5  2.6  2.6  2.8  2.7  2.4  2.2  2.0  2.0  1.9  2.1  2.2  2.1
2.7  2.7  2.7  2.6  2.7  2.3  2.5
 20. *  2.2  2.2  2.4  2.4  2.4  2.4  2.0  1.7  1.7  1.7  2.0  2.1  2.3
2.5  2.4  2.4  2.6  2.7  2.6  2.8
 30. *  1.8  2.0  2.1  2.2  2.2  2.1  1.8  1.8  1.7  1.7  1.8  1.8  2.3
2.8  2.8  2.7  2.8  2.9  2.6  2.4
 40. *  1.7  1.8  2.0  2.0  2.0  1.9  1.5  1.5  1.5  1.5  1.5  1.7  2.1
2.8  2.7  2.6  2.7  2.8  2.6  2.4
 50. *  1.6  1.7  1.8  1.8  1.8  1.7  1.5  1.5  1.5  1.5  1.4  1.4  1.8
2.9  3.0  2.8  2.9  2.8  2.7  2.5
 60. *  1.6  1.6  1.7  1.8  1.8  1.6  1.5  1.5  1.5  1.5  1.2  1.4  1.6
3.0  2.9  2.7  2.8  2.7  2.8  2.8
 70. *  1.5  1.7  1.7  1.8  1.7  1.6  1.5  1.5  1.7  1.6  1.3  1.3  1.4
3.1  3.1  2.8  2.9  2.8  2.6  2.4
 80. *  1.7  1.8  1.8  1.9  1.8  1.7  1.7  1.7  1.7  1.7  1.4  1.4  1.6
3.2  3.0  2.9  2.7  2.5  2.6  2.4
 90. *  1.9  2.0  2.0  2.1  2.0  2.0  1.9  1.9  1.9  1.9  1.3  1.3  1.6
3.4  3.4  3.3  3.3  3.1  2.8  2.8
 100. *  1.8  1.9  2.1  2.3  2.4  2.4  1.8  1.8  1.8  1.8  1.5  1.5  1.7
3.7  3.7  3.7  3.5  3.4  3.2  3.0
 110. *  1.8  2.1  2.3  2.4  2.3  2.3  1.7  1.7  1.7  1.7  1.6  1.8  1.9
3.5  3.5  3.6  3.6  3.7  3.5  3.3
 120. *  1.4  1.6  1.9  2.3  2.4  2.3  1.3  1.3  1.3  1.3  1.7  1.8  1.6
3.3  3.3  3.4  3.4  3.6  3.4  3.4
 130. *  .9  1.1  1.4  1.8  2.1  2.1  .8  .8  .8  .8  1.8  1.8  1.3  3.0
3.1  3.1  3.2  3.5  3.0  3.0
 140. *  .4  .5  .8  1.1  1.4  1.6  .3  .3  .3  .3  1.7  1.7  1.3  2.6
2.8  2.8  2.8  3.0  2.6  2.5
 150. *  .2  .2  .4  .6  .8  1.1  .1  .1  .1  .1  1.5  1.6  1.2  2.3  2.3
2.6  2.7  2.8  2.4  2.3
 160. *  .2  .3  .3  .4  .6  .7  .1  .0  .0  .0  1.3  1.5  1.2  2.0  2.2
2.2  2.3  2.5  2.0  1.9
 170. *  .7  .7  .8  .9  1.0  .8  .3  .2  .1  .1  1.5  1.6  1.5  1.7  1.8
1.8  1.8  2.1  1.6  1.4
 180. *  1.2  1.2  1.3  1.3  1.4  1.4  .8  .6  .5  .4  1.9  2.4  2.3  1.3
1.2  1.3  1.2  1.3  1.0  .8
 190. *  1.5  1.5  1.5  1.7  1.8  1.7  1.1  1.0  .8  .7  2.3  2.7  2.7  .5
.5  .5  .5  .6  .3  .3
```

```
 200. *  1.5  1.5  1.6  1.8  1.9  1.8  1.2  1.1  1.0  1.0  2.8  3.0  2.9
.2  .2  .2  .2  .3  .1  .1
 210. *  1.4  1.5  1.6  1.7  1.9  1.8  1.1  1.1  1.0  .9  2.9  3.2  3.0
.1  .1  .1  .1  .1  .0  .0
 220. *  1.5  1.7  1.8  2.1  2.4  2.1  1.0  1.0  .9  .9  3.0  3.1  2.8  .1
.1  .1  .1  .1  .0  .0
 230. *  1.4  1.8  2.0  2.2  2.5  2.3  1.0  .9  .9  .9  2.8  2.8  2.6  .1
.1  .1  .1  .1  .0  .0
 240. *  1.6  2.0  2.2  2.4  2.6  2.5  1.0  .9  .9  .8  2.6  2.5  2.1  .0
.0  .0  .0  .0  .0  .0
 250. *  2.0  2.3  2.5  2.7  2.8  2.6  1.3  1.1  .9  .8  2.3  2.3  2.1  .0
.0  .0  .0  .0  .0  .0
 260. *  2.4  2.5  2.7  2.7  2.7  2.8  1.6  1.4  1.1  1.0  2.3  2.4  2.0
.0  .0  .0  .0  .0  .0  .0
 270. *  2.6  2.6  2.7  2.8  2.7  2.6  1.9  1.7  1.5  1.3  2.4  2.3  1.9
.0  .0  .0  .0  .0  .0  .0
 280. *  2.6  2.7  2.7  2.6  2.5  2.4  2.1  2.0  1.7  1.6  2.4  2.4  2.0
.0  .0  .0  .0  .0  .0  .0
 290. *  2.7  2.7  2.8  2.7  2.6  2.7  2.3  2.2  1.9  1.8  2.5  2.6  2.2
.0  .0  .0  .0  .1  .1  .1
 300. *  3.1  3.1  3.1  3.1  3.3  3.3  2.7  2.6  2.4  2.3  3.2  3.2  2.9
.3  .4  .4  .4  .7  .6  .6
 310. *  3.8  3.9  3.8  3.9  4.1  4.0  3.5  3.3  3.2  3.2  3.4  3.6  3.2
1.0  1.1  1.2  1.4  1.8  1.6  1.6
 320. *  4.2  4.1  4.1  4.1  4.4  4.2  3.7  3.7  3.5  3.4  3.0  3.2  2.7
1.8  2.0  2.1  2.4  2.8  2.7  2.7
 330. *  3.9  4.0  3.8  3.8  3.9  3.8  3.4  3.2  3.0  3.1  2.7  2.7  2.3
2.3  2.5  2.8  3.0  3.2  3.2  3.4
 340. *  3.3  3.5  3.3  3.4  3.6  3.3  3.1  2.9  2.9  2.7  2.3  2.2  2.3
2.4  2.4  2.5  2.8  3.0  3.1  3.3
 350. *  2.9  3.1  3.2  3.3  3.0  2.9  2.6  2.5  2.5  2.5  2.2  2.3  2.4
2.4  2.4  2.5  2.5  2.7  2.8  2.9
 360. *  2.8  2.8  2.9  3.0  3.1  2.7  2.5  2.4  2.4  2.3  2.4  2.4  2.5
2.3  2.3  2.4  2.4  2.4  2.5  2.5
 ------*-------------------------------------------------------------
------------------------------------------------------
 MAX  *  4.2  4.1  4.1  4.1  4.4  4.2  3.7  3.7  3.5  3.4  3.4  3.6  3.2
3.7  3.7  3.7  3.6  3.7  3.5  3.4
 DEGR. * 320  320  320  320  320  320  320  320  320  320  310  310  310
100  100  100  110  110  110  120
```

JOB: 8th/US 24-2030 Action RUN: 2030 PM Peak

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: 10.-360.

WIND ANGLE (DEGR) *	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
10. *	2.8	3.0	3.3	2.0	2.0	2.1	1.2	1.5	1.1	.3	.4	.4	.5	.7	.7	.5	.5	.5	.4	.7
20. *	2.9	3.0	3.3	1.9	2.1	2.0	1.6	1.8	1.4	.4	.5	.7	.8	.9	.9	.8	.7	.6	.1	.1
30. *	2.5	2.7	2.9	1.7	2.1	1.8	1.8	2.0	1.7	.5	.5	.8	.9	1.1	1.2	.9	.8	.7	.1	.2
40. *	2.4	2.5	2.9	1.8	2.0	2.0	2.1	2.3	2.0	.7	.9	1.2	1.3	1.6	1.6	1.5	1.2	1.0	.3	.3
50. *	2.4	2.2	2.5	2.1	2.3	1.9	2.0	2.2	2.1	.9	1.1	1.5	1.6	1.9	1.9	1.8	1.5	1.2	.4	.4
60. *	2.6	2.6	2.7	2.2	2.2	1.9	1.7	1.9	2.1	1.2	1.5	1.7	1.9	2.1	2.2	2.0	1.7	1.5	.4	.4
70. *	2.3	2.4	2.6	2.5	2.4	2.3	1.5	1.6	1.8	1.5	1.7	1.8	2.0	2.2	2.2	2.2	1.9	1.7	.3	.4
80. *	2.5	2.4	2.4	2.7	2.9	2.5	1.2	1.4	1.7	1.6	1.8	2.0	2.1	2.3	2.2	2.1	1.9	1.7	.3	.3
90. *	2.4	2.4	2.6	2.8	2.9	3.0	1.0	1.2	1.3	1.8	1.9	2.0	2.1	2.3	2.3	2.2	2.0	1.9	.3	.3
100. *	2.8	2.8	2.7	2.7	2.8	3.0	1.1	1.3	1.4	1.7	1.9	2.2	2.1	2.3	2.3	2.4	2.3	2.1	.3	.3
110. *	3.2	3.1	3.1	2.9	2.7	2.9	1.5	1.7	1.7	1.9	2.1	2.2	2.1	2.3	2.3	2.4	2.5	2.2	.3	.4
120. *	3.2	3.1	2.9	3.0	2.9	2.9	2.0	2.3	2.2	2.0	2.1	2.3	2.4	2.2	2.3	2.5	2.7	2.6	.5	.8
130. *	2.9	2.8	2.6	2.7	2.8	2.7	2.7	2.6	2.8	2.6	2.7	2.6	2.7	2.7	2.7	2.9	3.3	3.3	1.3	1.7
140. *	2.4	2.4	2.1	3.0	3.0	2.6	2.6	2.8	2.7	2.8	3.0	3.1	3.0	3.1	3.1	3.2	3.6	3.8	1.8	2.4
150. *	2.1	1.9	1.8	3.1	2.9	2.6	2.6	2.8	2.6	2.9	3.0	3.1	3.0	3.1	3.0	3.1	3.4	3.4	2.2	2.8
160. *	1.7	1.6	1.4	3.3	3.1	2.9	2.7	2.9	2.7	2.9	2.8	2.6	2.6	2.7	2.7	2.9	3.1	3.3	2.2	2.4
170. *	1.2	1.1	1.1	3.0	3.1	2.9	2.9	2.5	2.7	3.0	3.0	3.0	3.0	3.2	3.1	3.2	3.3	3.4	2.4	2.5
180. *	.7	.6	.6	2.5	2.4	2.3	2.6	2.6	2.3	2.7	2.9	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.6	2.7
190. *	.2	.2	.2	1.9	1.8	1.9	2.3	2.0	2.1	2.3	2.4	2.6	2.5	2.6	2.5	2.3	2.1	2.1	2.4	2.5

CONCENTRATION (PPM)

```
 200. *  .0  .0  .0  2.0  1.5  1.5  1.7  1.8  1.9  2.1  2.1  2.2  2.1  2.2
2.1  2.0  1.9  1.8  2.0  2.2
 210. *  .0  .0  .0  2.2  1.7  1.7  1.8  1.7  1.8  1.9  2.0  1.9  1.9  2.0
1.9  1.8  1.6  1.6  1.6  1.9
 220. *  .0  .0  .0  2.2  2.1  1.8  1.9  1.9  1.7  1.5  1.6  1.8  1.9  1.8
1.7  1.7  1.4  1.3  1.8  1.9
 230. *  .0  .0  .0  2.2  2.1  1.9  1.8  1.7  1.5  1.4  1.4  1.4  1.6  1.6
1.5  1.4  1.3  1.3  2.0  2.0
 240. *  .0  .0  .0  2.2  2.1  1.6  1.6  1.5  1.5  1.5  1.5  1.5  1.5  1.5
1.5  1.3  1.2  1.2  2.1  1.9
 250. *  .0  .0  .0  2.2  2.1  1.7  1.4  1.4  1.4  1.5  1.5  1.5  1.5  1.6
1.6  1.3  1.3  1.2  2.3  1.6
 260. *  .0  .0  .0  2.5  2.4  1.8  1.5  1.5  1.5  1.6  1.6  1.6  1.6  1.6
1.6  1.5  1.2  1.1  2.6  1.6
 270. *  .0  .0  .0  2.7  2.5  1.8  1.6  1.5  1.6  1.7  1.7  1.7  1.7  1.7
1.6  1.5  1.4  1.3  3.2  2.0
 280. *  .0  .0  .0  2.8  2.7  1.8  1.6  1.7  1.7  2.0  2.0  2.0  2.0  2.0
1.8  1.7  1.6  1.5  3.9  2.6
 290. *  .1  .1  .1  3.0  2.8  1.8  1.9  1.9  1.9  1.9  1.9  1.9  1.9  1.9
1.8  1.5  1.3  1.2  3.7  3.1
 300. *  .7  .7  .7  3.1  2.9  2.3  1.8  1.9  1.9  1.6  1.6  1.6  1.5  1.6
1.2  1.1  1.0  .9  3.5  3.0
 310. *  1.6  1.6  1.6  3.0  3.0  3.0  1.4  1.6  1.6  .6  .6  .6  .5  .7
.5  .4  .3  .3  3.0  2.7
 320. *  2.7  2.7  2.6  2.7  2.8  3.0  1.0  1.2  1.1  .2  .2  .2  .3  .3
.2  .2  .1  .1  2.4  2.6
 330. *  3.4  3.3  3.2  2.2  2.2  2.6  .8  .9  .8  .1  .1  .1  .1  .2  .1
.1  .1  .1  2.2  2.5
 340. *  3.4  3.6  3.5  1.9  2.0  2.2  .7  .8  .7  .0  .0  .1  .1  .1  .1
.1  .1  .1  1.6  2.2
 350. *  3.2  3.5  3.6  2.0  1.9  2.0  .7  .9  .8  .0  .1  .1  .1  .2  .2
.2  .2  .2  1.2  1.7
 360. *  2.8  3.2  3.4  1.9  2.0  2.0  1.1  1.1  .8  .2  .2  .3  .3  .4
.4  .4  .4  .4  .8  1.1
 ------*-------------------------------------------------------------
-----------------------------------------------------
 MAX  *  3.4  3.6  3.6  3.3  3.1  3.0  2.9  2.9  2.8  3.0  3.0  3.1  3.0
3.2  3.1  3.2  3.6  3.8  3.9  3.1
 DEGR. * 340  340  350  160  160  90  170  160  130  170  140  140  140
170  140  140  140  140  280  290
```

JOB: 8th/US 24-2030 Action RUN: 2030 PM Peak

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: 10.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
10. *	.2	.3	.3	1.3	1.2	1.8	.4	.4	.5	.6	.6	.7	.8	.7	.8	.8	.8	.8	.5	.2
20. *	.2	.3	.3	1.4	1.6	2.1	.3	.4	.5	.6	.7	.9	.9	.9	.9	.9	.9	.9	.6	.3
30. *	.3	.6	.6	1.6	1.8	2.1	.2	.3	.3	.4	.6	.8	.9	.8	1.0	1.0	1.0	1.0	.6	.4
40. *	.5	.8	.8	1.4	1.7	2.0	.1	.1	.2	.2	.3	.6	.6	.6	.8	.8	.8	.9	.8	.5
50. *	.5	.8	.8	1.2	1.6	1.8	.0	.0	.0	.1	.1	.3	.3	.3	.5	.5	.5	.6	.9	.7
60. *	.5	.7	.7	1.2	1.7	1.7	.0	.0	.0	.0	.0	.1	.2	.1	.3	.3	.3	.3	1.2	1.0
70. *	.5	.6	.6	1.2	1.7	1.7	.0	.0	.0	.0	.0	.1	.1	.1	.2	.2	.2	.2	1.5	1.2
80. *	.4	.6	.5	1.2	2.0	1.9	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.2	.2	1.6	1.5
90. *	.4	.6	.5	1.4	2.1	2.1	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	1.7	1.6
100. *	.5	.5	.4	1.6	2.3	2.3	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	1.9	1.6
110. *	.6	.8	.5	2.3	2.5	2.6	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	2.1	1.7
120. *	1.1	1.6	1.0	3.0	2.8	2.8	.3	.3	.3	.3	.3	.3	.5	.3	.2	.2	.2	.1	2.4	1.9
130. *	2.0	2.4	1.9	3.9	2.9	3.0	.9	.9	.9	.9	.9	1.0	1.5	1.0	.8	.7	.7	.4	3.3	2.5
140. *	2.7	2.9	2.6	4.4	3.0	2.9	1.6	1.7	1.7	1.7	1.7	1.6	2.4	1.8	1.4	1.2	1.1	1.0	3.7	2.9
150. *	2.9	3.2	3.0	4.2	2.9	3.0	2.0	2.1	2.1	2.1	2.2	2.2	2.8	2.5	1.8	1.6	1.4	1.3	3.4	3.0
160. *	2.7	3.2	3.0	3.7	2.7	2.9	2.3	2.3	2.4	2.5	2.5	2.7	3.1	2.9	2.2	1.8	1.8	1.7	3.4	2.9
170. *	2.8	3.0	3.1	3.4	3.1	3.0	2.1	2.2	2.3	2.4	2.6	2.6	3.3	2.8	2.2	2.1	2.0	1.9	3.4	3.0
180. *	3.0	3.4	3.2	3.5	3.1	3.1	2.6	2.6	2.7	2.9	3.0	3.1	3.5	3.1	2.8	2.6	2.5	2.5	2.8	2.7
190. *	2.9	2.9	2.8	3.6	3.3	3.1	2.9	3.2	3.2	3.4	3.4	3.4	3.7	3.4	3.1	3.1	3.1	3.1	2.1	2.2

```
 200. *  2.4  2.8  2.7  3.0  3.0  3.3  3.3  3.6  3.5  3.6  3.5  3.4  3.6
3.5  3.3  3.2  3.0  3.1  1.8  1.9
 210. *  2.2  2.4  2.3  2.6  2.7  2.7  3.2  3.4  3.4  3.2  3.2  3.3  3.3
3.3  2.8  2.7  2.7  2.5  1.6  1.7
 220. *  1.9  2.2  2.1  2.1  2.2  2.3  3.0  3.2  3.0  2.8  2.8  2.6  2.4
2.6  2.4  2.5  2.6  2.5  1.3  1.5
 230. *  2.0  2.0  1.8  1.8  2.1  2.0  2.8  2.8  2.7  2.6  2.4  2.4  2.4
2.4  2.4  2.3  2.4  2.1  1.2  1.4
 240. *  1.9  1.9  2.0  2.1  2.2  2.1  2.7  2.7  2.6  2.6  2.5  2.2  2.3
2.2  2.1  2.0  2.0  1.9  1.2  1.5
 250. *  1.9  1.7  1.7  2.2  2.3  2.2  2.7  2.4  2.3  2.2  2.1  2.3  2.2
2.3  2.0  2.0  2.0  2.0  1.1  1.5
 260. *  1.6  1.8  1.5  2.4  2.3  2.4  2.4  2.3  2.1  1.9  1.9  2.1  2.1
2.1  2.1  1.8  1.7  1.9  1.1  1.6
 270. *  1.7  1.7  1.7  2.3  2.4  2.3  2.2  2.1  2.1  2.2  2.1  2.0  2.2
2.0  2.0  2.0  1.7  1.9  1.1  1.7
 280. *  2.2  2.1  2.1  2.4  2.4  2.4  1.9  1.9  2.0  2.2  2.1  2.3  2.2
2.3  2.1  2.2  2.3  2.2  1.5  2.0
 290. *  2.6  2.4  2.3  2.5  2.5  2.4  2.1  2.1  2.2  2.4  2.4  2.4  2.7
2.5  2.3  2.3  2.3  2.2  1.2  1.9
 300. *  2.4  2.3  2.1  2.5  2.7  2.6  1.8  1.9  2.0  2.2  2.1  2.2  2.6
2.2  2.1  1.9  1.9  1.8  .7  1.6
 310. *  2.0  1.9  1.8  2.1  2.3  2.2  1.2  1.4  1.4  1.6  1.5  1.6  1.8
1.6  1.5  1.4  1.2  1.2  .2  .6
 320. *  1.8  1.5  1.6  1.6  1.9  2.0  .8  1.0  1.0  1.1  1.2  1.3  1.5
1.4  1.0  .9  .8  .7  .1  .2
 330. *  1.8  1.6  1.3  1.5  1.9  2.0  .5  .7  .8  .9  .9  1.0  1.1  1.0
.7  .7  .7  .6  .1  .1
 340. *  1.4  1.2  .8  1.6  1.8  2.1  .5  .5  .6  .7  .9  .9  1.0  .9  .8
.8  .8  .6  .1  .0
 350. *  1.0  1.0  .6  1.6  1.8  2.0  .5  .6  .6  .7  .7  .8  .8  .8  .7
.7  .7  .7  .1  .0
 360. *  .6  .6  .4  1.4  1.4  1.7  .4  .5  .5  .6  .7  .9  .9  .9  .9  .7
.7  .7  .4  .1
 ------*-----------------------------------------------------------------
-------------------------------------------------------
 MAX  *  3.0  3.4  3.2  4.4  3.3  3.3  3.3  3.6  3.5  3.6  3.5  3.4  3.7
3.5  3.3  3.2  3.1  3.1  3.7  3.0
 DEGR. * 180  180  180  140  190  200  200  200  200  200  200  190  190
200  200  200  190  190  140  170

 THE HIGHEST CONCENTRATION OF  4.40 PPM OCCURRED AT RECEPTOR REC5 .
```

```
JOB: 8th/US 24-2030 Action              RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 14:26:35


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 # *  320  320  320  320  320  320  320  320  320  320  310  310
310  100  100  100  110  110  110  120
  -------*-----------------------------------------------------------------
--------------------------------------------------------
     1 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .4  .4  .4
.4  .4  .4  .3
     2 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
     3 *  .0  .0  .0  .0  .1  .1  .0  .0  .0  .0  .0  .0  .1  .0  .0  .0
.0  .0  .0  .0
     4 *  .3  .3  .3  .3  .3  .3  .3  .3  .3  .3  .3  .4  .4  .0  .0  .0
.0  .0  .0  .0
     5 *  .2  .2  .2  .2  .2  .2  .2  .2  .2  .2  .3  .3  .3  .0  .0  .0
.0  .0  .0  .0
     6 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .0  .0  .0
.0  .0  .0  .0
     7 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .0  .0
.0  .0  .0  .0
     8 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .3  .3  .3
.3  .3  .3  .2
     9 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1  .1
.1  .1  .1  .0
    10 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1  .1
.0  .0  .0  .0
    11 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1  .1
.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 *  .1  .1  .1  .1  .2  .2  .1  .1  .1  .1  .1  .1  .1  .0  .0  .0
.0  .0  .0  .0
    16 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .0  .0  .0
.0  .0  .0  .0
    17 *  .3  .3  .3  .3  .4  .3  .3  .3  .3  .2  .4  .4  .3  .0  .0  .1
.1  .2  .2  .2
    18 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .0  .0
.0  .0  .0  .0
    19 *  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1  .0  .0  .0
.0  .0  .0  .0
```

20 * .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .5 .5 .4 .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 * .4 .6 .8 1.0 1.1 1.2 .5 .6 .6 .6 .5 .5 .0 .6 .7 .7
.8 .8 .8 .8
23 * .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0
24 * .9 .9 .9 .9 .9 .8 .7 .7 .6 .6 .7 .8 .8 .5 .5 .5
.5 .5 .5 .5
25 * .4 .3 .3 .2 .2 .1 .3 .3 .2 .2 .0 .0 .0 .8 .8 .7
.7 .7 .5 .6
26 * .6 .4 .2 .1 .0 .0 .4 .3 .3 .3 .0 .0 .0 .2 .1 .1
.1 .1 .1 .2
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 * .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .6 .6 .6
.6 .6 .6 .6

```
JOB: 8th/US 24-2030 Action            RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 14:26:35

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 # *  340  340  350  160  160  90  170  160  130  170  140  140  140
170  140  140  140  140  280  290
  -------*------------------------------------------------------------------
--------------------------------------------------------
    1 *  .0  .0  .0  .0  .0  .1  .0  .1  .4  .0  .4  .4  .4  .0  .4  .4
.3  .3  .0  .0
    2 *  .0  .0  .0  .0  .0  .3  .1  .2  .2  .1  .1  .1  .1  .2  .1  .1
.1  .1  .0  .0
    3 *  .0  .0  .1  .0  .0  .0  .4  .3  .1  .3  .0  .0  .0  .2  .0  .0
.0  .0  .0  .0
    4 *  .4  .4  .3  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .5  .5
    5 *  .2  .3  .2  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .3  .2
    6 *  .1  .1  .1  .0  .0  .0  .2  .1  .0  .1  .0  .0  .0  .1  .0  .0
.0  .0  .0  .0
    7 *  .0  .0  .0  .0  .0  .3  .1  .2  .0  .1  .0  .0  .0  .1  .0  .0
.0  .0  .0  .0
    8 *  .0  .0  .0  .0  .0  .1  .0  .1  .2  .0  .2  .2  .2  .0  .2  .2
.2  .2  .0  .0
    9 *  .0  .0  .0  .0  .0  .0  .0  .0  .1  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   10 *  .0  .0  .0  .0  .0  .2  .0  .0  .4  .0  .4  .4  .4  .1  .5  .4
.4  .4  .0  .1
   11 *  .0  .0  .0  .0  .0  .2  .0  .0  .2  .0  .1  .1  .1  .0  .1  .1
.1  .1  .0  .0
   12 *  .0  .0  .0  .0  .0  .4  .0  .1  .3  .0  .2  .2  .2  .1  .2  .2
.2  .2  .0  .0
   13 *  .0  .0  .0  .0  .0  .2  .0  .0  .2  .0  .2  .2  .2  .0  .2  .2
.2  .2  .0  .0
   14 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   15 *  .2  .2  .2  .0  .0  .0  .0  .0  .1  .7  .5  .5  .4  .6  .3  .2
.1  .0  .5  .7
   16 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .1  .1
   17 *  .5  .5  .5  .6  .5  .0  .1  .0  .0  .1  .0  .0  .0  .1  .0  .0
.0  .0  .1  .0
   18 *  .1  .1  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   19 *  .1  .1  .2  .0  .0  .0  .1  .0  .0  .1  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   20 *  1.5  1.5  1.5  .4  .1  .0  .1  .0  .0  .1  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
```

21	*	.3	.4	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	*	.0	.0	.0	.2	.2	.0	.2	.3	.1	.1	.2	.2	.2	.2	.1	.1	.1	.1	.0	.0
23	*	.0	.0	.0	.1	.1	.0	.1	.1	.0	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
24	*	.0	.0	.0	.5	.6	.4	.4	.4	.0	.3	.0	.0	.0	.4	.0	.0	.0	.0	.0	.0
25	*	.0	.0	.0	.4	.4	.0	.1	.1	.0	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
26	*	.0	.0	.0	.2	.2	.0	.1	.1	.0	.1	.0	.0	.0	.1	.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	.1	.0	.1	.2	.0	.2	.2	.2	.1	.2	.2	.2	.2	.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	.3	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3
31	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.3	1.2	.6
32	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.0	.3	.6	1.0	1.2	.9	.6
33	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0
34	*	.0	.0	.0	.9	1.0	.7	.6	.3	.0	.4	.0	.0	.0	.3	.0	.0	.0	.0	.0	.0

JOB: 8th/US 24-2030 Action RUN: 2030 PM Peak

DATE : 6/ 9/ 9
TIME : 14:26:35

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
LINK # *	180	180	180	140	190	200	200	200	200	200	200	190	190	200	200	200	190	190	140	170
1 *	.1	.1	.1	.9	.1	.0	.2	.2	.1	.1	.1	.2	.1	.1	.1	.1	.1	.2	.3	.0
2 *	.3	.3	.3	.1	.3	.3	.1	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.1	.1	.1
3 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3
4 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
7 *	.1	.1	.1	.0	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
8 *	.1	.1	.1	.5	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.0
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10 *	.5	.5	.4	.1	.1	.1	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.0
11 *	.1	.1	.1	.5	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0
12 *	.3	.4	.4	2.1	.9	.9	.6	.6	.6	.6	.5	.5	.6	.4	.4	.3	.4	.4	.1	.0
13 *	.0	.1	.1	.0	.0	.0	.6	.6	.6	.6	.5	.5	.6	.4	.3	.3	.4	.3	.2	.0
14 *	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.0	.0
15 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7
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	.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	.1
20 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1

21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.2	.2	.1	.1
23 *	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
24 *	.4	.4	.3	.0	.6	.6	.3	.4	.4	.4	.4	.3	.4	.4	.4	.4	.3	.3	.0	.3
25 *	.1	.1	.1	.0	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
26 *	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
27 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28 *	.4	.6	.6	.0	.1	.0	.0	.0	.0	.0	.1	.1	.2	.3	.5	.5	.3	.4	.2	.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	.4	.3
31 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.0
32 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	.0
33 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34 *	.2	.2	.2	.0	.3	.3	.2	.2	.2	.3	.3	.2	.2	.3	.3	.3	.2	.2	.0	.4

12. Proposed Action for 2035 PM Peak Period

Location:	US 24 at 8th Street
Configuration:	Improved intersection with US 24 through lanes overhead
1-hour Result:	Worst case average of 4.80 parts per million as indicated on Page 7 of the following documentation

Post-Model Calculations

Persistence Factor: 0.57

8-Hour Equivalent Intersection Contribution:	2.74 ppm
Assumed Background:	1.62 ppm
Total Concentration:	**4.36 ppm**

```
CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1
JOB: 8th/US 24-2035 Action             RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:27:48

The MODE flag has been set to C for calculating CO averages.

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. US 24 Main WB Appr *  106.0   -64.9   725.3  -593.8 *   814.  130.
FL  2190. 15.9 18.0 44.0
    2. US 24 Main WB Appr *   9.9   17.1   106.0   -64.9 *   126.  130. BR
2190. 15.9 27.0 44.0
    3. US 24 Main WB Dptr *  -87.1   83.9    9.9   17.1 *   118.  125. BR
2190. 15.9 27.0 44.0
    4. US 24 Main WB Dptr * -1000.0   712.1   -87.1   83.9 *  1108.  125.
FL  2190. 15.9 18.0 44.0
    5. US 24 Main EB Appr *  -111.8   48.7  -1000.0   662.3 *  1080.  305.
FL  1515. 15.9 18.0 44.0
    6. US 24 Main EB Appr *  -14.9   -18.2  -111.8   48.7 *   118.  305.
BR  1515. 15.9 27.0 44.0
    7. US 24 Main EB Dptr *   80.7   -87.0   -14.9   -18.2 *   118.  306.
BR  1515. 15.9 27.0 44.0
    8. US 24 Main EB Dptr *  696.4  -529.8   80.7   -87.0 *   758.  306.
FL  1515. 15.9 18.0 44.0
    9. US 24 Ramp WB Appr *  550.1  -264.7   770.8  -430.6 *   276.  127.
AG  1745. 15.6  .0 56.0
   10. US 24 Ramp WB Appr *   -.2   127.9   550.1  -264.7 *   676.  126.
AG  980. 15.6  .0 68.0
   11. US 24 Ramp WB LAppr *   70.6   -2.8   536.1  -284.2 *   544.  121.
AG  765. 15.6  .0 56.0
   12. US 24 Ramp WB LQ  *   70.6   -2.8   155.3   -54.0 *   99.  121. AG
551. 100.0  .0 36.0 .64  5.0
   13. US 24 Ramp WB TQ  *   98.5   57.5   177.8    .9 *   97.  126. AG
228. 100.0  .0 24.0 .49  4.9
   14. US 24 Ramp WB RQ  *  109.1   78.1   142.4   54.4 *   41.  125. AG
114. 100.0  .0 12.0 .20  2.1
   15. US 24 Ramp WB Dptr * -1000.0   771.5    -.2   127.9 *  1189.  123.
AG  1345. 14.5  .0 44.0
   16. US 24 Ramp EB Appr *  -496.4   267.2  -1000.0   708.1 *   669.
311. AG  1295. 14.5  .0 56.0
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17. US 24 Ramp EB Appr *   -.2 -144.0 -496.4   267.2 *   644. 310.
AG 1015. 14.5 .0 68.0
18. US 24 Ramp EB LAppr * -64.9   -1.0 -477.3   290.3 *   505. 305.
AG 280. 14.5 .0 44.0
19. US 24 Ramp EB LQ * -64.9   -1.0 -119.4   37.5 *   67. 305. AG
424. 100.0 .0 24.0 .67 3.4
20. US 24 Ramp EB TQ * -71.7   -84.1 -195.2   18.1 *   160. 310. AG
582. 100.0 .0 36.0 .91 8.1
21. US 24 Ramp EB RQ * -77.7 -110.9 -110.7   -83.5 *   43. 310. AG
143. 100.0 .0 12.0 .22 2.2
22. US 24 Ramp EB Dptr * 662.9 -697.9   -.2 -144.0 *   864. 310.
AG 1855. 15.4 .0 56.0
23. 8th Street NB Appr *   26.3 -474.8   50.6 -1000.0 *   526. 177.
AG 1830. 15.0 .0 56.0
24. 8th Street NB Appr *   19.9   -13.1   26.3 -474.8 *   462. 179.
AG 1830. 14.5 .0 92.0
25. 8th Street NB LQ * -17.6 -148.9   -12.2 -275.7 *   127. 178.
AG 409. 100.0 .0 24.0 .88 6.4
26. 8th Street NB TQ *   19.9 -208.9   21.6 -278.5 *   70. 179. AG
506. 100.0 .0 36.0 .40 3.5
27. 8th Street NB RQ *   43.9   -12.8   45.1 -100.3 *   87. 179. AG
51. 100.0 .0 12.0 .66 4.4
28. 8th Street NB Dptr * 526.9   760.4   19.9   -13.1 *   925. 213.
AG 1030. 14.8 .0 56.0
29. 8th Street SB Appr *   59.5   466.7   13.7 1000.0 *   535. 355.
AG 885. 14.8 .0 56.0
30. 8th Street SB Appr * -29.8   24.4   59.5   466.7 *   451. 11. AG
885. 14.8 .0 92.0
31. 8th Street SB LQ *   27.0   156.0   36.0   200.1 *   45. 11. AG
444. 100.0 .0 24.0 .63 2.3
32. 8th Street SB TQ *   2.6   162.9   17.7   243.7 *   82. 11. AG
559. 100.0 .0 36.0 .56 4.2
33. 8th Street SB RQ * -19.9   194.6   -18.1   203.7 *   9. 11. AG
51. 100.0 .0 12.0 .07 .5
34. 8th Street SB Dptr * -29.8   24.4   -52.2 -1000.0 * 1025. 181.
AG 1525. 14.5 .0 56.0

JOB: 8th/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:27:48

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
12. US 24 Ramp WB LQ	*	100	71	2.0	765	1600	96.40	1	3
13. US 24 Ramp WB TQ	*	100	44	2.0	810	1600	96.40	1	3
14. US 24 Ramp WB RQ	*	100	44	2.0	170	1600	96.40	1	3
19. US 24 Ramp EB LQ	*	100	83	2.0	280	1600	95.20	1	3
20. US 24 Ramp EB TQ	*	100	76	2.0	875	1600	95.20	1	3
21. US 24 Ramp EB RQ	*	100	56	2.0	140	1600	95.20	1	3
25. 8th Street NB LQ	*	100	80	2.0	450	1600	95.20	1	3
26. 8th Street NB TQ	*	100	66	2.0	580	1600	95.20	1	3
27. 8th Street NB RQ	*	100	20	2.0	800	1600	95.20	1	3
31. 8th Street SB LQ	*	100	87	2.0	180	1600	95.20	1	3
32. 8th Street SB TQ	*	100	73	2.0	620	1600	95.20	1	3
33. 8th Street SB RQ	*	100	20	2.0	85	1600	95.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	X (FT)	Y (FT)	Z (FT)	*
1. Rec 1	*	63.3	-251.6	6.0	*
2. Rec 2	*	63.3	-242.4	6.0	*
3. Rec 3	*	63.3	-234.1	6.0	*
4. Rec 4	*	63.3	-225.8	6.0	*
5. Rec 5	*	63.3	-217.1	6.0	*
6. Rec 6	*	71.6	-217.1	6.0	*
7. Rec 7	*	78.8	-262.8	6.0	*
8. Rec 8	*	85.9	-268.7	6.0	*
9. Rec 9	*	93.1	-274.2	6.0	*
10. Rec 10	*	99.9	-280.1	6.0	*
11. Rec 11	*	71.5	-167.5	6.0	*
12. Rec 12	*	62.2	-159.7	6.0	*

13. Rec 13	*	61.8	-138.4	6.0	*
14. Rec 14	*	-63.8	-175.7	6.0	*
15. Rec 15	*	-63.5	-168.5	6.0	*
16. Rec 16	*	-63.5	-160.5	6.0	*
17. Rec 17	*	-63.5	-154.0	6.0	*
18. Rec 18	*	-61.4	-145.2	6.0	*
19. Rec 19	*	-70.2	-140.5	6.0	*
20. Rec 20	*	-74.3	-136.0	6.0	*
21. Rec 21	*	-80.4	-130.1	6.0	*
22. Rec 22	*	-85.3	-126.4	6.0	*
23. Rec 23	*	-91.2	-120.9	6.0	*
24. Rec 24	*	-68.6	-52.2	6.0	*
25. Rec 25	*	-59.9	-55.2	6.0	*
26. Rec 26	*	-59.0	-32.1	6.0	*
27. Rec 27	*	-49.9	117.0	6.0	*
28. Rec 28	*	-45.8	124.0	6.0	*
29. Rec 29	*	-56.7	131.0	6.0	*
30. Rec 30	*	-53.4	195.5	6.0	*
31. Rec 31	*	-46.3	190.9	6.0	*
32. Rec 32	*	-40.4	187.1	6.0	*
33. Rec 33	*	-36.1	185.9	6.0	*

JOB: 8th/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:27:48

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
34. Rec 34	-31.7	181.6	6.0
35. Rec 35	-31.0	185.9	6.0
36. Rec 36	-30.2	194.6	6.0
37. Rec 37	-27.8	205.4	6.0
38. Rec 38	-26.0	214.0	6.0
39. Rec 39	52.2	163.2	6.0
40. Rec 40	49.0	147.0	6.0
41. Rec 41	59.7	131.0	6.0
42. Rec 42	70.4	114.9	6.0
43. Rec 43	77.6	125.8	6.0
44. Rec 44	73.6	17.6	6.0
45. Rec 45	89.3	44.4	6.0
46. Rec 46	96.8	40.3	6.0
47. Rec 47	159.0	73.6	6.0
48. Rec 48	152.2	79.2	6.0
49. Rec 49	145.5	85.0	6.0
50. Rec 50	138.5	91.0	6.0
51. Rec 51	131.6	96.4	6.0
52. Rec 52	124.5	102.1	6.0
53. Rec 53	116.4	93.8	6.0
54. Rec 54	123.3	100.7	6.0
55. Rec 55	127.5	123.4	6.0
56. Rec 56	131.7	131.4	6.0
57. Rec 57	135.6	139.1	6.0
58. Rec 58	139.7	146.8	6.0
59. Rec 59	-26.0	222.1	6.0
60. Rec 60	-60.4	200.0	6.0

JOB: 8th/US 24-2035 Action RUN: 2035 PM Peak

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: 10.-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
10. *	2.6	2.7	2.8	2.8	2.7	2.5	2.4	2.2	2.1	2.1	2.0	2.2	2.2	2.7	2.7	2.7	2.8	2.8	2.4	2.5
20. *	2.1	2.3	2.3	2.4	2.3	2.3	2.0	1.8	1.7	1.7	2.0	2.0	2.2	2.5	2.5	2.5	2.8	2.8	2.6	2.7
30. *	1.8	2.0	2.0	2.2	2.1	2.1	1.7	1.7	1.7	1.6	1.8	1.8	2.4	2.7	2.7	2.7	2.8	2.9	2.6	2.4
40. *	1.7	1.8	2.0	2.0	1.9	1.8	1.6	1.6	1.6	1.6	1.5	1.6	2.2	2.8	2.7	2.7	2.8	2.8	2.6	2.5
50. *	1.6	1.7	1.8	1.9	1.8	1.7	1.5	1.5	1.5	1.5	1.3	1.4	1.8	3.0	3.0	2.7	2.8	2.8	2.8	2.5
60. *	1.6	1.7	1.7	1.9	1.8	1.6	1.5	1.5	1.5	1.5	1.2	1.4	1.6	2.9	2.8	2.7	2.8	2.8	2.7	2.8
70. *	1.7	1.7	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.4	1.4	1.6	3.0	3.0	2.9	2.8	2.7	2.5	2.5
80. *	1.7	1.8	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.8	1.5	1.5	1.6	3.2	3.1	3.1	2.7	2.7	2.6	2.6
90. *	1.9	2.0	2.1	2.1	2.2	2.1	1.9	1.9	1.9	1.9	1.5	1.5	1.6	3.4	3.5	3.3	3.3	3.1	2.8	2.7
100. *	1.8	1.9	2.1	2.3	2.4	2.5	1.8	1.8	1.8	1.8	1.5	1.5	1.8	3.9	3.8	3.8	3.6	3.5	3.2	3.2
110. *	1.8	2.2	2.3	2.5	2.5	2.4	1.7	1.7	1.8	1.8	1.6	1.8	1.9	3.6	3.7	3.6	3.7	3.7	3.5	3.4
120. *	1.4	1.7	2.0	2.3	2.4	2.4	1.4	1.4	1.4	1.4	1.7	1.8	1.6	3.5	3.4	3.5	3.6	3.7	3.4	3.5
130. *	.9	1.1	1.5	1.9	2.1	2.2	.8	.8	.8	.8	1.8	1.8	1.4	3.0	3.2	3.2	3.3	3.5	3.3	3.1
140. *	.4	.5	.8	1.1	1.5	1.7	.3	.3	.3	.3	1.8	1.8	1.3	2.6	2.7	2.9	2.8	2.9	2.6	2.6
150. *	.3	.4	.5	.7	1.0	1.1	.1	.1	.1	.1	1.5	1.6	1.2	2.4	2.5	2.5	2.7	2.9	2.4	2.4
160. *	.3	.4	.4	.6	.7	.7	.1	.0	.0	.0	1.3	1.5	1.3	2.2	2.3	2.3	2.5	2.5	2.0	2.0
170. *	.7	.7	.8	.9	1.0	.8	.3	.2	.1	.1	1.5	1.8	1.6	1.8	1.9	1.9	1.9	2.1	1.7	1.5
180. *	1.2	1.2	1.3	1.3	1.4	1.4	.8	.6	.5	.5	2.0	2.5	2.3	1.3	1.3	1.4	1.4	1.5	1.0	.8
190. *	1.5	1.5	1.6	1.7	1.9	1.8	1.1	1.0	.9	.9	2.6	2.8	2.9	.6	.6	.6	.6	.6	.4	.3

200. *	1.6	1.7	1.7	1.8	1.9	1.9	1.2	1.1	1.1	1.0	2.8	3.0	3.0	.2	.2	.2	.2	.3	.1	.1
210. *	1.5	1.6	1.8	1.9	2.1	2.0	1.3	1.1	1.0	.9	3.1	3.3	3.0	.1	.1	.1	.1	.1	.0	.0
220. *	1.6	1.8	1.9	2.2	2.5	2.2	1.1	1.0	.9	.9	3.1	3.2	2.8	.1	.1	.1	.1	.1	.0	.0
230. *	1.7	2.0	2.2	2.4	2.7	2.4	1.1	1.0	.9	.9	2.7	2.8	2.5	.1	.1	.1	.1	.1	.0	.0
240. *	1.8	2.1	2.3	2.5	2.6	2.6	1.1	1.0	.9	.9	2.6	2.4	2.2	.0	.0	.0	.0	.0	.0	.0
250. *	2.1	2.3	2.6	2.7	2.8	2.6	1.4	1.2	.9	.9	2.4	2.3	2.1	.0	.0	.0	.0	.0	.0	.0
260. *	2.5	2.6	2.7	2.7	2.7	2.8	1.7	1.5	1.3	1.1	2.4	2.5	2.0	.0	.0	.0	.0	.0	.0	.0
270. *	2.6	2.6	2.7	2.7	2.6	2.6	2.1	1.8	1.6	1.4	2.4	2.4	1.9	.0	.0	.0	.0	.0	.0	.0
280. *	2.6	2.6	2.6	2.6	2.5	2.5	2.2	2.1	1.9	1.6	2.5	2.3	2.0	.0	.0	.0	.0	.0	.0	.0
290. *	2.7	2.6	2.7	2.7	2.6	2.7	2.3	2.2	1.9	1.9	2.5	2.6	2.3	.0	.0	.0	.0	.1	.1	.1
300. *	3.1	3.1	3.1	3.1	3.3	3.4	2.8	2.6	2.5	2.4	3.2	3.1	2.9	.3	.4	.4	.4	.7	.6	.7
310. *	3.8	3.8	3.9	4.0	4.1	4.1	3.5	3.4	3.2	3.1	3.4	3.6	3.2	1.1	1.1	1.3	1.4	1.9	1.6	1.6
320. *	4.3	4.3	4.3	4.4	4.8	4.1	3.8	3.7	3.6	3.5	3.0	3.2	2.9	1.8	2.0	2.1	2.4	2.8	2.7	2.7
330. *	4.1	4.0	3.9	3.8	3.9	3.8	3.4	3.2	3.1	3.1	2.7	2.9	2.5	2.4	2.6	2.8	3.0	3.2	3.2	3.3
340. *	3.3	3.5	3.5	3.6	3.6	3.4	3.1	3.0	2.9	2.7	2.3	2.4	2.5	2.3	2.4	2.6	2.8	3.0	3.0	3.2
350. *	2.9	3.1	3.2	3.3	3.2	2.9	2.7	2.6	2.6	2.6	2.5	2.4	2.4	2.4	2.4	2.4	2.5	2.7	2.6	3.0
360. *	2.8	2.9	3.1	3.2	3.1	2.8	2.5	2.5	2.5	2.3	2.4	2.4	2.4	2.2	2.4	2.4	2.4	2.5	2.5	2.5
MAX *	4.3	4.3	4.3	4.4	4.8	4.1	3.8	3.7	3.6	3.5	3.4	3.6	3.2	3.9	3.8	3.8	3.7	3.7	3.5	3.5
DEGR. *	320	320	320	320	320	310	320	320	320	320	310	310	310	100	100	100	110	120	110	120

JOB: 8th/US 24-2035 Action RUN: 2035 PM Peak

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: 10.-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
10.	2.8	3.0	3.3	2.1	2.1	2.2	1.2	1.5	1.1	.3	.4	.5	.5	.7	.7	.6	.6	.6	.5	.7
20.	2.8	2.9	3.2	1.9	2.2	2.0	1.6	1.9	1.4	.4	.5	.7	.8	.9	.9	.8	.7	.6	.1	.2
30.	2.5	2.6	3.0	1.8	2.2	1.8	1.8	2.1	1.7	.6	.7	.8	.9	1.3	1.2	.9	.8	.7	.2	.3
40.	2.5	2.5	2.8	1.8	2.1	2.1	2.1	2.3	2.1	.7	.9	1.2	1.3	1.7	1.7	1.5	1.2	1.0	.3	.3
50.	2.5	2.3	2.5	2.0	2.3	1.9	2.1	2.3	2.1	.9	1.3	1.5	1.9	2.0	2.0	1.9	1.6	1.4	.4	.4
60.	2.6	2.5	2.6	2.1	2.3	2.1	1.7	1.9	2.1	1.2	1.5	1.8	1.9	2.1	2.2	2.0	1.7	1.6	.4	.4
70.	2.3	2.4	2.6	2.4	2.3	2.2	1.5	1.7	1.8	1.5	1.7	2.0	2.1	2.3	2.2	2.2	1.9	1.7	.3	.4
80.	2.4	2.4	2.4	2.6	2.8	2.5	1.2	1.5	1.6	1.7	1.8	2.0	2.1	2.3	2.3	2.2	1.9	1.8	.3	.3
90.	2.5	2.5	2.6	2.9	2.9	2.9	1.1	1.2	1.3	1.8	2.0	2.0	2.2	2.3	2.3	2.3	2.2	1.9	.3	.3
100.	2.8	2.8	2.8	2.8	2.9	3.0	1.2	1.3	1.5	1.8	2.0	2.3	2.2	2.3	2.3	2.4	2.4	2.2	.3	.3
110.	3.3	3.2	3.1	2.9	2.8	2.9	1.6	1.6	1.6	1.8	2.0	2.1	2.1	2.2	2.2	2.4	2.5	2.2	.3	.4
120.	3.3	3.2	3.0	3.0	3.0	3.1	2.0	2.1	2.1	2.0	2.1	2.2	2.3	2.1	2.3	2.6	2.6	2.5	.4	.8
130.	3.0	2.8	2.6	2.9	2.9	2.7	2.8	2.6	2.7	2.5	2.6	2.5	2.7	2.7	2.8	2.9	3.3	3.4	1.2	1.4
140.	2.4	2.4	2.3	3.1	2.9	2.6	2.7	2.7	2.6	2.7	2.9	3.0	3.0	3.1	3.1	3.2	3.4	3.7	1.7	2.2
150.	2.2	2.0	1.8	3.0	3.0	2.7	2.7	2.8	2.6	2.9	2.9	3.0	2.9	3.0	3.0	3.1	3.5	3.5	2.2	2.6
160.	1.8	1.6	1.4	3.3	3.2	3.0	2.8	2.9	2.7	3.0	2.8	2.7	2.8	2.8	2.9	2.9	3.1	3.3	2.1	2.4
170.	1.2	1.2	1.1	3.1	3.1	2.9	2.9	2.5	2.7	2.9	3.2	3.2	3.0	3.3	3.2	3.3	3.3	3.4	2.4	2.6
180.	.7	.7	.6	2.6	2.5	2.4	2.6	2.6	2.4	2.8	3.0	3.1	3.1	3.1	3.0	3.0	3.1	3.0	2.7	2.8
190.	.2	.2	.2	2.0	1.8	1.8	2.2	2.0	2.2	2.5	2.4	2.6	2.6	2.5	2.4	2.3	2.1	2.1	2.4	2.5

```
 200. *  .1  .0  .0  1.9  1.5  1.5  1.9  1.8  1.9  2.1  2.1  2.2  2.0  2.1
2.0  2.0  1.9  1.9  2.0  2.2
 210. *  .0  .0  .0  2.2  1.7  1.6  1.8  1.7  1.9  1.9  1.9  1.8  1.9  2.1
1.9  1.7  1.6  1.6  1.6  1.9
 220. *  .0  .0  .0  2.2  2.1  1.8  1.9  1.8  1.8  1.5  1.5  1.8  1.9  1.9
1.7  1.6  1.4  1.4  1.9  1.9
 230. *  .0  .0  .0  2.2  2.1  1.8  1.8  1.6  1.6  1.4  1.4  1.4  1.4  1.6
1.4  1.4  1.3  1.3  1.9  2.2
 240. *  .0  .0  .0  2.2  2.1  1.6  1.6  1.5  1.4  1.5  1.5  1.5  1.6  1.6
1.4  1.3  1.2  1.2  2.2  1.8
 250. *  .0  .0  .0  2.3  2.2  1.7  1.5  1.4  1.4  1.5  1.5  1.5  1.5  1.6
1.6  1.3  1.3  1.2  2.2  1.6
 260. *  .0  .0  .0  2.4  2.3  1.7  1.5  1.5  1.5  1.6  1.6  1.6  1.6  1.6
1.6  1.5  1.3  1.1  2.6  1.6
 270. *  .0  .0  .0  2.6  2.5  1.7  1.6  1.5  1.6  1.7  1.7  1.7  1.7  1.7
1.6  1.5  1.4  1.4  3.2  2.0
 280. *  .0  .0  .0  2.8  2.6  1.7  1.9  1.7  1.7  2.0  2.0  2.0  2.0  2.0
1.9  1.7  1.6  1.5  3.8  2.6
 290. *  .1  .1  .1  2.9  2.7  1.8  1.9  1.9  1.9  1.9  1.9  1.9  1.9  1.9
1.8  1.5  1.4  1.2  3.7  3.0
 300. *  .7  .6  .6  3.1  2.9  2.3  1.8  1.9  1.9  1.6  1.6  1.6  1.5  1.6
1.2  1.1  .9  .9  3.5  3.0
 310. *  1.6  1.6  1.6  2.9  3.0  3.0  1.4  1.6  1.6  .6  .6  .6  .5  .7
.6  .4  .3  .3  3.0  2.7
 320. *  2.7  2.7  2.5  2.8  2.8  3.0  1.0  1.2  1.1  .2  .2  .2  .3  .3
.2  .2  .1  .1  2.6  2.7
 330. *  3.3  3.2  3.1  2.2  2.5  2.6  .8  .9  .8  .1  .1  .1  .1  .2  .1
.1  .1  .1  2.3  2.5
 340. *  3.4  3.4  3.4  2.0  2.0  2.2  .7  .8  .7  .0  .0  .1  .1  .1  .1
.1  .1  .1  1.8  2.2
 350. *  3.1  3.4  3.6  2.0  1.9  2.0  .7  .9  .8  .0  .1  .1  .1  .2  .2
.2  .2  .2  1.3  1.8
 360. *  2.8  3.2  3.4  2.0  2.0  2.1  1.0  1.1  .9  .2  .2  .3  .3  .4
.4  .4  .4  .4  .8  1.2
 ------*-------------------------------------------------------------------
-----------------------------------------------------
 MAX  *  3.4  3.4  3.6  3.3  3.2  3.1  2.9  2.9  2.7  3.0  3.2  3.2  3.1
3.3  3.2  3.3  3.5  3.7  3.8  3.0
 DEGR. * 340  340  350  160  160  120  170  160  160  160  170  170  180
170  170  170  150  140  280  290
```

JOB: 8th/US 24-2035 Action RUN: 2035 PM Peak

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: 10.-360.

```
 WIND * CONCENTRATION
 ANGLE *   (PPM)
 (DEGR)* REC41 REC42 REC43 REC44 REC45 REC46 REC47 REC48 REC49 REC50 REC51
REC52 REC53 REC54 REC55 REC56 REC57 REC58 REC59 REC60
 ------*------------------------------------------------------------------
------------------------------------------------------
 10. *  .3  .3  .3  1.2  1.2  1.6  .4  .4  .5  .6  .7  .8  .8  .8  .8  .8
.8  .8  .5  .2
 20. *  .2  .3  .3  1.3  1.5  1.8  .4  .4  .5  .6  .7  .9  .9  .9  .9  .9
.9  .9  .6  .3
 30. *  .3  .6  .6  1.5  1.6  1.8  .2  .3  .3  .4  .6  .9  .9  .9  1.0
1.0  1.0  1.0  .6  .4
 40. *  .5  .8  .8  1.3  1.4  1.6  .1  .1  .2  .2  .4  .6  .7  .6  .8  .8
.9  .9  .8  .6
 50. *  .6  .8  .8  1.1  1.3  1.4  .0  .0  .0  .1  .1  .3  .3  .3  .5  .5
.6  .6  1.0  .7
 60. *  .5  .7  .7  1.0  1.3  1.3  .0  .0  .0  .0  .0  .1  .2  .1  .3  .3
.3  .3  1.3  1.0
 70. *  .5  .6  .6  .9  1.3  1.3  .0  .0  .0  .0  .0  .1  .1  .1  .2  .2
.2  .2  1.5  1.2
 80. *  .4  .6  .5  .9  1.5  1.5  .0  .0  .0  .0  .0  .1  .1  .1  .1  .2
.2  .2  1.7  1.5
 90. *  .4  .6  .5  1.1  1.6  1.6  .0  .0  .0  .0  .0  .1  .1  .1  .1  .1
.1  .1  1.9  1.7
 100. *  .5  .5  .4  1.3  1.7  1.7  .0  .0  .0  .0  .0  .0  .0  .0  .1  .1
.1  .1  2.0  1.6
 110. *  .6  .7  .5  2.0  1.8  1.9  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1
.1  .1  2.1  1.6
 120. *  1.1  1.5  .9  3.0  2.2  2.3  .3  .3  .3  .3  .3  .3  .4  .3  .3
.2  .2  .1  2.3  2.0
 130. *  1.8  2.1  1.7  4.0  2.6  2.6  .8  .8  .8  .8  .8  .8  1.3  .8  .7
.7  .7  .4  3.4  2.4
 140. *  2.6  2.7  2.4  4.5  3.0  2.9  1.4  1.4  1.5  1.5  1.5  1.5  2.1
1.5  1.2  1.2  1.0  .9  3.7  2.9
 150. *  2.7  3.1  3.0  4.3  3.1  3.1  1.7  1.7  1.8  1.9  2.1  2.1  2.5
2.2  1.6  1.5  1.4  1.1  3.4  2.8
 160. *  2.9  3.1  3.1  3.7  2.9  2.9  1.9  2.0  2.1  2.2  2.3  2.4  2.9
2.6  1.9  1.7  1.5  1.5  3.3  3.0
 170. *  2.8  3.1  3.2  3.5  3.1  2.9  2.0  2.0  2.0  2.2  2.3  2.5  3.1
2.5  2.1  2.0  1.8  1.7  3.4  3.0
 180. *  3.0  3.3  3.3  3.7  3.1  3.1  2.4  2.5  2.6  2.7  2.8  3.0  3.2
3.0  2.6  2.5  2.5  2.3  2.9  2.7
 190. *  2.9  3.1  3.1  3.8  3.3  3.2  2.9  3.0  3.2  3.4  3.5  3.3  3.5
3.4  3.0  2.9  3.1  3.0  2.1  2.2
```

```
 200. *  2.4  2.8  2.7  3.1  3.2  3.3  3.1  3.4  3.5  3.4  3.4  3.4  3.4
3.4  3.1  3.1  3.2  3.1  1.8  1.9
 210. *  2.2  2.5  2.3  2.6  2.7  2.8  3.2  3.2  3.3  3.1  3.2  3.2  3.2
3.2  2.7  2.6  2.6  2.6  1.6  1.7
 220. *  1.9  2.3  2.1  2.2  2.1  2.2  2.8  3.0  3.0  2.9  2.7  2.5  2.5
2.5  2.4  2.4  2.4  2.3  1.3  1.5
 230. *  1.9  1.9  1.8  1.9  2.1  2.0  2.6  2.5  2.6  2.5  2.4  2.3  2.3
2.3  2.4  2.4  2.4  2.3  1.3  1.4
 240. *  1.9  2.0  2.0  2.0  2.1  2.1  2.6  2.5  2.5  2.4  2.4  2.4  2.4
2.4  2.1  2.0  2.0  1.8  1.2  1.5
 250. *  1.9  1.9  1.7  2.1  2.4  2.2  2.6  2.3  2.2  2.2  2.1  2.3  2.2
2.3  2.0  2.0  2.0  2.0  1.1  1.5
 260. *  1.6  1.8  1.5  2.4  2.4  2.4  2.3  2.2  2.1  1.9  1.9  2.0  2.1
2.1  2.1  1.8  1.7  1.9  1.1  1.6
 270. *  1.7  1.8  1.7  2.4  2.5  2.3  2.2  2.0  2.1  2.2  2.1  2.0  2.3
2.0  2.0  2.0  1.8  1.9  1.2  1.7
 280. *  2.2  2.1  2.1  2.4  2.4  2.4  1.9  2.1  2.1  2.2  2.1  2.3  2.2
2.3  2.2  2.2  2.3  2.2  1.5  2.0
 290. *  2.6  2.5  2.4  2.5  2.6  2.4  2.2  2.1  2.2  2.5  2.5  2.4  2.7
2.6  2.3  2.4  2.4  2.4  1.2  1.9
 300. *  2.5  2.4  2.1  2.5  2.8  2.6  1.9  1.9  2.2  2.2  2.1  2.2  2.6
2.2  2.1  2.0  1.9  1.8  .7  1.5
 310. *  2.0  1.9  1.9  2.1  2.3  2.1  1.3  1.4  1.4  1.6  1.5  1.6  1.8
1.6  1.5  1.4  1.2  1.2  .2  .6
 320. *  1.8  1.6  1.6  1.6  1.9  2.0  .9  1.0  1.0  1.2  1.2  1.4  1.5
1.4  1.0  .9  .8  .7  .1  .2
 330. *  1.8  1.6  1.3  1.6  1.9  2.0  .7  .7  .9  .9  .9  1.0  1.2  1.0
.7  .7  .7  .6  .1  .1
 340. *  1.6  1.3  .9  1.6  1.8  2.0  .5  .5  .6  .8  .9  .9  1.0  .9  .8
.8  .8  .7  .1  .0
 350. *  1.3  1.0  .7  1.8  1.7  1.9  .5  .6  .6  .7  .7  .8  .8  .8  .7
.7  .7  .7  .2  .0
 360. *  .7  .7  .4  1.5  1.5  1.6  .5  .5  .5  .6  .8  .9  .9  .9  .9  .8
.8  .7  .4  .1
 ------*-----------------------------------------------------------------
------------------------------------------------------
 MAX  *  3.0  3.3  3.3  4.5  3.3  3.3  3.2  3.4  3.5  3.4  3.5  3.4  3.5
3.4  3.1  3.1  3.2  3.1  3.7  3.0
 DEGR. * 180  180  180  140  190  200  210  200  200  190  190  200  190
190  200  200  200  200  140  170

 THE HIGHEST CONCENTRATION OF  4.80 PPM OCCURRED AT RECEPTOR REC5 .
```

JOB: 8th/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:27:48

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 # *	320	320	320	320	320	310	320	320	320	320	310	310	310	100	100	100	110	120	110	120
1 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.3	.4	.3
2 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3 *	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
4 *	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0
5 *	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	.3	.3	.3	.0	.0	.0	.0	.0	.0	.0
6 *	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
7 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
8 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.2	.3	.2
9 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.0
10 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0
11 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.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 *	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
16 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
17 *	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.4	.4	.3	.0	.0	.1	.1	.1	.2	.2
18 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
19 *	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
20 *	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.5	.4	.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 *	.4	.7	.9	1.1	1.2	1.2	.5	.6	.6	.6	.5	.5	.0	.7	.7	.7	.9	1.0	.8	.9
23 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24 *	.9	.9	.9	.9	.9	.8	.8	.7	.7	.6	.7	.8	.8	.5	.5	.5	.5	.5	.5	.5
25 *	.4	.3	.3	.2	.2	.2	.3	.3	.2	.2	.0	.0	.0	.8	.8	.7	.7	.7	.5	.6
26 *	.6	.4	.2	.1	.0	.0	.4	.3	.3	.3	.0	.0	.0	.2	.1	.1	.1	.2	.1	.2
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 *	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.7	.7	.7	.6	.7	.6	.6

```
JOB: 8th/US 24-2035 Action              RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:27:48

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 # *  340  340  350  160  160  120  170  160  160  160  170  170
180  170  170  170  150  140  280  290
  -------*-----------------------------------------------------------------
-------------------------------------------------------
    1 *  .0  .0  .0  .0  .0  .6  .0  .1  .1  .1  .0  .0  .0  .0  .0  .0
.3  .3  .0  .0
    2 *  .0  .0  .0  .0  .0  .1  .1  .2  .2  .2  .1  .1  .1  .2  .2  .2
.2  .1  .0  .0
    3 *  .0  .0  .1  .0  .0  .0  .4  .3  .4  .2  .3  .3  .3  .2  .2  .2
.0  .0  .0  .0
    4 *  .4  .4  .3  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .5  .5
    5 *  .2  .3  .2  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .3  .2
    6 *  .1  .1  .1  .0  .0  .0  .2  .1  .1  .1  .1  .1  .1  .1  .1  .1
.0  .0  .0  .0
    7 *  .0  .0  .0  .0  .0  .2  .1  .2  .1  .1  .1  .1  .1  .1  .1  .1
.1  .0  .0  .0
    8 *  .0  .0  .0  .0  .0  .5  .0  .1  .1  .1  .0  .0  .0  .0  .0  .1
.2  .2  .0  .0
    9 *  .0  .0  .0  .0  .0  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   10 *  .0  .0  .0  .0  .0  .1  .0  .0  .0  .1  .1  .1  .0  .1  .1  .1
.3  .4  .0  .1
   11 *  .0  .0  .0  .0  .0  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.1  .1  .0  .0
   12 *  .0  .0  .0  .0  .0  .0  .0  .1  .0  .1  .0  .0  .0  .1  .1  .1
.2  .2  .0  .0
   13 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.1  .1  .0  .0
   14 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   15 *  .2  .2  .2  .0  .0  .0  .0  .0  .0  .7  .6  .6  .6  .6  .5  .5
.2  .0  .5  .7
   16 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .1  .1
   17 *  .5  .5  .5  .6  .5  .0  .1  .0  .1  .0  .1  .1  .1  .1  .1  .1
.0  .0  .1  .0
   18 *  .1  .1  .1  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   19 *  .2  .1  .2  .0  .0  .0  .1  .0  .0  .0  .0  .0  .1  .0  .0  .0
.0  .0  .0  .0
   20 *  1.4  1.4  1.5  .4  .1  .0  .1  .0  .0  .0  .1  .0  .1  .0  .0  .0
.0  .0  .0  .0
```

```
   21 *  .3  .3  .4  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.0  .0  .0  .0
   22 *  .0  .0  .0  .2  .2  .2  .2  .3  .2  .2  .2  .2  .1  .2  .2  .2
.2  .1  .0  .0
   23 *  .0  .0  .0  .1  .1  .0  .1  .1  .1  .0  .1  .1  .1  .1  .1  .1
.0  .0  .0  .0
   24 *  .0  .0  .0  .5  .6  .5  .4  .4  .4  .3  .3  .4  .3  .4  .4  .3
.1  .0  .0  .0
   25 *  .0  .0  .0  .4  .4  .0  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1
.0  .0  .0  .0
   26 *  .0  .0  .0  .2  .2  .0  .1  .1  .1  .1  .1  .1  .1  .1  .1  .1
.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  .1  .1  .1  .1  .1  .0  .1  .1  .1
.2  .2  .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  .3  .4  .3  .3  .4  .4  .4  .5  .5  .5
.4  .4  .3  .3
   31 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.1  .3  1.1  .5
   32 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .1
.7  1.2  .9  .6
   33 *  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0  .0
.1  .1  .0  .0
   34 *  .0  .0  .0  .9  1.1  .7  .6  .3  .3  .2  .4  .4  .5  .3  .3  .3
.0  .0  .0  .0
```

JOB: 8th/US 24-2035 Action RUN: 2035 PM Peak

DATE : 6/ 9/ 9
TIME : 13:27:48

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	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
ANGLE	180	180	180	140	190	200	210	200	200	190	190	200	190	190	200	200	200	200	140	170
1	.1	.1	.1	.9	.1	.0	.1	.2	.1	.2	.2	.1	.1	.2	.1	.1	.1	.1	.3	.0
2	.3	.3	.3	.1	.3	.3	.2	.2	.2	.1	.2	.3	.2	.2	.2	.2	.2	.2	.1	.1
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
7	.1	.1	.1	.0	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
8	.1	.1	.1	.5	.1	.1	.1	.1	.1	.2	.2	.1	.1	.1	.1	.1	.1	.1	.2	.0
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.5	.5	.4	.1	.1	.1	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.0
11	.1	.1	.1	.6	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.0
12	.3	.4	.4	2.1	.9	.8	.6	.6	.6	.6	.6	.4	.6	.5	.3	.3	.3	.3	.2	.0
13	.0	.0	.1	.0	.0	.0	.4	.4	.4	.4	.4	.3	.4	.4	.2	.2	.2	.2	.1	.0
14	.0	.0	.0	.0	.0	.0	.1	.1	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.0	.0
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7
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	.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	.1
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1

21 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22 *	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.1	.2	.2	.1	.1	.1	.1	.1	.1
23 *	.1	.1	.1	.0	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
24 *	.4	.4	.4	.0	.6	.6	.4	.4	.4	.3	.3	.4	.4	.3	.4	.4	.4	.3	.0	.3
25 *	.1	.1	.1	.0	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
26 *	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1
27 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28 *	.4	.6	.6	.0	.1	.1	.0	.0	.0	.0	.0	.3	.2	.2	.5	.5	.6	.6	.2	.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	.4	.3
31 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.0
32 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	.0
33 *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34 *	.2	.2	.2	.0	.3	.3	.3	.2	.3	.2	.2	.3	.2	.2	.3	.3	.3	.3	.0	.4