

# **APPENDIX H**

## **AIR QUALITY TECHNICAL REPORT UPDATE, JUNE 2014**

# **Air Quality Technical Report Update**

## **Pellissippi Parkway Extension (SR 162)** **Blount County, Tennessee**

TDOT PIN: 101423.00

State Project No. 05097-1226-04

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# Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1. INTRODUCTION .....</b>	<b>3</b>
1.1. PROJECT DESCRIPTION .....	3
1.2. REASON FOR THE CURRENT UPDATE .....	5
<b>2. ENVIRONMENTAL ANALYSIS.....</b>	<b>8</b>
2.1. AFFECTED ENVIRONMENT.....	8
2.1.1. <i>Clean Air Act Amendments of 1990</i> .....	8
2.1.2. <i>National and State Ambient Air Quality Standards</i> .....	8
2.2. ENVIRONMENTAL CONSEQUENCES.....	9
2.2.1. <i>Transportation Conformity</i> .....	9
2.2.2. <i>Carbon Monoxide (CO) Hot-Spot Analysis</i> .....	9
2.2.3. <i>MSAT Assessment</i> .....	12
2.2.4. <i>Greenhouse Gas Emissions (Climate Change)</i> .....	14
2.3. CONSTRUCTION IMPACTS ON AIR QUALITY .....	17
2.4. INDIRECT AND CUMULATIVE EFFECTS.....	17
2.5. CONCLUSIONS .....	17
<b>3. REFERENCES .....</b>	<b>19</b>

APPENDIX A: KNOXVILLE TPO'S 2014-2017 TIP PROJECT SHEET AND REGIONAL  
MOBILITY PLAN 2040 PROJECT PAGE

APPENDIX B: PM2.5 CONCURRENCE INFORMATION

APPENDIX C: CAL3QHC AND MOVES FILES

APPENDIX C: MSATS BACKGROUND INFORMATION

APPENDIX D: MSAT VMT CALCULATIONS

## List of Figures and Tables

FIGURE 1. PROJECT STUDY AREA SHOWING PREFERRED ALTERNATIVE.....	4
FIGURE 2: PREFERRED ALTERNATIVE AND PROPOSED ALIGNMENTS SHIFTS.....	6
TABLE 1: LEVEL-OF-SERVICE SUMMARY FOR SIGNALIZED INTERSECTIONS .....	10
TABLE 2: SUMMARY OF LAND USES, INTERSECTIONS IDENTIFIED FOR CO MODELING .....	11
TABLE 3: MAXIMUM 1-HOUR AND 8-HOUR CO CONCENTRATIONS, DESIGN YEAR 2040 .....	12
TABLE 4: DESIGN YEAR VMT PROJECTIONS ON AFFECTED ROADWAY NETWORK (FOUR-LANE ALTERNATIVES).....	13
TABLE 5: DESIGN YEAR VMT PROJECTIONS FOR ALTERNATIVE D ROADWAYS.....	14

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## List of Acronyms

AADT	Annual Average Daily Traffic
CAAA	Clean Air Act Amendments
CFR	Code of Federal Regulations
CH <sub>4</sub>	Methane
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
DEIS	Draft Environmental Impact Statement
EIS	Draft Environmental Impact Statement
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FR	Federal Register
GHG	Greenhouse Gases
GIS	Geographic Information System
LOS	Level of Service
LRTP	Long Range Transportation Plan
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
NO <sub>x</sub>	Nitrous Oxides
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
O <sub>3</sub>	Ozone
Pb	Lead
PM <sub>2.5</sub>	Particulate Matter less than or equal to 2.5 microns in size
ppm	Parts per million
SIP	State Implementation Plan
SO <sub>x</sub>	Sulfur oxides
SR	State Route
TDOT	Tennessee Department of Transportation
TIP	Transportation Improvement Program
TPO	Transportation Planning Organization
VMT	Vehicle Miles Traveled
vpd	Vehicles per day

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## Executive Summary

The Tennessee Department of Transportation (TDOT) proposes to extend the existing Pellissippi Parkway (SR 162) from SR 33 to US 321/SR 73 in the cities of Alcoa and Maryville and in unincorporated Blount County. The project area of the proposed extension is approximately 4.5 miles. This report documents the air quality impacts of the alternatives evaluated in the 2010 Draft Environmental Impact Statement (DEIS) and the Preferred Alternative selected in 2012, and two modifications of the Preferred Alternative (East Shift and West Shift) that were considered in 2013.

An *Air Quality Report* (revised February 2010) was prepared to analyze air quality impacts of the No-Build and Build Alternatives (A, B and C) for the DEIS. Subsequent to the circulation of the DEIS, TDOT selected Alternative A as the Preferred Alternative. In 2013 TDOT considered two minor modifications (East Shift and West Shift) of the Preferred Alternative's to avoid a sensitive archaeological site. In July 2013, TDOT announced the selection of the Preferred Alternative with West Shift. Because more than three years have passed since the DEIS was circulated, a Reevaluation of the DEIS is required. The current report addresses the DEIS alternatives, the Preferred Alternative (A) and the two modifications (East Shift and West Shift) to the Preferred Alternative.

In June 2013 the Knoxville Transportation Planning Organization (TPO) updated its travel demand model. With the availability of the new model and the age of the original traffic forecasts for the project (prepared in 2006 with minor updates in 2011), TDOT determined in August 2013 the need to update the traffic forecasts and analysis for the project alternatives. The updated forecasts have necessitated an update of the air quality analysis for the project, the findings of which are presented in this report. This study was conducted in accordance with the Air Quality section of the *Tennessee Environmental Procedures Manual*. The purpose of this analysis is to address transportation conformity, Mobile Source Air Toxics (MSATs), climate change, and construction air quality.

Blount County is classified as an attainment area for all criteria pollutants except 8-hour ozone (O<sub>3</sub>) and particulate matter PM<sub>2.5</sub>, for which it is classified as a nonattainment area.

The proposed project is included in the *Long Range Regional Mobility Plan 2040* as project 09-232 and in the *Knoxville Region 2014-2017 Transportation Improvement Program (TIP)* as TIP 2014-025. The project is described in the TIP as "construct a new four-lane road from Old Knoxville Highway (SR- 33) to SR-73 (US-321)." This project description and termini are consistent with all of the project alternatives except Alternative D. Therefore, the Preferred Alternative (A), Preferred Alternative with West Shift, Preferred Alternative with East Shift and DEIS Alternative C are in conformity with the State Implementation Plan (SIP).

The project has been classified as "not of air quality concern" by the Knoxville Interagency Consultation (IAC) group, which includes FHWA and EPA, in regard to PM<sub>2.5</sub>.

Because an EIS is being prepared for this project, a carbon monoxide (CO) evaluation has been completed. The CO analysis examined the two signalized intersections along Old Knoxville Highway/SR 33 (at Pellissippi Parkway (SR 162/I-140) and at Sam Houston School Road) since both intersections would operate at level of service (LOS D) or worse in 2040. None of the alternatives are predicted to cause new violations of the National Ambient Air Quality Standards (NAAQS) in the design year 2040.

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No roadways in the project area, including the new portion of the Pellissippi Parkway, will have annual average daily traffic (AADT) approaching the range of 140,000 to 150,000 vehicles per day (vpd). Therefore, the project qualifies as a project with low potential Mobile Source Air Toxics (MSATs) effects and a qualitative analysis was performed for this project. For each alternative, the amount of MSATs emitted would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same for each alternative. When compared to the No-Build Alternative, the VMT for the four-alternatives (Preferred Alternative (A), Preferred Alternative with West Shift, Preferred Alternative with East Shift, and DEIS Alternative C) is predicted to have less than a 9 percent increase. (The travel demand model is not sensitive enough to distinguish between the various four-lane alternatives in this study; therefore, the results would be the same for all four-lane alternatives considered.) The 9-percent increase is not considered an appreciable difference in VMT, and therefore is not expected to result in a measurable difference in MSAT emissions when compared to the No-Build Alternative. Also, emissions as a result of the Preferred Alternative with West Shift and the other four-lane alternatives 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 annual MSATs emissions by 72 percent from 1999 to 2050. 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 MSATs emissions in the study area are likely to be lower in the future in virtually all locations.

Under each alternative there may be localized areas where VMT would increase and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSATs emissions may occur. There are several residential areas adjacent to this new roadway corridor, both on the east and west sides of the project area. However, even if increases do occur at these locations, they are expected to be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

Construction-related effects of the project would be limited to short-term increased fugitive dust and mobile-source emissions during construction. These construction-related impacts will be mitigated through the implementation of Best Management Practices, which are included in TDOT's *Standard Specifications for Road and Bridge Construction*.

Finally, the evaluation concluded that the project will have no significant climate change effects.

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# 1. INTRODUCTION

This report summarizes the results of an analysis of the potential air quality effects of the proposed Pellissippi Parkway Extension (State Route (SR) 162) in Blount County, Tennessee. The purpose of this analysis is to address transportation conformity; carbon monoxide (CO) hot spots, Mobile Source Air Toxics (MSATs); climate change; and construction air quality.

## 1.1. Project Description

Pellissippi Parkway (SR 162) is a major northwest/southeast route connecting Interstate 40 (I-40)/I-75 and SR 33 in Knox and Blount Counties, Tennessee. Pellissippi Parkway (designated as I-140) between I-40/I-75 and SR 33 was designed and built in four sections between 1987 and 2005. The section of Pellissippi Parkway between SR 33 and US 321/SR 73 is the remaining undeveloped portion of the parkway that was identified in the State's 1986 Urgent Highway Needs Plan. The Tennessee Department of Transportation (TDOT) proposes to extend the existing Pellissippi Parkway from SR 33 to US 321/SR 73 in the cities of Alcoa and Maryville and in unincorporated Blount County. The total length of the proposed extension is about 4.5 miles (average for the four-lane alternatives).

The project is proposed by TDOT for the following purposes:

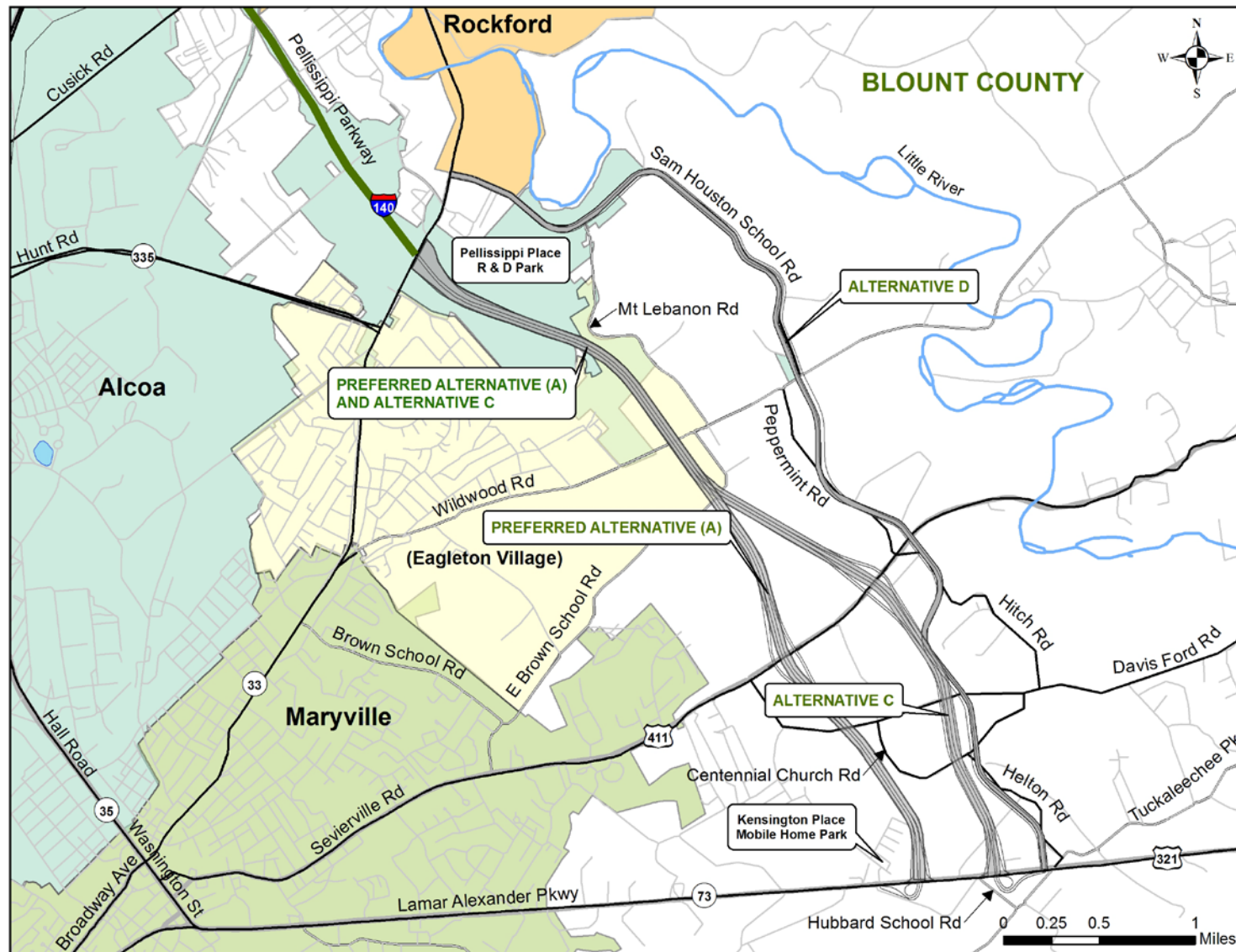
- Provide travel options for motorists to the existing radial roadway network;
- Enhance regional transportation system linkages;
- Assist in achieving acceptable traffic flows (level of service) on the transportation network; and
- Enhance roadway safety on the roadway network, including the Maryville core.

In April 2006, TDOT initiated an Environmental Impact Statement (EIS) for the project with the publication of a formal Notice of Intent to prepare an EIS in the Federal Register. Public and agency scoping was conducted in the Spring and Summer of 2006. At that time, TDOT asked the public to provide input on the purpose and need for the project and to identify potential alternatives for consideration in the Draft EIS. Additional public meetings were held in November 2007 and February 2008 to gather public input on the refined purpose and need and potential project corridors and alternatives.

Based on public input and preliminary screening, TDOT determined that the following alternatives, shown on Figure 1, would be evaluated in the Draft EIS (DEIS):

- **No-Build Alternative:** The No-Build Alternative would not extend Pellissippi Parkway beyond its existing terminus at SR 33.
- **Extend Pellissippi Parkway in one of two option alignments:** Under the Build Alternative, existing Pellissippi Parkway would be extended from SR 33 to US 321, as a four-lane divided roadway, with interchanges at SR 33, US 411 and US 321. The two alternate alignments were Alternative A and Alternative C.

Figure 1. Project Study Area Showing Preferred Alternative





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- **Upgrade Existing Two-Lane Network – Corridor D:** This alternative would upgrade a two-lane network of existing roads to serve as a two-lane connection between SR 33 and US 321.

TDOT conducted evaluations on the four alternatives described above and presented the findings in the DEIS, which was circulated for public comment in May 2010. A public hearing was held in July 2010. In May 2012, TDOT announced the selection of Build Alternative A as the Preferred Alternative. This selection was based on the environmental analysis presented in the DEIS and consideration of the comments received from the public and federal, state, regional and local agencies.

In early 2013, TDOT considered two minor modifications to the Preferred Alternative to avoid a sensitive archaeological site. A West Shift and an East Shift to the Preferred Alternative were evaluated between Davis Ford Road and the project's southern terminus at US 321. In July 2013, TDOT determined that the Preferred Alternative should be modified with the west shift (Preferred Alternative with West Shift). Figure 2 illustrates the Preferred Alternative and the modifications,

Because more than three years have passed since the DEIS was circulated, a Reevaluation of the DEIS is being prepared to evaluate the DEIS.

This report addresses the air quality impacts of the following alternatives:

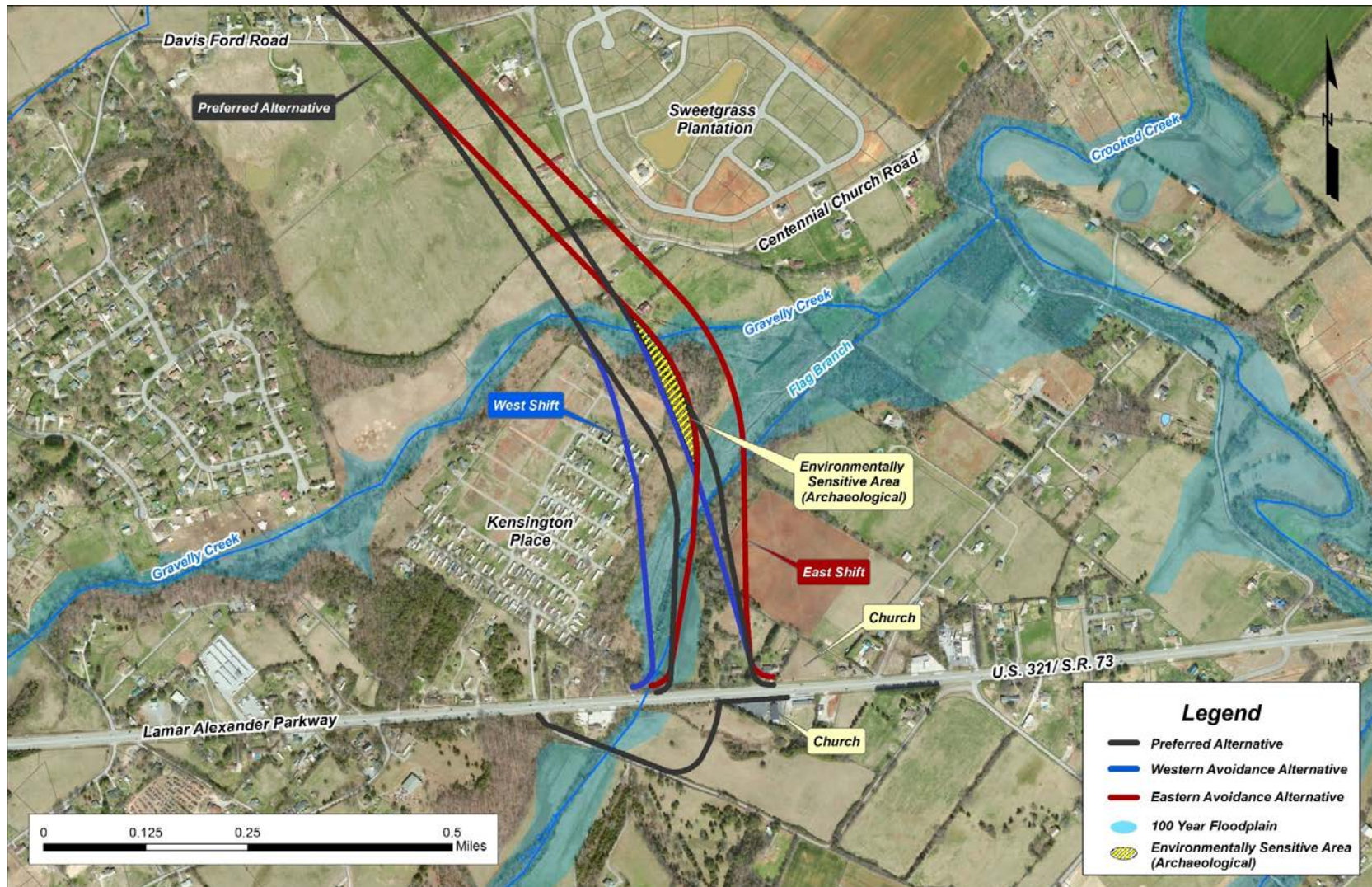
- Preferred Alternative (DEIS Alternative A)
- Preferred Alternative with East Shift
- Preferred Alternative with West Shift
- DEIS Alternative C
- DEIS Alternative D

## **1.2. Reason for the Current Update**

The Knoxville TPO adopted a new travel demand model in June 2013. The original traffic forecasts for this project were prepared in 2006 with a minor update in 2011. Considering the age of the project's traffic forecasts and the availability of the new model, TDOT determined in August 2013 the need to update the traffic forecasts and operational analysis for the Preferred Alternative with West Shift and the No-Build Alternative. The update of the traffic forecasts for the project shows several substantial changes in the operations of the existing and proposed road network. The results of the traffic forecasts and the operational analysis of Preferred Alternative and the No-Build Alternative are presented in the December 2013 *Traffic Forecast Study* (Sain Associates, Inc.) and the February 2014 *Addendum to the Traffic Operations Technical Report* (Parsons Brinckerhoff, Inc.).

In May 2014, FHWA requested traffic forecasts and analysis for the previously considered DEIS Alternatives C and D, as well as the Preferred Alternative with East Shift. The results presented for the Preferred Alternatives as the same for the DEIS Alternative C, as well as the Preferred Alternative with West Shift and Preferred Alternative with East Shift Options, since the model is not sensitive enough to differentiate between the various four-lane alternatives for this project.

Figure 2: Preferred Alternative and Proposed Alignments Shifts



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The results of the traffic forecasts and operational analysis for Alternative D are presented in TDOT memorandum dated May 14, 2014 to FHWA.

In addition, the City of Alcoa is currently installing a traffic signal at the existing intersection of SR 33 and I-140 (Pellissippi Parkway).

This current air quality update is prepared to reflect the current design year traffic forecasts and operations for the project. The design year (2040) vehicle miles traveled (VMT) projections on the affected roadway network are about 30 percent lower than the original 2035 design year VMT projections for the No-Build and Preferred Alternative with West Shift.

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## **2. ENVIRONMENTAL ANALYSIS**

This study was conducted in accordance with Section 5.3.5 (Air Quality) of the *Tennessee Environmental Procedures Manual*.

### **2.1. Affected Environment**

Air pollution is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants degrade the atmosphere by reducing visibility, damaging property, reducing the productivity or vigor of crops or natural vegetation, or harming human or animal health.

#### **2.1.1. Clean Air Act Amendments of 1990**

The Clean Air Act Amendments (CAAA) of 1990 and the Final Transportation Conformity Rule [40 Code of Federal Regulations (CFR) Parts 51 and 93] direct the U.S. Environmental Protection Agency (EPA) to implement environmental policies and regulations that will ensure acceptable levels of air quality. The Clean Air Act and the Final Transportation Conformity Rule affect proposed transportation projects. According to Title I, Section 176 (c) 2:

"No federal agency may approve, accept, or fund any transportation plan, program, or project unless such plan, program, or project has been found to conform to any applicable State Implementation Plan (SIP) in effect under this act."

The Final Conformity Rule defines conformity as follows:

"Conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards; and that such activities will not:

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

#### **2.1.2. National and State Ambient Air Quality Standards**

The EPA has established allowable concentrations and exposure limits called the National Ambient Air Quality Standards (NAAQS) for various "criteria" pollutants. These pollutants include carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur oxides (SO<sub>x</sub>), and lead (Pb).

In accordance with the CAAA of 1990, EPA identified areas that did not meet the NAAQS for the criteria pollutants and designated them as "nonattainment" areas. Once a nonattainment area meets the NAAQS, it is redesignated as a "maintenance" area.

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Blount County is classified as an attainment area for all criteria pollutants except for 8-hour O<sub>3</sub> and PM<sub>2.5</sub>, for which is classified as a nonattainment area.

## **2.2. Environmental Consequences**

### **2.2.1. Transportation Conformity**

Transportation conformity is a process required of Metropolitan Planning Organizations (MPOs) pursuant to the CAAA of 1990. CAAA require that transportation plans, programs, and projects in nonattainment or maintenance areas that are funded or approved by the Federal Highway Administration (FHWA) be in conformity with the State Implementation Plan (SIP), which represents the State's plan to either achieve or maintain the NAAQS for a particular pollutant.

Projects conform to the SIP if they are included in a fiscally constrained and conforming Long Range Transportation Plan (LRTP) or Transportation Improvement Program (TIP).

The project is within the Knoxville Nonattainment Area. The project is included in the *Long Range Regional Mobility Plan 2040* as project 09-232 and in the *Knoxville Region 2014-2017 Transportation Improvement Program (TIP)* as TIP 2014-025. The project is described in the TIP as "construct a new four-lane road from Old Knoxville Highway (SR- 33) to SR-73 (US-321)." This project description and termini are consistent with the proposed project. Therefore, the project is in conformity with the SIP. Copies of the TIP project sheet and the Regional Mobility Plan project page are provided in Appendix A.

#### ***PM<sub>2.5</sub> Hot-Spot Analysis***

Since the project is in an area designated as being in nonattainment for particulate matter, an analysis for PM<sub>2.5</sub> is required. TDOT completed a PM<sub>2.5</sub> Hot-Spot Determination for the project that concluded that the project was "not a project of air quality concern." TDOT submitted this determination to the Knoxville Area Interagency Consultation (IAC) group on December 1, 2008. The IAC members concurred with TDOT's determination on the following dates: FHWA January 13, 2009; EPA January 13, 2009; and TDEC January 9, 2009. The PM<sub>2.5</sub> Hot-Spot Determination, IAC concurrence responses, and PM<sub>2.5</sub> clearance record are provided in Appendix B.

Following the update of the Design Year 2040 traffic projections in 2013, TDOT asked the IAC to review the 2009 decision and validate the finding. The updated 2040 traffic projections are substantially lower than the previous Design Year 2035 projections used for the 2009 PM<sub>2.5</sub> Hot-Spot Determination. Under the 2040 forecasts, the projected percentage of trucks remains the same. During a conference call on January 27, 2014, the IAC agreed that the previous determination ("not a project of air quality concern") remains valid. Appendix B contains a copy of the January 30, 2014 email documenting the IAC's concurrence with the 2009 finding.

### **2.2.2. Carbon Monoxide (CO) Hot-Spot Analysis**

Carbon monoxide (CO) is a colorless, odorless gas that interferes with the delivery of oxygen to a person's organs and tissues. The health effects of CO exposure depend on the duration and intensity of exposure as well as a person's health. CO concentrations are usually higher during the winter months because vehicles emit higher CO emissions in cold weather due to the characteristics of internal combustion engines.

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Blount County is an attainment area for CO. However, a CO evaluation is needed since an EIS is being prepared for the project.

The NAAQS for CO include a 1-hour standard of 35 parts per million (ppm) and an 8-hour standard of 9 ppm. The *Guideline for Modeling Carbon Monoxide from Roadway Intersections* published by EPA (hereafter referred to as the EPA Guideline) indicates that signalized intersections that operate at Level of Service (LOS) A, B, or C do not require further analysis because the delay and congestion would not likely cause or contribute to an exceedance of the CO NAAQS. As a result, CO modeling is only required at signalized intersections that operate at LOS D or worse during any hour.

### ***Identification of Analysis Intersections***

The methodology contained in the EPA Guideline requires that all intersections be reviewed for the potential to create an adverse air quality impact. EPA has determined that intersections that operate at LOS A, B, or C probably do not require further analysis because the delay and congestion would not likely cause or contribute to an exceedance of the CO NAAQS.

The Build Alternatives would involve modifications to the following signalized intersections:

- Pellissippi Parkway (SR 162/I-140) and Old Knoxville Highway (SR 33): the four-lane alternatives (Preferred Alternative (A), Preferred Alternative with East Shift, Preferred Alternative with West Shift, and Alternative C)
- Old Knoxville Highway (SR 33) and Sam Houston School Road: Alternative D

Intersection capacity analyses for design year 2040 for these intersections and Build Alternatives were completed. The analysis periods for each intersection included the AM (morning) and PM (afternoon) peak hours. Table 1 presents the LOS results for these intersections.

**Table 1: Level-of-Service Summary for Signalized Intersections**

Intersection	Level-of-Service					
	No-Build		4-lane Alternatives		Alternative D	
	AM	PM	AM	PM	AM	PM
Pellissippi Parkway (SR 162/I-140) and Old Knoxville Highway (SR 33)	F	F	F	F	F	F
Old Knoxville Highway (SR 33) and Sam Houston School Road	C	B	D	E	D	E

Since both intersections are predicted to operate at LOS D or worse in the design year during both the morning and afternoon peak hours, CO modeling of those intersections was completed.

An additional step in CO analysis is to assess the types of land uses abutting the analysis intersections. Table 2 summarizes the land uses near each intersection.



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**Table 2: Summary of Land Uses, Intersections Identified for CO Modeling**

<b>Intersection</b>	<b>Surrounding Sensitive Land Uses</b>	<b>Distance to Closest Sensitive Land Use</b>
Pellissippi Parkway (SR 162/I-140) and Old Knoxville Highway (SR 33)	Residential	1,024 feet
Old Knoxville Highway (SR 33) and Sam Houston School Road	Residential	154 feet

### ***Dispersion Modeling***

Dispersion modeling for the intersections was conducted using the CAL3QHC computer model recommended by EPA for predicting CO concentrations near roadway intersections.

The CAL3QHC model is used to represent the roadway network, traffic operations, and nearby receptors. A coordinate-geometry system is used to represent the location of the receptors and roadways. The effects of vehicle queuing at traffic signals are also evaluated in CAL3QHC.

Receptors should be located outside the “mixing zone” of the free flow links and in areas where human activity is expected to occur. The mixing zone is considered to be the area of uniform emissions in which no dispersion is assumed to occur. Receptor points were located approximately 15 feet outside the mixing zone of the intersection near points of anticipated queuing activity as well as at various points along the property boundaries of abutting parcels.

Receptor points were also located just outside the mixing zone on each corner of the intersection as well as approximately 150 feet and 300 feet back from the stop bars on each intersection approach. These receptor points adequately represent locations near the intersections where human activity might occur. Locating the receptors just outside the mixing zone provides a “worst case” analysis since concentrations will decrease with increased distances from the intersection.

As stated above, there are currently no sensitive uses near where the receptor points were located. Therefore, the analysis provides a conservative estimate of the maximum CO concentrations that might occur if sensitive land uses are constructed near the intersection in the future.

Based on the traffic analysis, average speeds of 40 and 50 (north of Sam Houston Road) miles per hour (mph) were modeled on Old Knoxville Highway (SR 33), average speed of 45 mph was modeled on Sam Houston Road and average speed of 35 mph was modeled on the Pellissippi Parkway ramps.

A number of worst case meteorological assumptions (e.g., low wind speeds, low vertical mixing height) were applied. Wind direction was evaluated from 0° to 360° in 10° increments. A local background concentration of 1 parts per million (ppm) was assumed.

Emission factors for vehicle operations on the roadway network were computed using EPA's MOVES emissions model. Input parameters provided by Knox County were used for the analysis. MOVES models several factors including those related to controls on the vehicles. Some factors relate to characteristics of the on-road vehicle fleet, including average speeds,

age distribution, mix of diesel and gasoline-fueled vehicles, and low-emitting vehicles. Other factors are related to fuels, including volatility and oxygenation. Finally, meteorological factors such as temperature and humidity are modeled. The CAL3QHC and MOVES files are provided in Appendix C.

## Results

Table 3 summarizes the highest predicted 1-hour and 8-hour average CO concentrations, including background, at each receptor. As shown, the worst case predicted 1-hour concentrations are well below the 1-hour NAAQS of 35 ppm.

In accordance with the EPA Guideline, a persistence factor of 0.70 was applied to the predicted CAL3QHC 1-hour CO concentrations (less background) and added to the background concentration of 1 ppm to obtain the expected eight-hour average concentrations shown in Table 3. As shown, the predicted 1-hour concentrations are well below the NAAQS of 35 ppm and the predicted 8-hour concentrations are well below the NAAQS of 9 ppm.

**Table 3: Maximum 1-hour and 8-hour CO Concentrations, Design Year 2040**

Intersection	No-Build		4-lane Alternatives		Alternative D	
	AM	PM	AM	PM	AM	PM
<b>1-Hour CO Concentrations</b>						
Pellissippi Parkway (SR 162/I-140) and Old Knoxville Highway (SR 33)	1.6	1.7	1.7	2.0	2.1	2.0
Old Knoxville Highway (SR 33) and Sam Houston School Road	1.2	1.2	1.3	1.3	1.6	1.6
<b>8-Hour CO Concentrations</b>						
Pellissippi Parkway (SR 162/I-140) and Old Knoxville Highway (SR 33)	1.5		1.7		1.8	
Old Knoxville Highway (SR 33) and Sam Houston School Road	1.1		1.2		1.4	

In conclusion, none of the alternatives are predicted to cause new violations or contribute to existing violations of the NAAQS in the design year 2040. Violations of the CO NAAQS would also not be predicted in any interim year since the maximum traffic volumes and worst congestion will occur in the design year.

### 2.2.3. MSAT Assessment

On February 3, 2006, the FHWA released *Interim Guidance on Air Toxic Analysis in NEPA Documents*. This guidance was superseded on September 30, 2009 and most recently on December 6, 2012 by FHWA's *Interim Guidance Update on Air Toxic Analysis in NEPA Documents*. The purpose of FHWA's guidance is to advise on when and how to analyze MSATs in the NEPA process for highways. This guidance is interim because MSAT science is still evolving. As the science progresses, FHWA will update the guidance.

The qualitative analysis presented below provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, for the various alternatives. The



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assessment 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*. Additional information regarding MSATs is provided in Appendix D.

FHWA's Interim Guidance groups projects into the following tier categories:

1. Exempt Projects and Projects with no Meaningful Potential MSAT Effects;
2. Projects with Low Potential MSAT Effects; and,
3. Projects with Higher Potential MSAT Effects.

FHWA's Interim Guidance provides examples of "Projects with Low Potential MSAT Effects." These projects include minor widening projects and new interchanges, such as those that replace a signalized intersection on a surface street or where design year traffic projections are less than 140,000 to 150,000 AADT.

As described previously, the Preferred Alternative (A), Preferred Alternative with East Shift, Preferred Alternative with West Shift, and Alternative C includes the construction of a new four-lane divided highway with three new interchanges. Design year traffic projections on the proposed four-lane extension are projected to be between 25,240 and 38,040 vpd in 2040. The design year traffic projections along the two-lane roadway of Alternative D would be 14,890 and 20,580 vpd. These volumes are substantially lower than the FHWA criterion. As a result, the project is considered to be a "Project with Low Potential MSAT Effects."

For the project alternatives, the amount of MSATs emitted would be proportional to the VMT, assuming that other variables such as fleet mix are the same for each alternative.

The VMTs of the No-Build Alternative and the four-lane alternatives were determined for the affected roadway network as shown in Table 4. The link-by-link VMT analysis is provided in Table E-1 in Appendix E. It is expected that there would be no appreciable difference in overall MSAT emissions among the No-Build and the four-lane alternatives.

**Table 4: Design Year VMT Projections on Affected Roadway Network  
(Four-Lane Alternatives)**

Alternative	Year 2040 VMT	Change over No-Build
No-Build	1,359,807	n/a
Four-lane alternatives: Preferred Alternative (A), Preferred Alternative with East Shift Preferred Alternative with West Shift Alternative C	1,476,516	8.6%

The traffic projections for the project were developed using the Knoxville TPO's travel demand model that uses travel time as an impedance rather than travel distance. The calculated increase in VMT with the project likely occurs because the Preferred Alternative with West Shift will offer a more efficient travel route and will divert traffic from other more congested routes. New routes that utilize a four-lane Pellissippi Parkway Extension might be longer than existing routes but will have shorter travel times. So while the VMT in the area might increase, the vehicle hours of travel would likely not increase and might actually decrease. Additionally, the new capacity of the Pellissippi Parkway Extension will free up capacity on existing travel routes making the entire system more efficient even though travel distances might increase.

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There may be localized areas where VMT would increase, and other areas where VMT would decrease. The localized increases in MSAT concentrations would likely be most pronounced along the new roadway sections that would be built near or adjacent to area subdivisions such as Jackson Hills, Sweetgrass Plantation, and Kensington Place. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

A full analysis of Alternative D's impact on the broader study area roadways was not conducted since the forecast volumes for Alternative D exceed the carrying capacity of a two-lane road. This is true even if that network of two-lane roads is improved by wider lanes, improved shoulders, and the straightening of substandard curves. However, the traffic projections for Alternative D only included projections for the improved two-lane roads (Sam Houston School Road, Peppermint Road, Hitch Road and Helton Road) that are incorporated into Alternative D. Traffic projections for existing roads from which traffic would be diverted, including Wildwood Road, Riverford Drive, Tuckaleechee Pike, and East Brown School Road, were not developed, although it is likely that a significant portion of the projected trips on Alternative D would be rerouted from these roads. As a result, the reduced VMT on these roads is not accounted for in Table 5 and the projected increase in VMT of 94.3 percent is significantly overestimated.

**Table 5: Design Year VMT Projections for Alternative D Roadways**

Alternative	Year 2040 VMT	Change over No-Build
No-Build	50,158	n/a
Alternative D	97,454	94.3%

The link-by-link VMT analysis is provided in Table E-2 in Appendix E.

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 annual MSAT emissions by over 80 percent from 2010 to 2050. 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 virtually all locations.

Under the proposed project it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No-Build Alternative, due to the reduced VMT associated with more direct routing, and due to EPA's MSAT reduction programs. Substantial construction-related MSAT emissions are not anticipated for this project as construction is not planned to occur over an extended building period. However, construction activity may generate temporary increases in MSAT emissions in the project area.

## **2.2.4. Greenhouse Gas Emissions (Climate Change)**

Climate change is an important national and global concern. While the earth has gone through many natural changes in climate in its history, there is general agreement that the earth's climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) greenhouse gas (GHG) emissions contribute to this rapid change. Carbon dioxide (CO<sub>2</sub>) makes up the largest component of these

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GHG emissions. Other prominent transportation GHGs include methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

Many GHGs occur naturally. Water vapor is the most abundant GHG and makes up approximately two thirds of the natural greenhouse effect. However, the burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries. GHGs trap heat in the earth's atmosphere. Because atmospheric concentration of GHGs continues to climb, our planet will continue to experience climate-related phenomena. For example, warmer global temperatures can cause changes in precipitation and sea levels.

To date, no national standards have been established regarding GHGs, nor has EPA established criteria or thresholds for ambient GHG emissions pursuant to its authority to establish motor vehicle emission standards for CO<sub>2</sub> under the Clean Air Act. However, there is a considerable body of scientific literature addressing the sources of GHG emissions and their adverse effects on climate, including reports from the Intergovernmental Panel on Climate Change, the US National Academy of Sciences, and EPA and other Federal agencies. GHGs are different from other air pollutants evaluated in Federal environmental reviews because their impacts are not localized or regional due to their rapid dispersion into the global atmosphere, which is characteristic of these gases. The affected environment for CO<sub>2</sub> and other GHG emissions is the entire planet. In addition, from a quantitative perspective, global climate change is the cumulative result of numerous and varied emissions sources (in terms of both absolute numbers and types), each of which makes a relatively small addition to global atmospheric GHG concentrations. In contrast to broad scale actions such as actions involving an entire industry sector or very large geographic areas, it is difficult to isolate and understand the GHG emissions impacts for a particular transportation project. Furthermore, presently there is no scientific methodology for attributing specific climatological changes to a particular transportation project's emissions.

Under NEPA, detailed environmental analysis should be focused on issues that are significant and meaningful to decision-making.<sup>1</sup> FHWA has concluded, based on the nature of GHG emissions and the exceedingly small potential GHG impacts of the proposed action, that the GHG emissions from the proposed action will not result in "reasonably foreseeable significant adverse impacts on the human environment" (40 CFR 1502.22(b)). The GHG emissions from the project build alternatives will be insignificant, and will not play a meaningful role in a determination of the environmentally preferable alternative or the selection of the preferred alternative. More detailed information on GHG emissions "is not essential to a reasoned choice among reasonable alternatives" (40 CFR 1502.22(a)) or to making a decision in the best overall public interest based on a balanced consideration of transportation, economic, social, and environmental needs and impacts (23 CFR 771.105(b)). For these reasons, no alternatives-level GHG analysis has been performed for this project.

The context in which the emissions from the proposed project will occur, together with the expected GHG emissions contribution from the project, illustrate why the project's GHG emissions will not be significant and will not be a substantial factor in the decision-making. The transportation sector is the second largest source of total GHG emissions in the U.S., behind electricity generation. The transportation sector was responsible for approximately 27 percent

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1. <sup>1</sup> See 40 CFR 1500.1(b), 1500.2(b), 1500.4(g), and 1501.7

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of all anthropogenic (human caused) GHG emissions in the U.S. in 2009.<sup>2</sup> The majority of transportation GHG emissions are the result of fossil fuel combustion. U.S. CO<sub>2</sub> emissions from the consumption of energy accounted for about 18 percent of worldwide energy consumption CO<sub>2</sub> emissions in 2010.<sup>3</sup> U.S. transportation CO<sub>2</sub> emissions accounted for about 6 percent of worldwide CO<sub>2</sub> emissions.<sup>4</sup> However, while the contribution of GHGs from transportation in the U.S. as a whole is a large component of U.S. GHG emissions, as the scale of analysis is reduced the GHG contributions become quite small.

### ***Mitigation for Global GHG Emissions***

To help address the global issue of climate change, the U.S. Department of Transportation (USDOT) is committed to reducing GHG emissions from vehicles traveling on our nation's highways. USDOT and EPA are working together to reduce these emissions by substantially improving vehicle efficiency and shifting toward lower carbon intensive fuels. The agencies have jointly established new, more stringent fuel economy and first ever GHG emissions standards for model year 2012-2025 cars and light trucks, with an ultimate fuel economy standard of 54.5 miles per gallon for cars and light trucks by model year 2025. Further, on September 15, 2011, the agencies jointly published the first ever fuel economy and GHG emissions standards for heavy-duty trucks and buses.<sup>5</sup> Increasing use of technological innovations that can improve fuel economy, such as gasoline- and diesel-electric hybrid vehicles, will improve air quality and reduce CO<sub>2</sub> emissions in future years.

Consistent with its view that broad-scale efforts hold the greatest promise for meaningfully addressing the global climate change problem, FHWA is engaged in developing strategies to reduce transportation's contribution to GHGs—particularly CO<sub>2</sub> emissions—and to assess the risks to transportation systems and services from climate change. In an effort to assist States and MPOs in performing GHG analyses, FHWA has developed a *Handbook for Estimating Transportation GHG Emissions for Integration into the Planning Process*. The Handbook presents methodologies reflecting good practices for the evaluation of GHG emissions at the transportation program level, and will demonstrate how such evaluation may be integrated into the transportation planning process. FHWA has also developed a tool for use at the statewide level to model a large number of GHG reduction scenarios and alternatives for use in transportation planning, climate action plans, scenario planning exercises, and in meeting state GHG reduction targets and goals. To assist states and MPOs in assessing climate change vulnerabilities to their transportation networks, FHWA has developed a draft vulnerability and risk assessment conceptual model and has piloted it in several locations.

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2. <sup>2</sup> Calculated from data in U.S. Environmental Protection Agency, Inventory of Greenhouse Gas Emissions and Sinks, 1990-2009.

3. <sup>3</sup> Calculated from data in U.S. Energy Information Administration International Energy Statistics, Total Carbon Dioxide Emissions from the Consumption of Energy, <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=90&pid=44&aid=8>, accessed 9/12/11.

3. <sup>4</sup> Calculations from 2009 data in EIA Emissions of Greenhouse Gases in the United States 2009, March 2011, Table 7 <ftp://ftp.eia.doe.gov/environment/057309.pdf> (US data) and EIA International Energy Statistics, Total Carbon Dioxide Emissions from the Consumption of Energy <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=90&pid=44&aid=8> (World data)

4. <sup>5</sup> For more information on fuel economy proposals and standards, see the National Highway Traffic Safety Administration's Corporate Average Fuel Economy website: <http://www.nhtsa.gov/fuel-economy/>.

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## **Summary for Global GHG Emissions**

This document does not incorporate an analysis of the GHG emissions or climate change effects of each of the alternatives because the potential change in GHG emissions is very small in the context of the affected environment. Because of the insignificance of the GHG impacts, those impacts will not be meaningful to a decision on the environmentally preferable alternative or to a choice among alternatives. As outlined above, FHWA is working to develop strategies to reduce transportation's contribution to GHGs—particularly CO<sub>2</sub> emissions—and to assess the risks to transportation systems and services from climate change. FHWA will continue to pursue these efforts as productive steps to address this important issue.

## **2.3. Construction Impacts on Air Quality**

This project will result in the temporary generation of construction-related pollutant emissions and dust that could result in short-term air quality impacts. These construction-related impacts will be mitigated through the implementation of Best Management Practices, which are included in TDOT's *Standard Specifications for Road and Bridge Construction*. All construction equipment shall be maintained, repaired and adjusted to keep it in full satisfactory condition to minimize pollutant emissions.

## **2.4. Indirect and Cumulative Effects**

The forecasted traffic volumes for most projects typically account for any redistribution of traffic that would occur as a result of the project. Therefore, the air quality analysis addresses any indirect traffic-related air quality impacts that might occur.

Additionally, the forecasted traffic volumes include expected traffic growth and other planned and programmed projects in the area. As a result, the air quality analysis addresses the traffic-related cumulative air quality impacts of the project.

## **2.5. Conclusions**

The purpose and need of the project includes addressing current and future regional transportation needs of the area. The project is not predicted to cause or exacerbate a violation of the NAAQS. The project has been classified as one “not of air quality concern” by the EPA and FHWA in regard to PM<sub>2.5</sub>.

A qualitative analysis for projects with low potential MSAT impacts was performed for this project. No roadways in the project area, including the proposed Pellissippi Parkway Extension, will have AADT approaching the range of 140,000 to 150,000 vehicles per day. Furthermore, for each alternative in this EIS, the amount of MSAT emitted would be proportional to the VMT, assuming that other variables such as fleet mix are the same for each alternative. When compared to the No-Build Alternative, the VMT for the Pellissippi Parkway Extension is predicted to have less than a 9 percent increase. This is not considered an appreciable difference in VMT, and therefore is not expected to result in a measurable difference in MSAT emissions, when compared to the No-Build Alternative. Also, emissions as a result of the Pellissippi Parkway Extension 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 annual MSAT emissions by 80 percent from 2010 to 2050. Local conditions may differ from these national projections in

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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 virtually all locations.

Under each alternative there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. There are several residential areas adjacent to this new roadway corridor, both on the east and west sides of the project area. However, even if increases do occur at these locations, they are expected to be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

Construction-related effects of the project would be limited to short-term increased fugitive dust and mobile-source emissions during construction. These construction-related impacts will be mitigated through the implementation of Best Management Practices, which are included in TDOT's *Standard Specifications for Road and Bridge Construction*.

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### 3. REFERENCES

*Tennessee Environmental Procedures Manual*, Tennessee Department of Transportation, Spring 2011.

*Guideline for Modeling Carbon Monoxide From Roadway Intersections*, U.S. EPA, November, 1992.

*Interim Guidance on Air Toxic Analysis in NEPA Documents*, FHWA, February 3, 2006.  
<http://www.fhwa.dot.gov/environment/airtoxic/020306guidmem.htm>

*Interim Guidance Update on Air Toxic Analysis in NEPA Documents*, FHWA, September 30, 2009. <http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm>

*Interim Guidance Update on Air Toxic Analysis in NEPA Documents*, FHWA, December 6, 2012.  
[http://www.fhwa.dot.gov/environment/air\\_quality/air\\_toxics/policy\\_and\\_guidance/aqintguidmem.cfm](http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/aqintguidmem.cfm).

Claggett, M., et. al., "A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives," Federal Highway Administration, Resource Center.

*Traffic Forecast Study*, Sain Associates, Inc., December 2013.

*Addendum to the Traffic Operations Technical Report*, Parsons Brinckerhoff, Inc., February 2014.

Memorandum: Response to FHWA's April 17, 2014 General Comment #2 Regarding Updating Traffic Analysis for Alternative D, Margaret Slater, TDOT, May 14, 2014.

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**APPENDIX A: KNOXVILLE TPO'S 2014-2017 TIP  
PROJECT SHEET AND REGIONAL MOBILITY PLAN  
2040 PROJECT PAGE**



## Knoxville Regional Transportation Planning Organization TRANSPORTATION IMPROVEMENT PROGRAM FY 2014-2017

TIP No.	2014-025	Revision No.	0
TDOT PIN	101423.00	Mobility Plan No.	09-232
Project Name	Pellissippi Pkwy. (SR-162) Extension		
Lead Agency	TDOT		
Total Project Cost	\$49,440,200		

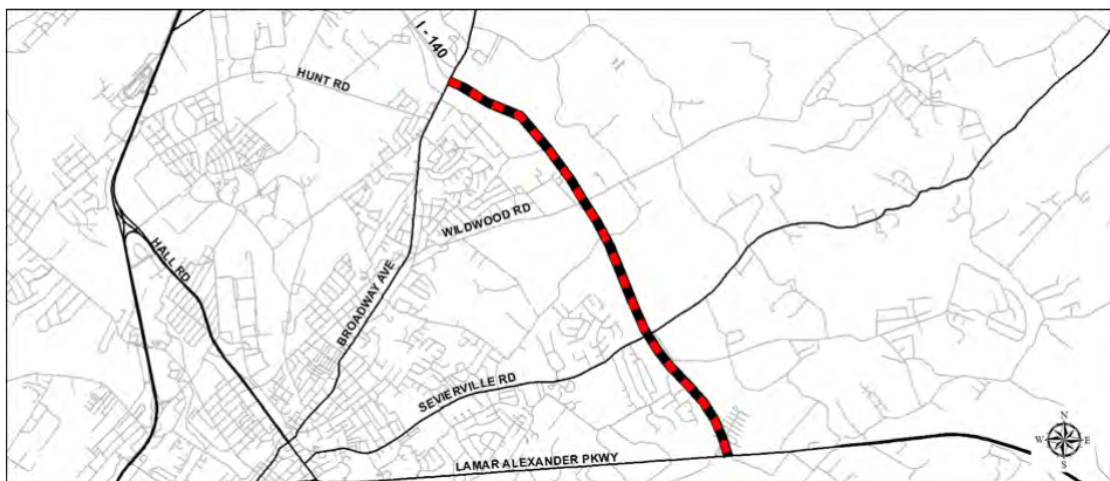
Project Description	HPP #TN053 (Section 1602-TEA21). Construct new 4 lane.		
Termini/Intersection	Old Knoxville Hwy (SR-33) to SR-73 (US-321)		
Counties	Blount		
City/Agency	Alcoa		
Length	4.4	(miles)	Conformity Status
			Non-Exempt

Additional Details	
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### Programmed Funds

FY	Type of Work	Funding Type	Total Funds	Federal	State	Local	Other
2014	PE-D	HPP	\$2,500,000	\$2,000,000	\$500,000	\$0	\$0
2016	ROW	HPP	\$7,590,163	\$6,072,130	\$1,518,033	\$0	\$0
2016	ROW	NHPP	\$1,700,000	\$1,360,000	\$340,000	\$0	\$0
Total			\$11,790,163	\$9,432,130	\$2,358,033	\$0	\$0

Revision Date	
Revision Details	
Previous TIP No.	2002-030, 2004-020, 2006-017, 2008-039, 2011-025



## TPO'S LONG RANGE REGIONAL MOBILITY PLAN 2040

RMP#	Jurisdiction	Project Name	Termini	Length (mi.)	Project Description	Priority	Horizon Year	Total Horizon Year Cost	Funding Source	Federal Share (%)	State Share (%)	Local Share (%)
13-103	Oak Ridge	New Signalized Intersection at Lafayette Dr	Half way between Midway Rd and Midland Rd	0.0	Construction would include right-of-way acquisition of private property from Midway across the CSX railroad to Lafayette.	5	2019	\$372,429	Local	0%	0%	100%
09-208	Maryville	Maryville Streetscaping	Various locations	0.0	Street-scaping and "Complete Street" types of projects throughout Maryville	4	2019	\$319,225	TA	80%	0%	20%
09-209	Blount Co	Ellejoy Rd Reconstruction	River Ford Rd to Jeffries Hollow Rd	3.7	Reconstruct 2-lane section with shoulders	4	2019	\$12,894,015	HSIP	80%	0%	20%
09-211	Blount Co	Morganton Rd Reconstruction, Phase 1	Foothills Mall Dr to William Blount Dr (SR 335)	2.2	Reconstruct 2-lane section with shoulders	1	2019	\$10,095,479	HSIP	80%	0%	20%
09-213	Blount Co	Old Niles Ferry Rd Reconstruction	Maryville City Limit (Willis Rd) to Calderwood Hwy (US 129 / SR 115)	3.3	Reconstruct 2-lane section with shoulders	4	2019	\$15,143,219	HSIP	80%	0%	20%
09-214	Maryville	Sevierville Rd (US 411 / SR 35) Widening and Bridge Replacement	Washington St (SR 35) to Walnut St	0.4	Widen 2-lane to 3-lane with curb and gutters, sidewalks, new bridge over Browns Creek, 2 business relocations, and new entrance for Blount Memorial Hospital	1	2019	\$6,070,589	NHPP	80%	20%	0%
09-216	Blount Co / Alcoa	Alcoa Hwy (US 129 / SR 115) Widening	Pellissippi Pkwy (SR 162) to Knox / Blount Co Line	2.4	Widen 4-lane to 6-lane with 2 auxiliary lanes between Singleton Station Rd and Topside Rd (SR 333)	2	2019	\$50,650,311	NHPP	80%	20%	0%
09-218	Alcoa	Alcoa Hwy Parkway (US 129 / SR 115) New Road Construction	From south of Airport Rd to proposed Interchange serving McGhee Tyson Airport	1.3	Construct new 8-lane highway	3	2019	\$53,204,108	NHPP	80%	20%	0%
09-221	Blount Co	Burnett Station Rd Reconstruction	Sevierville Rd (US 411 / SR 35) to Chapman Hwy (US 441 / SR 71)	4.4	Reconstruct 2-lane section with shoulders	4	2019	\$15,333,424	HSIP	80%	0%	20%
09-232	Blount Co	Pellissippi Pkwy (SR 162) Extension / New Road Construction	Old Knoxville Hwy (SR 33) to Lamar Alexander Pkwy (US 321 / SR 73)	4.4	Construct new 4-lane freeway	2	2019	\$52,608,434	NHPP	80%	20%	0%
09-237	Maryville	E Broadway Ave (SR 33) / Eagleton Rd / Brown School Rd Intersection Improvements	From south of Brown School Rd to north of Eagleton Rd		Re-align Eagleton Rd with Brown School Rd to remove offset and create 4-leg, signalized intersection. Widening to include left-turn lanes at all approaches with curb & gutter and sidewalk.	1	2019	\$2,427,171	STP	80%	20%	0%
09-257	Alcoa	Alcoa Hwy Parkway (US 129 / SR 115) New Road Construction	From Proposed Interchange serving McGhee Tyson Airport to Pellissippi Pkwy (SR 162)	2.4	Construct new 8-lane highway	2	2019	\$53,736,149	NHPP	80%	20%	0%
09-258	Alcoa	Alcoa Hwy Parkway (US 129 / SR 115) New Road Construction	From Pellissippi Pkwy (SR 162) to Existing Alcoa Hwy near Singleton Station Rd	1.4	Construct new 8-lane highway	2	2019	\$53,204,108	NHPP	80%	20%	0%
09-262	Maryville	Montvale Rd (SR 336) Widening	Montvale Station Rd to Lamar Alexander Pkwy (SR 73 / US 321)	0.6	Widen from 2-lane to 3-lane	1	2019	\$13,620,252	STP	80%	20%	0%
13-207	Alcoa	Louisville Rd (SR 334) Reconstruction	W Hunt Rd to Alcoa city limits (Liberty St)	1.3	Reconstruct existing 2-lane facility with shoulders	3	2019	\$6,149,065	STP	80%	20%	0%

8-9

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## **APPENDIX B: PM<sub>2.5</sub> CONCURRENCE INFORMATION**

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**From:** [Darlene Reiter](#)  
**To:** [Margaret Slater](#); [Skinner, Nancy T.](#)  
**Subject:** FW: Updated Traffic Projections, Pellissippi Parkway Extension, Blount County  
**Date:** Thursday, January 30, 2014 1:26:48 PM  
**Attachments:** [IAC-PM2.5-Determination-PellissippiPrkwy-101423.00-010709.pdf](#)  
[Current and Previous Traffic Projections for Pellissippi Parkway Extension.pdf](#)

---

FYI.

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**From:** Darlene Reiter  
**Sent:** Thursday, January 30, 2014 1:26 PM  
**To:** Alan Jones; Angela Midgett; Cantrell, Teresa; Conger, Mike; Davis, Corbin; Jim Ozment; Lynne Liddington; Marc Corrigan; Martin, Elizabeth; Renfro, Jim; Rich DesGroseilliers ; Robert Rock; Ronnie Porter; scott.allen@dot.gov; Sheckler, Kelly; Smith, Dianna; Steve McDaniel; Theresa Claxton ; Welch, Jeff  
**Subject:** Updated Traffic Projections, Pellissippi Parkway Extension, Blount County

Good Afternoon Knoxville IAC –

Per the discussion at the end of our call on Monday, I have attached the updated traffic projections for the Pellissippi Parkway (SR 162) Extension in Blount County for your records. As discussed, a PM<sub>2.5</sub> Hot-Spot Determination was prepared for the project in January 2009, and the IAC concurred that the project was “Not of Air Quality Concern.” The Determination and concurrence responses are attached.

As shown, the updated Design Year 2040 projections are much lower than the previous Design Year 2035 projections used for the PM<sub>2.5</sub> Hot-Spot Determination. The projected percentage of trucks remains the same. As a result, the IAC agreed that the previous Determination remains valid.

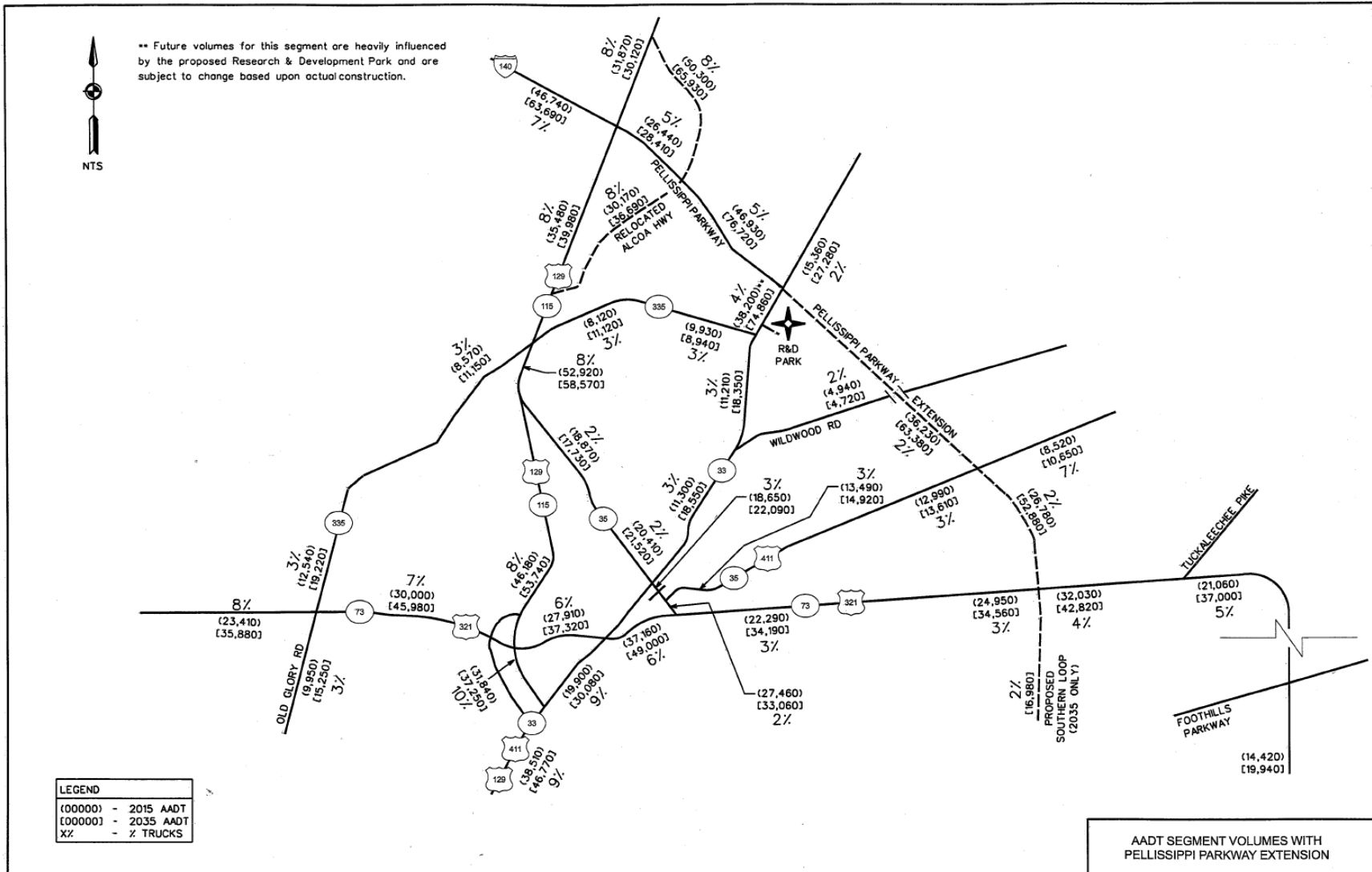
Thank you for your guidance on this matter.

Darlene

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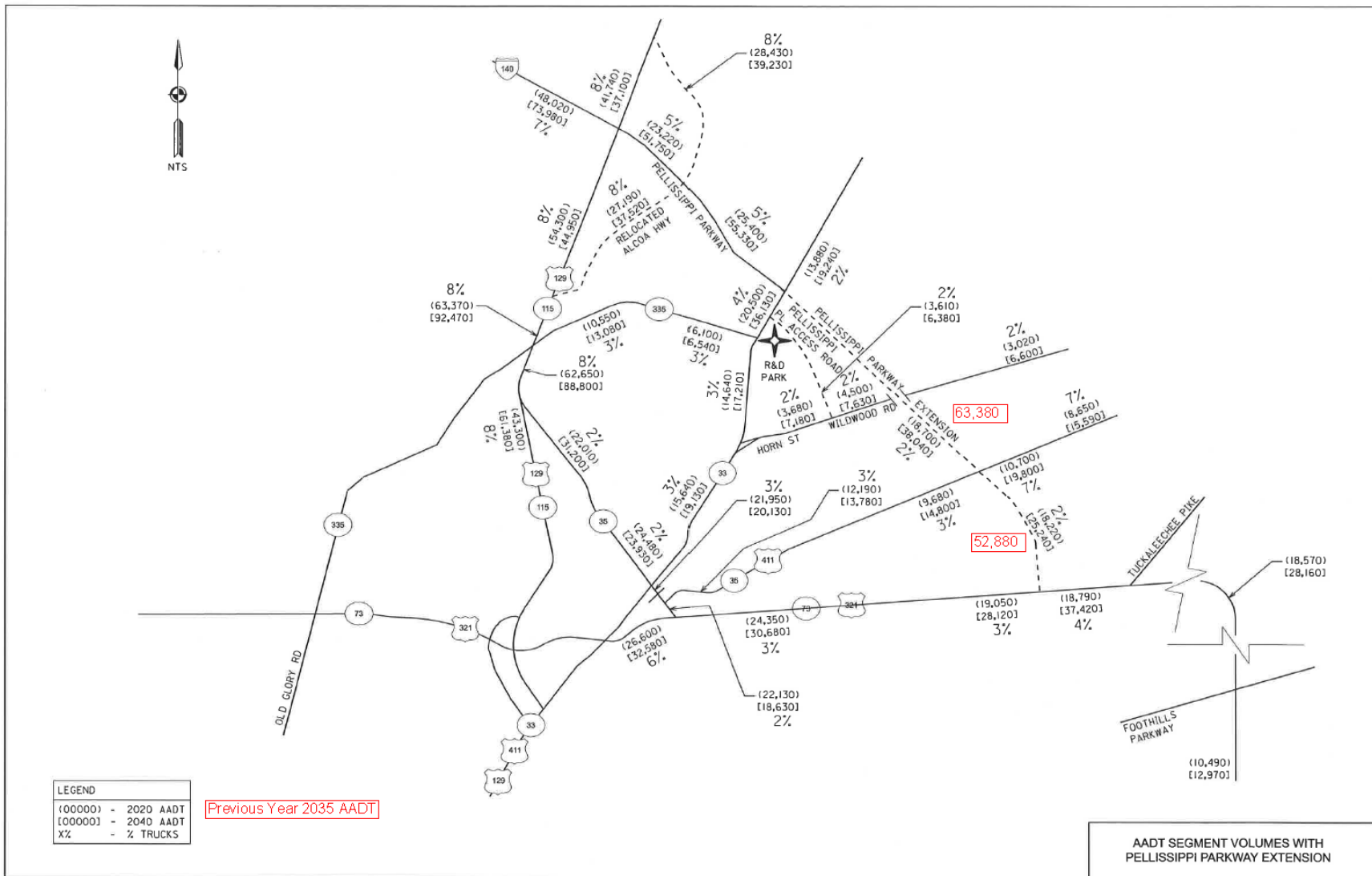
Darlene Reiter, Ph.D., P.E.  
TDOT Environmental Division Consultant  
(615) 574-8102

## Previous 2035 Traffic Projections



## PELLISSIPPI PARKWAY EXTENSION

## Current 2040 Traffic Projections



# PELLISSIPPI PARKWAY EXTENSION

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**From:** Marc Corrigan  
**To:** McAdoo, Mark  
**Date:** 1/9/2009 10:51 AM  
**Subject:** Re: PM 2.5 Determination for Pellissippi Parkway Project (PIN# 101423.00)

Mark,

Based on the information provided, and no new information is provided from other IAC participants, I concur with TDOT's determination.

Marc

>>> Mark McAdoo 12:17 PM 1/8/09 >>>

Marc -

In response to your question, our consultant informs me "the rows in the table were shaded just to make the truck changes in volume stand out from the no-build to the build scenario. We thought that this important with regard to impacts as it shows that most of the volumes decrease in the build scenario."

TDOT requests your concurrence with our recommendation that this project be classified as NOT OF AIR QUALITY CONCERN. Please respond no later than close of business (4:30 central time) on **January 20, 2009**. If TDOT does not receive a response to the contrary within 10 business days of this email then TDOT will assume that you concur with our recommended determination.

Thanks,

Mark

TDOT - Environmental Division  
615-741-6834

If you want your budget in the black - think green!

>>> Marc Corrigan 1/8/2009 8:28 AM >>>

Mark,

What is the significance of the of the shaded rows in the tables?

Marc

>>> Mark McAdoo 8:53 AM 1/7/09 >>>

Knoxville Area IAC -

This project was previously submitted to the IAC for concurrence. However, on December 19, 2008, Kelly Sheckler (EPA) left a voice message with me requesting us to revise the determination and resubmit. EPA requested truck numbers (not percentages) for the build and no build in the design year.

Our consultant for this project has made those revisions and TDOT is now resubmitting the determination that this project be classified as NOT OF AIR QUALITY CONCERN to the IAC for concurrence. Details are provided in the attached document.

TDOT requests your concurrence with our recommendation that this project be classified as NOT OF AIR QUALITY CONCERN. Please respond no later than close of business (4:30 central time) on January 20, 2009. If TDOT does not receive a response to the contrary within 10 business days of this email then TDOT will assume that you concur with our recommended determination.

Happy New Year,

Mark

TDOT - Environmental Division  
615-741-6834

If you want your budget in the black - think green!

---

**From:** <Sheckler.Kelly@epamail.epa.gov>  
**To:** "Mark McAdoo" <Mark.McAdoo@state.tn.us>  
**Date:** 1/13/2009 11:48 AM  
**Subject:** Re: PM 2.5 Determination for Pellissippi Parkway Project (PIN# 101423.00)- (1 project)  
**Attachments:** PM2 5HotSpotDeterminationQA-Pellissippi- 1-6-08 final.doc

**CC:** <Smith.Dianna@epamail.epa.gov>  
Mark- thank you for providing the updated material. Based upon what you have provided in the write-up, EPA concurs that this projects is not of air quality concern per the Transportation conformity provisions.

Kelly Sheckler  
US Environmental Protection Agency- Region 4  
Diesel Collaborative and Transportation Outreach Liaison  
61 Foryths Street  
Atlanta, Georgia 30303  
(404) 562-9222  
Sheckler.Kelly@epa.gov

"Mark McAdoo"  
<Mark.McAdoo@state.tn.us>  
To  
<asmcdaniel@aqm.co.knox.tn.us>,  
01/07/2009 09:53 AM <laliddington@aqm.co.knox.tn.us>,  
"Abigail Rivera"  
<Abigail.Rivera@dot.gov>,  
"Jeffery Anoka"  
<Jeffery.Anoka@dot.gov>, Lynorae  
Benjamin/R4/USEPA/US@EPA, Kelly  
Sheckler/R4/USEPA/US@EPA, Dianna  
Smith/R4/USEPA/US@EPA, Amanetta  
Wood/R4/USEPA/US@EPA,  
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<teresa\_cantrell@nps.gov>, "Alan  
Jones" <Alan.Jones@state.tn.us>,  
"Angela Midgett"  
<Angela.Midgett@state.tn.us>,  
"Marc Corrigan"



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<Marc.Corrigan@state.tn.us>,  
"Mark McAdoo"  
<Mark.McAdoo@state.tn.us>,  
"Robert Rock"  
<Robert.Rock@state.tn.us>,  
"Ronnie Porter"  
<Ronnie.Porter@state.tn.us>  
cc  
"Nancy T. Skinner"  
<SkinnerN@pbworld.com>, "Jim  
Ozment" <Jim.Ozment@state.tn.us>,  
"Tom Love" <Tom.Love@state.tn.us>  
Subject  
PM 2.5 Determination for  
Pellissippi Parkway Project (PIN#  
101423.00)

Knoxville Area IAC -

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Our consultant for this project has made those revisions and TDOT is now resubmitting the determination that this project be classified as NOT OF AIR QUALITY CONCERN to the IAC for concurrence. Details are provided in the attached document.

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Happy New Year,

Mark

TDOT - Environmental Division  
615-741-6834

If you want your budget in the black - think green!

---

**From:** <Victor.Otero@dot.gov>  
**To:** <Mark.McAdoo@state.tn.us>, <asmcdaniel@aqm.co.knox.tn.us>, <laliddington...>  
**Date:** 1/13/2009 12:58 PM  
**Subject:** RE: PM 2.5 Determination for Pellissippi Parkway Project (PIN#101423.00)- (1 project)

**CC:** <SkinnerN@pbworld.com>, <Jim.Ozment@state.tn.us>, <Tom.Love@state.tn.us>  
FHWA concurs that the Pellissippi Parkway Project (PIN#101423.00)- (1 project) is not of air quality concern. Should you require additional information, please contact me at 615.781.5761

Thank you

Victor Otero  
FHWA TN DIVISION

-----Original Message-----

From: Mark McAdoo [mailto:Mark.McAdoo@state.tn.us]  
Sent: Tuesday, January 13, 2009 12:11 PM  
To: asmcdaniel@aqm.co.knox.tn.us; laliddington@aqm.co.knox.tn.us; Rivera, Abigail <FTA>; Anoka, Jeffery <FTA>; Benjamin.Lynorae@epa.gov; Sheckler.Kelly@epa.gov; smith.dianna@epa.gov; Wood.Amanetta@epa.gov; Crenshaw, Cecilia <FHWA>; Oneill, Charles <FHWA>; Tribble, Leigh Ann <FHWA>; Roberts, Michael <FHWA>; Macon, Tameka <FHWA>; Otero, Victor <FHWA>; Jeff.Welch@knoxtrans.org; Mike.Conger@knoxtrans.org; Shannon.Tolliver@knoxtrans.org; richd@mymorristown.com; jim\_renfro@nps.gov; liana\_reilly@nps.gov; teresa\_cantrell@nps.gov; Alan Jones; Angela Midgett; Marc Corrigan; Mark McAdoo; Robert Rock; Ronnie Porter  
Cc: Nancy T. Skinner; Jim Ozment; Tom Love  
Subject: Re: PM 2.5 Determination for Pellissippi Parkway Project (PIN#101423.00)- (1 project)

Kelly -  
Thank you for providing concurrence from EPA. I hope FHWA and the other IAC members can provide concurrence by January 20th.

Mark

TDOT - Environmental Division  
615-741-6834

If you want your budget in the black - think green!

>>> <Sheckler.Kelly@epamail.epa.gov> 1/13/2009 11:48 AM >>>  
Mark- thank you for providing the updated material. Based upon what you have provided in the write-up, EPA concurs that this projects is not of air quality concern per the Transportation conformity provisions.

Kelly Sheckler  
US Environmental Protection Agency- Region 4

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From: Mark McAdoo [Mark.McAdoo@state.tn.us]  
Sent: Monday, December 01, 2008 10:22 AM  
To: asmcDaniel@aqm.co.knox.tn.us; laliddington@aqm.co.knox.tn.us;  
Abigail Rivera; Jeffery Anoka; Benjamin.Lynorae@epa.gov;  
Sheckler.Kelly@epa.gov; smith.dianna@epa.gov; Wood.Amanetta@epa.gov;  
Cecilia.Crenshaw@fhwa.dot.gov; LeighAnn.Tribble@fhwa.dot.gov;  
Michael.Roberts@fhwa.dot.gov; Tameka Macon; tony.dittmeier@fta.dot.gov;  
Jeff.Welch@knoxtrans.org; Mike.Conger@knoxtrans.org;  
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jim\_renfro@nps.gov; liana\_reilly@nps.gov; teresa\_cantrell@nps.gov; Alan  
Jones; Angela Midgett; Marc Corrigan; Robert Rock; Ronnie Porter  
Cc: Skinner, Nancy T.; Tom Love  
Subject: Pellissippi Parkway (PIN# 101423.00)

Attachments: PM2 5HotSpotDeterminationQA-Pellissippi-R.doc

Knoxville Area IAC -

TDOT recommends that the following project be classified as NOT OF AIR QUALITY CONCERN for PM 2.5 Transportation Conformity:

PIN# 101423.00 - Knox County Pellissippi Parkway

More details are provided in the attached document.

TDOT requests your concurrence with our recommendation that this project is NOT OF AIR QUALITY CONCERN. Please respond to this e-mail no later than close of business (4:30 central time) on December 15, 2008. If TDOT does not receive a response to the contrary by December 15, 2008 then TDOT will assume that you concur with our recommended determination.

Mark

TDOT - Environmental Division  
615-741-6834

If you want your budget in the black - think green!

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## PM<sub>2.5</sub> Hot Spot Determination

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**Project Name:** Pellissippi Parkway (SR-33 to US 321)  
**Project Number:** 05097-1226-04; LRTP # 70; TIP # 101423.00  
**Location:** Pellissippi Parkway from SR 33 to US 321/SR 73 in the cities of Alcoa and Maryville and in unincorporated Blount County

### Statement of Purpose and Legal Requirements

Section 176(c) of the Clean Air Act, as amended, requires that transportation agencies, such as the Tennessee Department of Transportation (TDOT), demonstrate that all proposed transportation projects that are located in nonattainment or maintenance areas, and using federal money, are consistent with the air quality goals found in the State Implementation Plan (SIP) and the corresponding Transportation Improvement Program (TIP) or other conforming plan.

The process to ensure this consistency is called Transportation Conformity. Conformity to the SIP means that transportation activities will not cause new violations of the National Ambient Air Quality Standards (NAAQS), will not worsen existing violations, and will not delay attainment of the NAAQS.

Project-level conformity is required by Title 40 Code of Federal Regulations (CFR) Part 93, more commonly known as the Transportation Conformity Rule. When evaluating project-level conformity for PM<sub>2.5</sub>, the process is called a PM<sub>2.5</sub> Hot Spot Determination.

The Transportation Conformity Rule instructs the U.S. Department of Transportation (DOT) to ensure that all proposed transportation projects are in conformity before releasing federal funds for the project. To accomplish this, the FHWA and/or FTA require that all proposed transportation projects in a nonattainment or maintenance area be classified as: 1) Exempt, 2) Project Not of Air Quality Concern, or 3) Project of Air Quality Concern.

In §93.126 and §93.128, the Transportation Conformity Rule establishes a list of transportation projects that are categorically exempt from a project-level conformity determination. For nonexempt projects in nonattainment areas, TDOT must determine if the project has the potential to adversely impact air quality and FHWA and/or FTA must make the same determination.

This proposed transportation project is located in a jurisdiction currently classified as nonattainment for the PM<sub>2.5</sub> NAAQS by the U.S. Environmental Protection Agency. This proposed project is not classified as exempt. Therefore, TDOT is presenting the following PM<sub>2.5</sub> Hot Spot Determination to the Interagency Consultation (IAC) group to demonstrate this project is not of air quality concern and that it does conform to the SIP.

### Project Description

Pellissippi Parkway (State Route (SR) 162) is a major northwest/southeast route connecting Interstate 40 (I-40)/I-75 and SR 33 in Knox and Blount Counties, Tennessee.

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## PM<sub>2.5</sub> Hot Spot Determination

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Pellissippi Parkway (designated as I-140) between I-40/I-75 and SR 33 was designed and built in four sections between 1987 and 2005. The section of Pellissippi Parkway between SR 33 and US 321/SR 73 is the remaining undeveloped portion of the parkway that was identified in the State's 1986 Urgent Highway Needs Plan. TDOT proposes to extend the existing Pellissippi Parkway from SR 33 to US 321/SR 73 in the cities of Alcoa and Maryville and in unincorporated Blount County. The total length of the proposed extension is approximately 4.5 miles.

The project is proposed by TDOT to:

- Provide travel options for motorists to the existing radial roadway network;
- Enhance regional transportation system linkages;
- Assist in achieving acceptable traffic flows (level of service) on the transportation network; and
- Enhance roadway safety on the roadway network, including the Maryville core.

In April 2006, TDOT initiated an Environmental Impact Statement (EIS) for the project with the publication of a formal Notice of Intent (NOI) to prepare an EIS in the Federal Register. Public and agency scoping was conducted in 2006. At that time, TDOT asked the public to provide input on the purpose and need for the project and to identify potential alternatives for consideration in the Draft EIS. Additional public meetings were held in November 2007 and February 2008 to gather public input on the refined purpose and need and potential project corridors and alternatives. An initial range of alternatives and corridors were developed as a result of public input and input from local and regional agencies, including the Knoxville Regional Transportation Planning Organization (TPO). The alternatives and corridors were refined, and TDOT has determined that three build alternatives will be carried forward, refined and evaluated in the DEIS. Alternative A and C would extend the existing Pellissippi Parkway as a four-lane divided highway in one of two alignments, while Alternative D would be an upgraded two-lane network of existing roads to serve as a two-lane connection between SR 33 and US 321.

**PM<sub>2.5</sub> Hot Spot Determination Questions and Answers**

1. **Is this project in a conforming Plan/TIP?** Yes. This project is included in the Knoxville Regional Transportation Planning Organization's (Knoxville-TPO) Transportation Improvement Program (TIP) for FY 2008 – 2011. The proposed project has been found to be consistent with the Knoxville/Knox County Metropolitan Planning Organization's 2005-2030 Long Range Transportation Plan (LRTP) and will not be in conflict with the long-range planning activities of any other local or regional planning authority. The project is included in a conforming plan and program in accordance with 40 CFR §93.115
2. **Is the project on a new or expanded highway or expressway that serves a significant volume of diesel truck traffic, such as a facility with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic?** The project is a new highway but does not serve a significant volume of diesel truck traffic. Based on the projections presented in the Traffic Operations Technical Report for this project, the highest AADT on any of the roadway links along the affected Pellissippi corridor (i.e., from the proposed Relocated Alcoa Highway to East Broadway/Old Knoxville Highway [SR 33]) is 76,720 in the design year of 2035; and the highest truck percentage (from Topside Road to Alcoa Highway [SR 115/US 129/MP]) is 7.0 percent. Using the example, a significant volume of diesel truck traffic would be 10,000 trucks (8% of 125,000). The highest number of trucks on the affected corridor would be 4,458 in the year 2035.

While a few sections of the existing roadways in the project area would have 8, 9, or 10 % truck traffic in 2035, the percentages on these roadways are estimated to be the same as future No Build truck percentages on these roadways, and the projected AADT on these roadways are all less than 60,000. The highest volume of truck traffic is 5,274 vehicles on the Relocated Alcoa Highway.

Tables 1 and 2 at the end of this documentation show these values along with the rest of the diesel truck volumes for the No Build as well as the Build Scenario for 2015 and 2035. Tables 3 and 4 list truck volumes for the Pellissippi Parkway extension (between SR 33 and SR 73/US 321). Table 3 lists values for the Build Alternatives A/C (extension of the parkway) while Table 4 lists values for Build Alternative D (upgrade of existing 2-lane roadway network). As shown on these tables, the diesel truck percentages are low and the actual volumes represent only a small portion of the expected traffic.

3. **Does the project construct new exit ramps or other highway facility improvements that connect a highway or expressway to a major freight, bus, or intermodal terminal?** No. While new interchanges would be created with the proposed alternatives, none of these would connect to or affect a major freight, bus, or intermodal facility.

4. **Does the project expand an existing highway or other facility that already has a congested intersection (Operates at LOS D, E, or F) and will this project result in a significant increase in the number of diesel trucks?** No. While several of the affected intersections would operate at LOS D, E, or F in 2035 with the proposed alternatives, the LOS of these intersections would be approximately the same (or better) than under the future No Build alternative. In addition, the number of diesel trucks on the affected roadway links is not projected to significantly increase with any of the project alternatives.
5. **Does the highway project involve a significant increase in the number of diesel transit buses and/or diesel trucks?** No. The traffic projections are primarily a function of population growth and land use. Based on the projections presented in the Traffic Operations Technical Report for this project, the highest AADT on any of the roadway links along the affected Pellissippi corridor (i.e., from the proposed Relocated Alcoa Highway to East Broadway/Old Knoxville Highway [SR 33]) is 76,720; and the highest truck percentage (from Topside Road to Alcoa Highway [SR 115/US 129/MP]) is 7.0 percent. The truck percentages on the other roadway segments range from 2 to 10 percent. The highest actual volume of diesel trucks on the affected corridor is 4,458 representing 7.0 percent of the AADT. For the rest of the roadway segments, the majority of them have a reduction in truck volumes as a result of the build alternative with a few experiencing an increase of no more than 1,700 diesel trucks (SR 33 between Hunt Road and Williams Mill Road with an AADT of 74,860). Tables 1 and 2 include a column illustrating the differences between the No Build and build alternatives. The changes resulting from the build alternatives do not cause a significant increase in the number of diesel trucks and buses.
6. **Will this project cause or worsen an existing violation?** No. Any increase in emissions due to overall growth in Tennessee's traffic volumes is expected to be offset by decreases associated with the project's operational improvements and decreases in overall mobile source emission trends. In addition, background concentrations will decrease as stationary source emissions would continue to decrease via on-going reduction measures and measures that will be implemented in the near future. A similar conclusion is supported by scientific journal articles cited in the final hot-spot analysis rule.

The March 2006 Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas issued jointly by the U.S. Environmental Protection Agency and the U.S. Department of Transportation provide examples of projects that are not of localized air quality concern. More specifically, Appendix A of the Guidance states that projects that are not an air quality concern include "any new or expanded highway project that primarily services gasoline vehicle traffic (i.e., does not involve a significant number or increase in the number of diesel vehicles), including such projects involving congested intersections operating at Level-of-Service D, E, or F."

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### **PM<sub>2.5</sub> Hot Spot Determination**

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The nearest PM monitoring station is located at 2007 Sequoyah Avenue in Maryville. This monitor is more than three miles from this proposed project and will not likely be impacted by the project.

### **Conclusion**

TDOT's PM<sub>2.5</sub> hot spot determination is that this project is **NOT A PROJECT OF AIR QUALITY CONCERN**, as determined in accordance with 40 CFR §93.123(b)(1), and that this project is in conformity with the SIP. Therefore, it is assumed that the Clean Air Act and 40 CFR §93.116 requirements are met without a qualitative hot spot analysis once FHWA provides concurrence or and the IAC comment period expires without additional information provided by the IAC to cause objection from FHWA.



**PM<sub>2.5</sub> Hot Spot Determination**

**Table 1: Comparison of Diesel Truck Numbers for the No-Build and Build Scenarios (2015)**

Route	Section	Begin Milepoint	End Milepoint	2015 No-Build ADT	2015 Build ADT	2015 No-Build % Trucks and Buses	2015 Build % Trucks and Buses	2015 No-Build # Diesel Trucks	2015 Build # Diesel Trucks	Change in Volume (Build - No-Build)
Wildwood Road	1	E. Broadway/Old Knoxville Hwy (SR 33) MP 0.000	End of Study Area MP 4.740	5,580	4,940	2.0%	2.0%	112	99	-13
Pellissippi Parkway	1	Topside Rd MP 0.810	Alcoa Hwy (SR 115/US 129) MP 2.240	43,560	46,740	7.0%	7.0%	3049	3272	223
	2	Alcoa Hwy (SR 115/US 129) MP 2.240	Relocated Alcoa Highway MP 3.240	25,880	26,440	5.0%	5.0%	1294	1322	28
	3	Relocated Alcoa Highway MP 3.240	E. Broadway/Old Knoxville Hwy (SR 33) MP 4.710	34,420	46,930	5.0%	5.0%	1721	2347	626
Lamar Alexander Parkway (SR 73 / US 321)	1	Beginning of Study Area MP 8.250	Alcoa Hwy (SR 115/US 129) MP 10.570	30,500	30,000	7.0%	7.0%	2135	2100	-35
	2	Alcoa Hwy (SR 115/US 129) MP 10.570	E. Broadway/Old Knoxville Hwy (SR 33) MP 11.650	29,090	27,910	7.0%	6.0%	2036	1675	-362
	3	E. Broadway/Old Knoxville Hwy (SR 33) MP 11.650	Jones Ave MP 12.526	37,720	37,160	7.0%	6.0%	2640	2230	-411
	4	Jones Ave MP 12.520	Merritt Rd MP 13.980	27,240	22,290	4.0%	3.0%	1090	669	-421
	5	Merritt Rd MP 13.980	Tuckaleechee Pk MP 17.020	24,080	24,950	4.0%	3.0%	963	749	-215
	6	Tuckaleechee Pk MP 17.020	MP 19.020	18,720	32,030	5.0%	4.0%	936	1281	345
	7	MP 19.020	Melrose Station Rd MP 20.020	18,720	21,060	5.0%	5.0%	936	1053	117
Hall Road (SR 35)	1	Alcoa Hwy (SR 115/US 129) MP 0.000	Bessemer St MP 1.520	23,220	18,870	2.0%	2.0%	464	377	-87
	2	Bessemer St MP 1.520	E. Broadway/Old Knoxville Hwy (SR 33) MP 2.590	27,460	20,410	2.0%	2.0%	549	408	-141
Washington Street (SR 35)	1	E. Broadway/Old Knoxville Hwy (SR 33) MP 2.590	US 411 (SR 35) MP 2.820	24,450	18,650	3.0%	3.0%	734	560	-174
	2	US 411 (SR 35) MP 0.000	Lamar Alexander Pkwy (SR 73/US 321) MP 0.160	24,620	27,460	2.0%	2.0%	492	549	57

**PM<sub>2.5</sub> Hot Spot Determination**

**Table 1: Comparison of Diesel Truck Numbers for the No-Build and Build Scenarios (2015) (cont.)**

Route	Section	Begin Milepoint	End Milepoint	2015 No-Build ADT	2015 Build ADT	2015 No-Build % Trucks and Buses	2015 Build % Trucks and Buses	2015 No-Build # Diesel Trucks	2015 Build # Diesel Trucks	Change in Volume (Build - No-Build)
US 411 (SR 35)	1	Washington St (SR 35) MP 2.320	Westfield Dr MP 4.510	13,910	13,490	3.0%	3.0%	417	405	-13
	2	Westfield Dr MP 4.510	Near Peppermint Rd 6.510	10,660	12,590	4.0%	3.0%	426	590	-37
	3	Near Peppermint Rd 6.510	End of Study Area 7.330	6,560	5,520	7.0%	7.0%	437	596	110
E. Broadway / Old Knoxville Highway (SR 33)	1	Beginning of Study Area MP 7.354	Montgomery Lane MP 10.201	33,910	33,510	9.0%	9.0%	3502	3496	-36
	2	Montgomery Lane MP 10.201	Hall Rd MP 12.340	19,720	19,500	9.0%	9.0%	1775	1751	16
	3	Hall Rd MP 12.340	Midwood Rd MP 14.206	13,170	11,300	2.0%	3.0%	263	339	76
	4	Midwood Rd MP 14.206	Hunt Rd MP 15.470	13,330	11,210	2.0%	3.0%	267	336	70
	5	Hunt Rd MP 15.470	William M. Mill Rd MP 17.420	34,360	33,200	2.0%	4.0%	637	1523	-341
	6	William M. Mill Rd MP 17.420	County Line MP 20.640	19,350	15,360	2.0%	2.0%	337	307	-30
Alcoa Highway (SR 115 / US 129)	1	Broadway Ave MP 10.450	Lamar Alexander Pkwy (SR 73/US 321) MP 11.340	32,550	31,840	10.0%	10.0%	3255	3184	-71
	2	Lamar Alexander Pkwy (SR 73/US 321) MP 11.340	Hall Rd (SR 35) MP 14.280	47,740	46,180	10.0%	8.0%	4774	3634	-1030
	3	Hall Rd (SR 35) MP 14.280	Hunt Rd MP 15.020	56,100	52,920	8.0%	8.0%	4488	4234	-254
	4	Hunt Rd MP 15.020	Pellissippi Pkwy MP 17.660	31,570	35,480	8.0%	8.0%	2526	2838	313
	5	Pellissippi Pkwy MP 17.660	County Line MP 20.400	22,670	31,870	8.0%	8.0%	1814	2550	736
Relocated Alcoa Highway	1	Alcoa Highway (SR 115 / US 129)	Pellissippi Pkwy	37,100	30,170	8.0%	8.0%	2968	2414	-554
	2	Pellissippi Pkwy	Alcoa Highway (SR 115 / US 129)	50,900	50,300	8.0%	8.0%	4072	4024	-48

Pellissippi Parkway Extension

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**PELLISSIPPI PARKWAY EXTENSION**

**PM<sub>2.5</sub> Hot Spot Determination**

**Table 2: Comparison of Diesel Truck Numbers for the No-Build and Build Scenarios (2035)**

Route	Section	Begin Milepoint	End Milepoint	2035 No-Build ADT	2035 Build ADT	2035 No-Build % Trucks and Buses	2035 Build % Trucks and Buses	2035 No-Build # Diesel Trucks	2035 Build # Diesel Trucks	Change in Volume (Build - No-Build)
Wildwood Road	1	E. Broadway/Old Knoxville Hwy (SR 33) MP 0.000	End of Study Area MP 4.740	6,250	4,720	2.0%	2.0%	125	94	-31
Pellissippi Parkway	1	Topside Rd MP 0.810	Alcoa Hwy (SR 115/US 129) MP 2.240	62,310	63,690	7.0%	7.0%	4362	4458	97
	2	Alcoa Hwy (SR 115/US 129) MP 2.240	Relocated Alcoa Highway MP 3.240	39,240	28,410	5.0%	5.0%	1962	1421	-542
	3	Relocated Alcoa Highway MP 3.240	E. Broadway/Old Knoxville Hwy (SR 33) MP 4.710	60,080	76,720	5.0%	5.0%	3004	3836	832
Lamar Alexander Parkway (SR 73 / US 321)	1	Beginning of Study Area MP 8.250	Alcoa Hwy (SR 115/US 129) MP 10.570	45,270	45,980	7.0%	7.0%	3169	3219	50
	2	Alcoa Hwy (SR 115/US 129) MP 10.570	E. Broadway/Old Knoxville Hwy (SR 33) MP 11.650	37,430	37,320	7.0%	6.0%	2620	2239	-381
	3	E. Broadway/Old Knoxville Hwy (SR 33) MP 11.650	Jones Ave MP 12.526	48,380	49,000	7.0%	6.0%	3387	2940	-447
	4	Jones Ave MP 12.520	Merritt Rd MP 13.980	38,610	34,190	4.0%	3.0%	1544	1026	-519
	5	Merritt Rd MP 13.980	Tuckaleechee Pk MP 17.020	41,200	34,560	4.0%	3.0%	1648	1037	-611
	6	Tuckaleechee Pk MP 17.020	MP 19.020	32,620	42,820	5.0%	4.0%	1631	1713	82
	7	MP 19.020	Melrose Station Rd MP 20.020	32,620	37,000	5.0%	5.0%	1631	1850	219
Hall Road (SR 35)	1	Alcoa Hwy (SR 115/US 129) MP 0.000	Bessemer St MP 1.520	23,220	17,730	2.0%	2.0%	464	355	-110
	2	Bessemer St MP 1.520	E. Broadway/Old Knoxville Hwy (SR 33) MP 2.590	27,460	21,520	2.0%	2.0%	549	430	-119
Washington Street (SR 35)	1	E. Broadway/Old Knoxville Hwy (SR 33) MP 2.590	US 411 (SR 35) MP 2.820	25,990	22,090	3.0%	3.0%	780	663	-117
	2	US 411 (SR 35) MP 0.000	Lamar Alexander Pkwy (SR 73/US 321) MP 0.160	37,890	33,060	2.0%	2.0%	758	661	-97

## PM<sub>2.5</sub> Hot Spot Determination

**Table 2: Comparison of Diesel Truck Numbers for the No-Build and Build Scenarios (2035) (cont.)**

Route	Section	Begin Milepoint	End Milepoint	2035 No-Build ADT	2035 Build ADT	2035 No-Build % Trucks and Buses	2035 Build % Trucks and Buses	2035 No-Build # Diesel Trucks	2035 Build # Diesel Trucks	Change in Volume (Build - No-Build)
US 411 (SR 35)	1	Washington St (SR 35) MP 2.820	Westfield Dr MP 4.510	16,310	14,520	3.0%	3.0%	507	448	-60
	2	Westfield Dr MP 4.510	Near Peppermint Rd 6.510	14,240	13,610	4.0%	3.0%	570	498	-161
	3	Near Peppermint Rd 6.510	End of Study Area 7.930	9,670	10,650	7.0%	7.0%	677	746	69
E. Broadway / Old Knoxville Highways; (SR 33)	1	Beginning of Study Area MP 7.854	Montgomery Lane MP 10.201	46,390	46,770	9.0%	9.0%	4229	4209	-20
	2	Montgomery Lane MP 10.201	Hall Rd MP 12.340	30,340	30,080	9.0%	9.0%	2765	2707	-77
	3	Hall Rd MP 12.340	Wildwood Rd MP 14.206	25,060	13,550	2.0%	3.0%	501	557	55
	4	Wildwood Rd MP 14.206	Hunt Rd MP 15.470	24,310	13,350	2.0%	3.0%	486	551	64
	5	Hunt Rd MP 15.470	William H. Mill Rd MP 17.420	65,350	74,860	2.0%	4.0%	1317	2894	1677
	6	William H. Mill Rd MP 17.420	County Line MP 20.640	31,770	27,280	2.0%	2.0%	655	546	-90
Alcoa Highways; (SR 115 / US 129)	1	Broadway Ave MP 10.450	Lamar Alexander Pkwy (SR 73/US 321) MP 11.340	37,280	37,250	10.0%	10.0%	3728	3725	-3
	2	Lamar Alexander Pkwy (SR 73/US 321) MP 11.340	Hall Rd (SR 35) MP 14.280	47,740	53,740	10.0%	8.0%	4774	4299	-475
	3	Hall Rd (SR 35) MP 14.280	Hunt Rd MP 15.020	61,120	58,570	8.0%	8.0%	4850	4686	-204
	4	Hunt Rd MP 15.020	Pellissippi Pkwy MP 17.660	40,280	39,980	8.0%	8.0%	3222	3198	-24
	5	Pellissippi Pkwy MP 17.660	County Line MP 20.400	26,060	30,120	8.0%	8.0%	2085	2410	325
Relocated Alcoa Highways;	1	Alcoa Highway (SR 115 / US 129)	Pellissippi Pkwy	38,450	36,690	8.0%	8.0%	3074	2955	-139
	2	Pellissippi Pkwy	Alcoa Highway (SR 115 / US 129)	62,590	65,930	8.0%	8.0%	5007	5274	267

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**PM<sub>2.5</sub> Hot Spot Determination**

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**Table 3: Diesel Truck Volumes for Build Alternatives A/C**

Begin Milepoint	End Milepoint	2015 ADT	2015 % Trucks and Buses	2015 # Diesel Trucks	2035 ADT	2035 % Trucks and Buses	2035 # Diesel Trucks
E. Broadway/Old Knoxville Hwy (SR 33)	US 411 (SR 35)	36,230	2.0%	725	63,380	2.0%	1268
US 411 (SR 35)	Lamar Alexander Pkwy (SR 73/US 321)	26,780	2.0%	536	52,880	2.0%	1058

**Table 4: Diesel Truck Volumes for Build Alternative D**

Begin Milepoint	End Milepoint	2015 ADT	2015 % Trucks and Buses	2015 # Diesel Trucks	2035 ADT	2035 % Trucks and Buses	2035 # Diesel Trucks
E. Broadway/Old Knoxville Hwy (SR 33)	US 411 (SR 35)	16,970	5.0%	849	22,390	5.0%	1120
US 411 (SR 35)	Lamar Alexander Pkwy (SR 73/US 321)	12,270	5.0%	614	17,240	5.0%	862

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## **APPENDIX C: CAL3QHC AND MOVES FILES**

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**CAL3QHC Results**  
**for the Intersection of Pellissippi Parkway (SR 162/I-140)**  
**and Old Knoxville Highway (SR 33)**

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S1 SR33 & PELLISSIPPI PKWY NBAM' 60.0 0.1 0.0 0.0 108 1 0 0 'PPM' S1 NBA. rds
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'' 234340.2 3966284.2 1.8
'' 234367.8 3966270.6 1.8
'' 234409.0 3966244.1 1.8
'' 234448.6 3966220.1 1.8
'' 234486.6 3966199.8 1.8
'' 234535.6 3966169.0 1.8

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S1 NBA.rds

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' ' 234702.4 3966095.0 1.8
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'SR33OFFSD' 'AG' 234263.4 3966355.8 234189.7 3966222.9 1756 1.73 0.0 9.0
1 1
'SR33OFFS' 'AG' 234189.5 3966222.4 234120.9 3966081.1 1756 1.73 0.0 7.0
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'SR33ONNT' 'AG' 234312.4 3966431.5 234353.6 3966499.9 704 1.73 0.0 9.0
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'SR33ONW' 'AG' 234215.2 3966587.1 234141.9 3966652.9 2596 1.97 0.0 9.0
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'SR33ONW' 'AG' 234141.5 3966652.5 234045.7 3966758.5 2596 1.97 0.0 9.0
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'SR33OFFE' 'AG' 234028.0 3966739.5 234076.6 3966658.2 1500 1.97 0.0 9.0
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1 1
'SR33OFFE' 'AG' 234163.6 3966462.6 234260.3 3966355.3 1500 1.97 0.0 9.0
1.0 0 4 1000.0 0.0 'Y' 10 0 35
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** OUTFILE "C:\Project\TN Pel l i s s i p p i \M o b i l e A n a l y s i s\S1\S1 NBA.lst"
** RAWFILE
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CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:51:50

JOB: S1 SR33 & PELLISSIPPI PKWY NBAM

RUN:

DATE : 06/19/ 0

TIME : 14:51:50

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

#### SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MI XH = 1000. M AMB = 0.0 PPM

#### LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1	X2	Y2	* *	LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33ONS	* 234493.7	*****	234435.7	*****	*	105.	214. AG	1122.	1.7	0.0	6.0	
2. SR33ONS	* 234437.2	*****	234349.0	*****	*	161.	213. AG	1122.	1.7	0.0	9.0	
3. SR33OFFS	* 234343.8	*****	234263.4	*****	*	168.	209. AG	530.	1.7	0.0	9.0	
4. SR33OFFSD	* 234263.4	*****	234189.7	*****	*	152.	209. AG	1756.	1.7	0.0	9.0	
5. SR33OFFS	* 234189.5	*****	234120.9	*****	*	157.	206. AG	1756.	1.7	0.0	7.0	
6. SR33OFFN	* 234125.2	*****	234194.8	*****	*	156.	27. AG	2434.	1.7	0.0	9.0	
7. SR33OFFN	* 234194.4	*****	234269.6	*****	*	154.	29. AG	2434.	1.7	0.0	9.0	
8. SR33ONN	* 234269.2	*****	234312.4	*****	*	90.	29. AG	2708.	1.7	0.0	9.0	
9. SR33ONNL	* 234310.4	*****	234348.0	*****	*	78.	29. AG	2004.	1.7	0.0	9.0	
10. SR33ONNT	* 234312.4	*****	234353.6	*****	*	80.	31. AG	704.	1.7	0.0	9.0	
11. SR33ONND	* 234354.0	*****	234441.6	*****	*	161.	33. AG	704.	1.7	0.0	9.0	
12. SR33ONND	* 234441.6	*****	234496.4	*****	*	104.	32. AG	704.	1.7	0.0	9.0	
13. SR33ONW	* 234339.3	*****	234215.7	*****	*	149.	304. AG	2596.	2.0	0.0	9.0	
14. SR33ONW	* 234215.2	*****	234141.9	*****	*	99.	312. AG	2596.	2.0	0.0	9.0	
15. SR33ONW	* 234141.5	*****	234045.7	*****	*	143.	318. AG	2596.	2.0	0.0	9.0	
16. SR33OFFE	* 234028.0	*****	234076.6	*****	*	95.	149. AG	1500.	2.0	0.0	9.0	
17. SR33OFFE	* 234076.6	*****	234130.4	*****	*	151.	159. AG	1500.	2.0	0.0	9.0	
18. SR33OFFE	* 234130.0	*****	234164.0	*****	*	65.	148. AG	1500.	2.0	0.0	9.0	
19. SR33OFFE	* 234163.6	*****	234260.3	*****	*	144.	138. AG	1500.	2.0	0.0	9.0	

PAGE 2

JOB: S1 SR33 & PELLISSIPPI PKWY NBAM

RUN:

DATE : 06/19/ 0

TIME : 14:51:50

#### ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATI ON FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRI VAL RATE
------------------	--------	--------------------------	----------------------	---------------------------------	--------------------------	--------------------------------------	---------------------------	----------------	------------------

#### RECEPTOR LOCATIONS

RECEPTOR	* *	X	COORDINATES (M) Y	Z	* *
1.	*	234502.9	*****	1.8	*
2.	*	234489.7	*****	1.8	*
3.	*	234476.6	*****	1.8	*
4.	*	234463.5	*****	1.8	*
5.	*	234450.3	*****	1.8	*
6.	*	234444.5	*****	1.8	*
7.	*	234458.4	*****	1.8	*
8.	*	234472.2	*****	1.8	*
9.	*	234486.1	*****	1.8	*
10.	*	234448.0	*****	1.8	*
11.	*	234434.3	*****	1.8	*
12.	*	234420.7	*****	1.8	*
13.	*	234407.0	*****	1.8	*
14.	*	234395.2	*****	1.8	*
15.	*	234383.8	*****	1.8	*
16.	*	234411.2	*****	1.8	*
17.	*	234424.9	*****	1.8	*
18.	*	234347.8	*****	1.8	*
19.	*	234367.1	*****	1.8	*
20.	*	234381.0	*****	1.8	*
21.	*	234394.8	*****	1.8	*
22.	*	234368.5	*****	1.8	*
23.	*	234272.1	*****	1.8	*
24.	*	234259.9	*****	1.8	*
25.	*	234247.6	*****	1.8	*
26.	*	234235.4	*****	1.8	*
27.	*	234189.9	*****	1.8	*
28.	*	234178.7	*****	1.8	*
29.	*	234167.5	*****	1.8	*
30.	*	234156.3	*****	1.8	*
31.	*	234145.2	*****	1.8	*
32.	*	234221.8	*****	1.8	*
33.	*	234115.0	*****	1.8	*
34.	*	234125.9	*****	1.8	*
35.	*	234136.8	*****	1.8	*
36.	*	234147.7	*****	1.8	*
37.	*	234158.6	*****	1.8	*
38.	*	234169.6	*****	1.8	*
39.	*	234220.0	*****	1.8	*
40.	*	234240.7	*****	1.8	*
41.	*	234261.3	*****	1.8	*
42.	*	234282.0	*****	1.8	*
43.	*	234302.7	*****	1.8	*
44.	*	234323.4	*****	1.8	*
45.	*	234147.0	*****	1.8	*

JOB: S1 SR33 &amp; PELLISSIPPI PKWY NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:51:50

## RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M)			
	X	Y	Z	
46.	234165.6	*****	1.8	*
47.	234184.2	*****	1.8	*
48.	234202.8	*****	1.8	*
49.	234051.3	*****	1.8	*
50.	234068.1	*****	1.8	*
51.	234084.9	*****	1.8	*
52.	234101.6	*****	1.8	*
53.	234118.4	*****	1.8	*
54.	234135.2	*****	1.8	*
55.	234070.1	*****	1.8	*
56.	234057.2	*****	1.8	*
57.	234044.4	*****	1.8	*
58.	234031.6	*****	1.8	*
59.	234123.3	*****	1.8	*
60.	234114.4	*****	1.8	*
61.	234105.5	*****	1.8	*
62.	234096.5	*****	1.8	*
63.	234087.6	*****	1.8	*
64.	234078.7	*****	1.8	*
65.	234069.8	*****	1.8	*
66.	234157.5	*****	1.8	*
67.	234144.4	*****	1.8	*
68.	234131.3	*****	1.8	*
69.	234254.7	*****	1.8	*
70.	234237.9	*****	1.8	*
71.	234221.2	*****	1.8	*
72.	234204.4	*****	1.8	*
73.	234187.7	*****	1.8	*
74.	234171.0	*****	1.8	*
75.	234242.4	*****	1.8	*
76.	234224.1	*****	1.8	*
77.	234195.1	*****	1.8	*
78.	234512.2	*****	1.8	*
79.	234600.1	*****	1.8	*
80.	234568.3	*****	1.8	*
81.	234699.3	*****	1.8	*
82.	234028.5	*****	1.8	*
83.	233738.5	*****	1.8	*
84.	233660.8	*****	1.8	*
85.	233615.0	*****	1.8	*
86.	234379.3	*****	1.8	*
87.	234400.1	*****	1.8	*
88.	234420.9	*****	1.8	*
89.	234441.7	*****	1.8	*
90.	234462.5	*****	1.8	*
91.	234504.0	*****	1.8	*
92.	234545.6	*****	1.8	*
93.	234587.2	*****	1.8	*
94.	234628.8	*****	1.8	*
95.	234670.3	*****	1.8	*

JOB: S1 SR33 &amp; PELLISSIPPI PKWY NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:51:50

## RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M)			
	X	Y	Z	
96.	234711.9	*****	1.8	*
97.	234753.5	*****	1.8	*
98.	234294.8	*****	1.8	*
99.	234316.7	*****	1.8	*
100.	234340.2	*****	1.8	*
101.	234367.8	*****	1.8	*
102.	234409.0	*****	1.8	*
103.	234448.6	*****	1.8	*
104.	234486.6	*****	1.8	*
105.	234535.6	*****	1.8	*
106.	234588.2	*****	1.8	*
107.	234639.3	*****	1.8	*
108.	234702.4	*****	1.8	*

JOB: S1 SR33 &amp; PELLISSIPPI PKWY NBAM

RUN:

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0



WIND ANGLE RANGE: 0. -350.

♀

RUN:

PAGE 8

.....

WIND ANGLE RANGE: 0. -350.

♀

RUN:

PAGE 9

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC81	REC82	REC83	REC84	REC85	REC86	REC87	REC88	REC89	REC90	REC91	REC92	REC93	REC94	REC95	REC96	REC97	REC98	REC99	RE100	
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
50.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
230.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
240.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
250.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
MAX DEGR.	*	0	0	0.1	0	0	0	0.2	0.2	0.1	0.1	0.1	0	0	0	0	0	0	0	0.1	0.1	0

♀

JOB: S1 SR33 & PELLISSIPPI PKWY NBAM

RUN:

PAGE 10

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	RE101	RE102	RE103	RE104	RE105	RE106	RE107	RE108
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	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
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

350. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
MAX \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
DEGR. \* 0 0 0 0 0 0 0 0

S1 NBA.1st

THE HIGHEST CONCENTRATION OF 0.60 PPM OCCURRED AT RECEPTOR REC75.

PAGE 11

JOB: S1 SR33 & PELLISSIPPI PKWY NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:51:50

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC1 230	REC2 220	REC3 10	REC4 10	REC5 10	REC6 200	REC7 40	REC8 210	REC9 200	REC10 10	REC11 20	REC12 10	REC13 10	REC14 10	REC15 20	REC16 40	REC17 200	REC18 200	REC19 200	REC20 40
1	*	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2	*	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
12	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	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	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	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	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	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 12

JOB: S1 SR33 & PELLISSIPPI PKWY NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:51:50

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC21 40	REC22 20	REC23 230	REC24 340	REC25 220	REC26 0	REC27 10	REC28 0	REC29 0	REC30 0	REC31 0	REC32 0	REC33 30	REC34 30	REC35 30	REC36 40	REC37 40	REC38 40	REC39 130	REC40 130
1	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
5	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.2	0.2	0.1	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0
7	*	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	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	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 13

JOB: S1 SR33 & PELLISSIPPI PKWY NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:51:50

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC41 130	REC42 140	REC43 140	REC44 150	REC45 140	REC46 140	REC47 140	REC48 150	REC49 140	REC50 140	REC51 150	REC52 150	REC53 150	REC54 140	REC55 0	REC56 0	REC57 10	REC58 120	REC59 140	REC60 140
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.3	0.3	0.3	0.2	0.0	0.1	0.1	0.1	0.0	0.0	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	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.1	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.2	0.0	0.1	0.1	0.1	0.1	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	0.0	0.0	0.0	0.1	0.1	0.1	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

♀

RUN:

PAGE 14

♀

PAGE 15

RUN:

♀

PAGE 16

RUN:

Page 7



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S1 SR33 & PELLISSIPPI PKWY NBPM' 60.0 0.1 0.0 0.0 108 1 0 0 'PPM' S1 NBP.rds
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** RAWFILE

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1

CAL3QHC - (DATED 95221)

S1 NBP.lst

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:52:49

JOB: S1 SR33 &amp; PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0

TIME : 14:52:49

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

## SITE &amp; METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MI XH = 1000. M AMB = 0.0 PPM

## LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33ONS	234493.7	*****	234435.7	*****	105.	214. AG	1038.	1.7	0.0	6.0	
2. SR33ONS	234437.2	*****	234349.0	*****	161.	213. AG	1038.	1.7	0.0	9.0	
3. SR33OFFS	234343.8	*****	234263.4	*****	168.	209. AG	611.	1.7	0.0	9.0	
4. SR33OFFSD	234263.4	*****	234189.7	*****	152.	209. AG	2270.	1.7	0.0	9.0	
5. SR33OFFSD	234189.5	*****	234120.9	*****	157.	206. AG	2270.	1.7	0.0	7.0	
6. SR33OFFN	234125.2	*****	234194.8	*****	156.	27. AG	2026.	1.7	0.0	9.0	
7. SR33OFFN	234194.4	*****	234269.6	*****	154.	29. AG	2026.	1.7	0.0	9.0	
8. SR33ONN	234269.2	*****	234312.4	*****	90.	29. AG	2762.	1.7	0.0	9.0	
9. SR33ONNL	234310.4	*****	234348.0	*****	78.	29. AG	1411.	1.7	0.0	9.0	
10. SR33ONNT	234312.4	*****	234353.6	*****	80.	31. AG	1351.	1.7	0.0	9.0	
11. SR33ONND	234354.0	*****	234441.6	*****	161.	33. AG	1351.	1.7	0.0	9.0	
12. SR33ONND	234441.6	*****	234496.4	*****	104.	32. AG	1351.	1.7	0.0	9.0	
13. SR33ONW	234339.3	*****	234215.7	*****	149.	304. AG	1838.	2.0	0.0	9.0	
14. SR33ONW	234215.2	*****	234141.9	*****	99.	312. AG	1838.	2.0	0.0	9.0	
15. SR33ONW	234141.5	*****	234045.7	*****	143.	318. AG	1838.	2.0	0.0	9.0	
16. SR33OFFE	234028.0	*****	234076.6	*****	95.	149. AG	2395.	2.0	0.0	9.0	
17. SR33OFFE	234076.6	*****	234130.4	*****	151.	159. AG	2395.	2.0	0.0	9.0	
18. SR33OFFE	234130.0	*****	234164.0	*****	65.	148. AG	2395.	2.0	0.0	9.0	
19. SR33OFFE	234163.6	*****	234260.3	*****	144.	138. AG	2395.	2.0	0.0	9.0	

PAGE 2

JOB: S1 SR33 &amp; PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0

TIME : 14:52:49

## ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. SR33ONS	*****	*****	*****	*****	*****	*****	*****	*****
2. SR33ONS	*****	*****	*****	*****	*****	*****	*****	*****
3. SR33OFFS	*****	*****	*****	*****	*****	*****	*****	*****
4. SR33OFFSD	*****	*****	*****	*****	*****	*****	*****	*****
5. SR33OFFSD	*****	*****	*****	*****	*****	*****	*****	*****
6. SR33OFFN	*****	*****	*****	*****	*****	*****	*****	*****
7. SR33OFFN	*****	*****	*****	*****	*****	*****	*****	*****
8. SR33ONN	*****	*****	*****	*****	*****	*****	*****	*****
9. SR33ONNL	*****	*****	*****	*****	*****	*****	*****	*****
10. SR33ONNT	*****	*****	*****	*****	*****	*****	*****	*****
11. SR33ONND	*****	*****	*****	*****	*****	*****	*****	*****
12. SR33ONND	*****	*****	*****	*****	*****	*****	*****	*****
13. SR33ONW	*****	*****	*****	*****	*****	*****	*****	*****
14. SR33ONW	*****	*****	*****	*****	*****	*****	*****	*****
15. SR33ONW	*****	*****	*****	*****	*****	*****	*****	*****
16. SR33OFFE	*****	*****	*****	*****	*****	*****	*****	*****
17. SR33OFFE	*****	*****	*****	*****	*****	*****	*****	*****
18. SR33OFFE	*****	*****	*****	*****	*****	*****	*****	*****
19. SR33OFFE	*****	*****	*****	*****	*****	*****	*****	*****

## RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. SR33ONS	234502.9	*****	1.8
2. SR33ONS	234489.7	*****	1.8
3. SR33OFFS	234476.6	*****	1.8
4. SR33OFFSD	234463.5	*****	1.8
5. SR33OFFSD	234450.3	*****	1.8
6. SR33OFFN	234444.5	*****	1.8
7. SR33OFFN	234458.4	*****	1.8
8. SR33ONN	234472.2	*****	1.8
9. SR33ONNL	234486.1	*****	1.8
10. SR33ONNT	234448.0	*****	1.8
11. SR33ONND	234434.3	*****	1.8
12. SR33ONND	234420.7	*****	1.8
13. SR33ONW	234407.0	*****	1.8
14. SR33ONW	234395.2	*****	1.8
15. SR33ONW	234383.8	*****	1.8
16. SR33OFFE	234411.2	*****	1.8
17. SR33OFFE	234424.9	*****	1.8
18. SR33OFFE	234347.8	*****	1.8
19. SR33OFFE	234367.1	*****	1.8
20. SR33OFFE	234381.0	*****	1.8
21. SR33OFFE	234394.8	*****	1.8
22. SR33OFFE	234368.5	*****	1.8
23. SR33OFFE	234272.1	*****	1.8
24. SR33OFFE	234259.9	*****	1.8
25. SR33OFFE	234247.6	*****	1.8
26. SR33OFFE	234235.4	*****	1.8
27. SR33OFFE	234189.9	*****	1.8
28. SR33OFFE	234178.7	*****	1.8
29. SR33OFFE	234167.5	*****	1.8
30. SR33OFFE	234156.3	*****	1.8
31. SR33OFFE	234145.2	*****	1.8
32. SR33OFFE	234221.8	*****	1.8
33. SR33OFFE	234115.0	*****	1.8
34. SR33OFFE	234125.9	*****	1.8
35. SR33OFFE	234136.8	*****	1.8
36. SR33OFFE	234147.7	*****	1.8
37. SR33OFFE	234158.6	*****	1.8
38. SR33OFFE	234169.6	*****	1.8
39. SR33OFFE	234220.0	*****	1.8
40. SR33OFFE	234240.7	*****	1.8
41. SR33OFFE	234261.3	*****	1.8
42. SR33OFFE	234282.0	*****	1.8
43. SR33OFFE	234302.7	*****	1.8
44. SR33OFFE	234323.4	*****	1.8
45. SR33OFFE	234147.0	*****	1.8

JOB: S1 SR33 &amp; PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0  
TIME : 14:52:49

## RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
46.	234165.6	*****	1.8
47.	234184.2	*****	1.8
48.	234202.8	*****	1.8
49.	234051.3	*****	1.8
50.	234068.1	*****	1.8
51.	234084.9	*****	1.8
52.	234101.6	*****	1.8
53.	234118.4	*****	1.8
54.	234135.2	*****	1.8
55.	234070.1	*****	1.8
56.	234057.2	*****	1.8
57.	234044.4	*****	1.8
58.	234031.6	*****	1.8
59.	234123.3	*****	1.8
60.	234114.4	*****	1.8
61.	234105.5	*****	1.8
62.	234096.5	*****	1.8
63.	234087.6	*****	1.8
64.	234078.7	*****	1.8
65.	234069.8	*****	1.8
66.	234157.5	*****	1.8
67.	234144.4	*****	1.8
68.	234131.3	*****	1.8
69.	234254.7	*****	1.8
70.	234237.9	*****	1.8
71.	234221.2	*****	1.8
72.	234204.4	*****	1.8
73.	234187.7	*****	1.8
74.	234171.0	*****	1.8
75.	234242.4	*****	1.8
76.	234224.1	*****	1.8
77.	234195.1	*****	1.8
78.	234512.2	*****	1.8
79.	234600.1	*****	1.8
80.	234568.3	*****	1.8
81.	234699.3	*****	1.8
82.	234028.5	*****	1.8
83.	233738.5	*****	1.8
84.	233660.8	*****	1.8
85.	233615.0	*****	1.8
86.	234379.3	*****	1.8
87.	234400.1	*****	1.8
88.	234420.9	*****	1.8
89.	234441.7	*****	1.8
90.	234462.5	*****	1.8
91.	234504.0	*****	1.8
92.	234545.6	*****	1.8
93.	234587.2	*****	1.8
94.	234628.8	*****	1.8
95.	234670.3	*****	1.8

PAGE 4

JOB: S1 SR33 &amp; PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0  
TIME : 14:52:49

## RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
96.	234711.9	*****	1.8
97.	234753.5	*****	1.8
98.	234291.4	*****	1.8
99.	234382.7	*****	1.8
100.	234435.3	*****	1.8
101.	234487.9	*****	1.8
102.	234542.9	*****	1.8
103.	234599.8	*****	1.8
104.	234657.4	*****	1.8
105.	234309.6	*****	1.8
106.	234334.6	*****	1.8
107.	234360.9	*****	1.8
108.	234410.9	*****	1.8

PAGE 5

JOB: S1 SR33 &amp; PELLISSIPPI PKWY NBPM

RUN:

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0

											S1 NBP.1st																			
20.	*	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.2	0.2	0.2	0.0	0.0	0.0	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	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.2	
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.2	0.2	
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.2	
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	
200.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.2	0.1	0.0	
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	
220.	*	0.1	0.1	0.3	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	
230.	*	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
240.	*	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
250.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
260.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
270.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
280.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
290.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
300.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAX																				0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.4	0.2	0.2	
DEGR.											230	230	220	10	220	200	50	210	110	220	20	0	0	220	10	40	40	200	50	

JOB: S1 SR33 & PELLISSIPPI PKWY NBPM RUN: PAGE 6

# MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

## WIND \* CONCENTRATION

ANGLE (DEGR)	* REC21	* REC22	* REC23	* REC24	* REC25	* REC26	* REC27	* REC28	* REC29	* REC30	* REC31	* REC32	* REC33	* REC34	* REC35	* REC36	* REC37	* REC38	* REC39	* REC40
0.	* 0.0	* 0.1	* 0.1	* 0.2	* 0.3	* 0.2	* 0.1	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0
10.	* 0.0	* 0.2	* 0.1	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0
20.	* 0.0	* 0.2	* 0.1	* 0.1	* 0.1	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0
30.	* 0.0	* 0.1	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.5	* 0.5	* 0.5	* 0.4	* 0.4	* 0.3	* 0.0	* 0.0
40.	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.4	* 0.4	* 0.3	* 0.3	* 0.4	* 0.5	* 0.0	* 0.0
50.	* 0.1	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.3	* 0.3	* 0.3	* 0.3	* 0.3	* 0.4	* 0.0	* 0.0
60.	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.3	* 0.3	* 0.3	* 0.3	* 0.3	* 0.3	* 0.0	* 0.0
70.	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0
80.	* 0.1	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0
90.	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0
100.	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0
110.	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0
120.	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0
130.	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2
140.	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2
150.	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2
160.	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.1	* 0.1
170.	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.1	* 0.1
180.	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.3	* 0.3	* 0.3	* 0.3	* 0.3	* 0.1	* 0.1
190.	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.3	* 0.3	* 0.3	* 0.3	* 0.1	* 0.1
200.	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.3	* 0.3	* 0.3	* 0.1	* 0.1
210.	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1	* 0.1	* 0.1	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1
220.	* 0.0	* 0.2	* 0.2	* 0.2	* 0.3	* 0.2	* 0.2	* 0.1	* 0.0	* 0.0	* 0.0	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1
230.	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.1	* 0.0	* 0.0	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1
240.	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1
250.	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1
260.	* 0.0	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1
270.	* 0.0	* 0.1	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.1	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1
280.	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.1	* 0.1
290.	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2
300.	* 0.0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2
310.	* 0.0	* 0.1	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.2	* 0.2
320.	* 0.0	* 0.1	* 0.3	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0
330.	* 0.0	* 0.1	* 0.4	* 0.3	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0
340.	* 0.0	* 0.1	* 0.3	* 0.3	* 0.3	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0
350.	* 0.0	* 0.1	* 0.1	* 0.3	* 0.3	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0
MAX DEGR.	* 0	* 0.2	* 0.4	* 0.3	* 0.3	* 0	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.2	* 0.5	* 0.5	* 0.5	* 0.4	* 0.4	* 0.5	* 0.2	* 0.2
	* 40	* 10	* 330	* 330	* 0	* 0	* 10	* 10	* 0	* 0	* 0	* 0	* 30	* 30	* 30	* 30	* 30	* 40	* 130	* 130

S1 NBP. Ist

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RUN:

PAGE 8

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WIND ANGLE RANGE: 0. -350.

♀

RUN:

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC81	REC82	REC83	REC84	REC85	REC86	REC87	REC88	REC89	REC90	REC91	REC92	REC93	REC94	REC95	REC96	REC97	REC98	REC99	RE100
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
MAX DEGR.	*	0	0	0	0	0	300	240	300	300	300	0	0	0	0	0	0	0	240	310	0

♀

JOB: S1 SR33 & PELLISSIPPI PKWY NBPM

RUN:

PAGE 10

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	RE101	RE102	RE103	RE104	RE105	RE106	RE107	RE108
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	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
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
320.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

350. \* 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0  
MAX \* 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.1  
DEGR. \* 0 0 0 0 320 310 310 310

S1 NBP.lst

THE HIGHEST CONCENTRATION OF 0.70 PPM OCCURRED AT RECEPTOR REC77.

PAGE 11

JOB: S1 SR33 & PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0  
TIME : 14:52:49

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC1 230	REC2 230	REC3 220	REC4 10	REC5 220	REC6 200	REC7 50	REC8 210	REC9 110	REC10 220	REC11 20	REC12 0	REC13 0	REC14 220	REC15 10	REC16 40	REC17 40	REC18 200	REC19 50	REC20 50
1	*	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
2	*	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
11	*	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1
12	*	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	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	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	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	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	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 12

JOB: S1 SR33 & PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0  
TIME : 14:52:49

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC21 40	REC22 10	REC23 330	REC24 330	REC25 0	REC26 0	REC27 10	REC28 0	REC29 0	REC30 0	REC31 0	REC32 0	REC33 30	REC34 30	REC35 30	REC36 30	REC37 30	REC38 40	REC39 130	REC40 130
1	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	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	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	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 13

JOB: S1 SR33 & PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0  
TIME : 14:52:49

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC41 130	REC42 140	REC43 300	REC44 190	REC45 290	REC46 140	REC47 140	REC48 130	REC49 160	REC50 140	REC51 140	REC52 140	REC53 290	REC54 290	REC55 110	REC56 110	REC57 120	REC58 90	REC59 140	REC60 140
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.2	0.0	0.0	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	0.0	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.1	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.2	0.2	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2

Page 6



S1 NBPLst

18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1

PAGE 14

JOB: S1 SR33 & PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0  
TIME : 14:52:49

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																					
		REC61	REC62	REC63	REC64	REC65	REC66	REC67	REC68	REC69	REC70	REC71	REC72	REC73	REC74	REC75	REC76	REC77	REC78	REC79	REC80		
		150	150	150	150	110	340	130	140	200	80	330	330	330	330	40	200	200	0	0	0		
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	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	0.0	0.0	0.0	0.0	0.0	0.1	0.3	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	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0		
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0		
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	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	0.1	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
17	*	0.2	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0		
18	*	0.1	0.1	0.1	0.0	0.0	0.3	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0		
19	*	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.2	0.0	0.2	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0		

JOB: S1 SR33 & PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0  
TIME : 14:52:49

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																				
		REC81 0	REC82 0	REC83 0	REC84 0	REC85 0	REC86 300	REC87 240	REC88 300	REC89 300	REC90 300	REC91 0	REC92 0	REC93 0	REC94 0	REC95 0	REC96 0	REC97 0	REC98 240	REC99 310	RE100 0	
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0		
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0		
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	0.2	0.0	0.1	0.1	0.1	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	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	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	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0		

JOB: S1 SR33 & PELLISSIPPI PKWY NBPM

RUN:

DATE : 06/19/ 0  
TIME : 14:52:49

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)		RE101	RE102	RE103	RE104	RE105	RE106	RE107	RE108
		0	0	0	0	320	310	310	310	310	310
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	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	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1

S1 BDA. rds

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'S1 SR33 & PELLISSIPPI PKWY PRE ALT AM' 60.0 0.1 0.0 0.0 104 1 0 0 'PPM'
'' 234502.87 3966718.71 1.8
'' 234489.74 3966697.43 1.8
'' 234476.61 3966676.16 1.8
'' 234463.48 3966654.88 1.8
'' 234450.35 3966633.61 1.8
'' 234444.49 3966662.78 1.8
'' 234458.36 3966683.59 1.8
'' 234472.23 3966704.39 1.8
'' 234486.09 3966725.19 1.8
'' 234447.97 3966629.75 1.8
'' 234434.32 3966608.81 1.8
'' 234420.66 3966587.86 1.8
'' 234407.01 3966566.92 1.8
'' 234395.2 3966546.1 1.8
'' 234383.8 3966525.8 1.8
'' 234411.15 3966611.72 1.8
'' 234424.86 3966632.63 1.8
'' 234347.8 3966523.3 1.8
'' 234367.1 3966551.0 1.8
'' 234381.0 3966571.7 1.8
'' 234394.8 3966592.7 1.8
'' 234368.49 3966502.5 1.8
'' 234272.1 3966322.23 1.8
'' 234259.87 3966300.43 1.8
'' 234247.63 3966278.62 1.8
'' 234235.4 3966256.82 1.8
'' 234189.88 3966164.86 1.8
'' 234178.7 3966142.5 1.8
'' 234167.52 3966120.14 1.8
'' 234156.34 3966097.78 1.8
'' 234145.16 3966075.42 1.8
'' 234221.8 3966224.5 1.8
'' 234114.96 3966083.98 1.8
'' 234125.88 3966106.47 1.8
'' 234136.8 3966128.96 1.8
'' 234147.72 3966151.45 1.8
'' 234158.64 3966173.94 1.8
'' 234169.56 3966196.43 1.8
'' 234242.4 3966329.7 1.8
'' 234224.1 3966296.0 1.8
'' 234195.1 3966243.2 1.8
'' 234512.2 3966621.9 1.8
'' 234600.1 3966550.8 1.8
'' 234568.3 3966699.6 1.8
'' 234699.3 3966476.9 1.8
'' 234028.5 3966030.6 1.8
'' 233738.5 3966129.8 1.8
'' 233660.8 3966260.8 1.8
'' 233615.0 3966344.1 1.8
'' 234070.7 3966652.71 1.8
'' 234044.96 3966695.58 1.8
'' 234131.5 3966492.16 1.8
'' 234113.71 3966538.89 1.8
'' 234095.93 3966585.62 1.8
'' 234078.14 3966632.35 1.8
'' 234034.49 3966796.38 1.8
'' 234065.12 3966756.86 1.8
'' 234095.76 3966717.34 1.8
'' 234126.39 3966677.82 1.8
'' 234234.87 3966368.42 1.8
'' 234218.81 3966387.58 1.8
'' 234202.75 3966406.74 1.8
'' 234186.7 3966425.9 1.8
'' 234170.64 3966445.06 1.8
'' 234154.58 3966464.23 1.8
'' 234138.53 3966483.39 1.8
'' 234153.6 3966653.16 1.8
'' 234173.29 3966637.75 1.8
'' 234192.97 3966622.35 1.8
'' 234212.66 3966606.94 1.8
'' 234232.35 3966591.54 1.8
'' 234252.04 3966576.13 1.8
'' 234271.73 3966560.73 1.8
'' 234291.42 3966545.32 1.8
'' 234311.11 3966529.91 1.8
'' 234330.8 3966514.51 1.8
'' 234697.28 3966086.4 1.8
'' 234653.89 3966111.27 1.8
'' 234610.51 3966136.13 1.8
'' 234567.13 3966160.99 1.8
'' 234523.75 3966185.85 1.8
'' 234480.37 3966210.71 1.8
'' 234458.68 3966223.14 1.8
'' 234436.99 3966235.57 1.8
'' 234415.3 3966248.0 1.8
'' 234393.61 3966260.43 1.8
'' 234371.92 3966272.86 1.8
'' 234350.23 3966285.29 1.8
'' 234328.54 3966297.72 1.8
'' 234306.84 3966310.15 1.8
'' 234285.15 3966322.59 1.8
'' 234378.0 3966480.6 1.8
'' 234398.9 3966466.9 1.8
'' 234419.81 3966453.19 1.8
'' 234440.72 3966439.48 1.8
'' 234461.63 3966425.78 1.8
'' 234482.53 3966412.07 1.8
'' 234503.44 3966398.36 1.8
'' 234524.35 3966384.66 1.8
'' 234566.16 3966357.24 1.8
'' 234607.98 3966329.83 1.8
'' 234649.79 3966302.41 1.8
'' 234691.61 3966275.0 1.8
'' 234733.42 3966247.59 1.8
'' 29 1 1 'C'

```

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** BREEZE
** PROJECTN "C:\PROJECT\TN PELL I SSI PPI \MOBI LE ANALYSI S\S1\SR33&PELL I SSI PPI 1.JPG" "S1 SR33&PELL I SSI PPI 1" 3 UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1
** MAPLAYER 1 1 233569.9 234985.04 3966012.94 3966888.93
** OUTFILE "C:\Project\TN Pel li ssi ppi \Mobi le Anal ysi s\S1\S1 BDA.l st"
** RAWFILE

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1

CAL3QHC - (DATED 95221)

S1 BDA.1st

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:50:21

JOB: S1 SR33 &amp; PELLISSIPPI PKWY PRE ALT AM

RUN:

DATE : 06/19/ 0

TIME : 14:50:21

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

## SITE &amp; METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MI XH = 1000. M AMB = 0.0 PPM

## LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1 X2	Y2	* LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33ONS	* 234493.7	***** 234435.7	*****	* 105.	214. AG	1119.	1.7	0.0	6.0	
2. SR33ONS	* 234437.2	***** 234349.0	*****	* 161.	213. AG	1119.	1.7	0.0	9.0	
3. SR33OFFSD	* 234263.4	***** 234189.7	*****	* 152.	209. AG	1713.	1.7	0.0	9.0	
4. SR33OFFSD	* 234189.5	***** 234120.9	*****	* 157.	206. AG	1713.	1.7	0.0	7.0	
5. SR33OFFN	* 234125.2	***** 234194.8	*****	* 156.	27. AG	2428.	1.7	0.0	9.0	
6. SR33ONN	* 234269.2	***** 234312.4	*****	* 90.	29. AG	2215.	1.7	0.0	9.0	
7. SR33ONNL	* 234310.4	***** 234348.0	*****	* 78.	29. AG	1578.	1.7	0.0	9.0	
8. SR33ONNT	* 234312.4	***** 234353.6	*****	* 80.	31. AG	637.	1.7	0.0	9.0	
9. SR33ONND	* 234354.0	***** 234441.6	*****	* 161.	33. AG	1139.	1.7	0.0	9.0	
10. SR33ONND	* 234441.6	***** 234496.4	*****	* 104.	32. AG	1139.	1.7	0.0	9.0	
11. SR33ONS	* 234412.0	***** 234402.3	*****	* 18.	213. AG	9. 100.0	0.0	6.0	0.54	3.0
12. SR33ONNL	* 234325.1	***** 235982.1	*****	* 3309.	30. AG	5. 100.0	0.0	3.0	3.00	551.5
13. SR33ONNT	* 234320.7	***** 234331.1	*****	* 20.	31. AG	5. 100.0	0.0	3.0	0.59	3.4
14. SR33OFFN	* 234194.9	***** 234269.7	*****	* 154.	29. AG	2428.	1.7	0.0	12.0	
15. SR33OFFN	* 234230.6	***** 234248.5	*****	* 37.	29. AG	40. 100.0	0.0	3.0	0.48	6.2
16. SR33OFFS	* 234347.8	***** 234294.5	*****	* 102.	211. AG	934.	1.7	0.0	12.0	
17. SR33OFFSL	* 234296.0	***** 234264.0	*****	* 67.	208. AG	224.	1.7	0.0	9.0	
18. SR33OFFSL	* 234284.1	***** 234186.4	*****	* 205.	208. AG	13. 100.0	0.0	3.0	1.27	34.1
19. SR33OFFST	* 234291.1	***** 234260.4	*****	* 68.	207. AG	710.	1.7	0.0	5.0	
20. SR33OFFST	* 234278.8	***** 234250.3	*****	* 65.	206. AG	7. 100.0	0.0	3.0	0.79	10.8
21. SR33OFFE	* 234034.9	***** 234078.5	*****	* 85.	149. AG	1276.	2.0	0.0	12.0	
22. SR33OFFE	* 234078.5	***** 234140.0	*****	* 173.	159. AG	1276.	2.0	0.0	12.0	
23. SR33OFFE	* 234140.0	***** 234257.9	*****	* 184.	140. AG	1276.	2.0	0.0	12.0	
24. SR33OFFE	* 234189.4	***** 234637.9	*****	* 698.	140. AG	20. 100.0	0.0	6.0	1.42	116.3
25. SR33OFFED	* 234270.8	***** 234701.8	*****	* 497.	120. AG	710.	2.0	0.0	12.0	
26. SR33ONW	* 234752.5	***** 234352.1	*****	* 479.	303. AG	910.	2.0	0.0	12.0	
27. SR33ONW	* 234573.1	***** 234448.9	*****	* 148.	303. AG	20. 100.0	0.0	6.0	1.07	24.7
28. SR33ONWD	* 234337.0	***** 234128.3	*****	* 265.	308. AG	2171.	2.0	0.0	12.0	
29. SR33ONWD	* 234128.3	***** 234027.3	*****	* 165.	322. AG	2171.	2.0	0.0	12.0	

PAGE 2

JOB: S1 SR33 &amp; PELLISSIPPI PKWY PRE ALT AM

RUN:

DATE : 06/19/ 0

TIME : 14:50:21

## ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATI ON FLOW RATE (VPH)	IDLE FAC (gm/hr)	SIGNAL TYPE	ARRI VAL RATE
11. SR33ONS	* 60	19	2.0	1119	1692	5.43	1	3
12. SR33ONNL	* 60	19	2.0	1578	854	5.43	1	3
13. SR33ONNT	* 60	19	2.0	637	1739	5.43	1	3
15. SR33OFFN	* 120	55	2.0	2428	1644	5.43	1	3
18. SR33OFFSL	* 120	104	2.0	224	1774	5.43	1	3
20. SR33OFFST	* 120	55	2.0	710	1773	5.43	1	3
24. SR33OFFE	* 120	81	2.0	1276	1540	5.43	1	3
27. SR33ONW	* 60	41	2.0	910	1710	5.43	1	3

## RECEPTOR LOCATIONS

RECEPTOR	* X	COORDINATES (M) Y	Z	* Z
1.	* 234502.9	*****	1.8	*
2.	* 234489.7	*****	1.8	*
3.	* 234476.6	*****	1.8	*
4.	* 234463.5	*****	1.8	*
5.	* 234450.3	*****	1.8	*
6.	* 234444.5	*****	1.8	*
7.	* 234458.4	*****	1.8	*
8.	* 234472.2	*****	1.8	*
9.	* 234486.1	*****	1.8	*
10.	* 234448.0	*****	1.8	*
11.	* 234434.3	*****	1.8	*
12.	* 234420.7	*****	1.8	*
13.	* 234407.0	*****	1.8	*
14.	* 234395.2	*****	1.8	*
15.	* 234383.8	*****	1.8	*
16.	* 234411.2	*****	1.8	*
17.	* 234424.9	*****	1.8	*
18.	* 234347.8	*****	1.8	*
19.	* 234367.1	*****	1.8	*
20.	* 234381.0	*****	1.8	*
21.	* 234394.8	*****	1.8	*
22.	* 234368.5	*****	1.8	*
23.	* 234272.1	*****	1.8	*
24.	* 234259.9	*****	1.8	*
25.	* 234247.6	*****	1.8	*
26.	* 234235.4	*****	1.8	*
27.	* 234189.9	*****	1.8	*

Page 1

28. \* 234178. 7 \*\*\*\*\* 1.8 \*  
 29. \* 234167. 5 \*\*\*\*\* 1.8 \*  
 30. \* 234156. 3 \*\*\*\*\* 1.8 \*  
 31. \* 234145. 2 \*\*\*\*\* 1.8 \*  
 32. \* 234221. 8 \*\*\*\*\* 1.8 \*  
 33. \* 234115. 0 \*\*\*\*\* 1.8 \*  
 34. \* 234125. 9 \*\*\*\*\* 1.8 \*  
 35. \* 234136. 8 \*\*\*\*\* 1.8 \*  
 36. \* 234147. 7 \*\*\*\*\* 1.8 \*  
 37. \* 234158. 6 \*\*\*\*\* 1.8 \*

S1 BDA.1st

JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT AM

RUN:

DATE : 06/19/ 0  
 TIME : 14: 50: 21

PAGE 3

RECEPTOR LOCATIONS

RECEPTOR	X	COORDINATES (M) Y	Z
38.	234169. 6	*****	1.8
39.	234242. 4	*****	1.8
40.	234224. 1	*****	1.8
41.	234195. 1	*****	1.8
42.	234512. 2	*****	1.8
43.	234600. 1	*****	1.8
44.	234568. 3	*****	1.8
45.	234699. 3	*****	1.8
46.	234028. 5	*****	1.8
47.	233738. 5	*****	1.8
48.	233660. 8	*****	1.8
49.	233615. 0	*****	1.8
50.	234070. 7	*****	1.8
51.	234045. 0	*****	1.8
52.	234131. 5	*****	1.8
53.	234113. 7	*****	1.8
54.	234095. 9	*****	1.8
55.	234078. 1	*****	1.8
56.	234034. 5	*****	1.8
57.	234065. 1	*****	1.8
58.	234095. 8	*****	1.8
59.	234126. 4	*****	1.8
60.	234234. 9	*****	1.8
61.	234218. 8	*****	1.8
62.	234202. 8	*****	1.8
63.	234186. 7	*****	1.8
64.	234170. 6	*****	1.8
65.	234154. 6	*****	1.8
66.	234138. 5	*****	1.8
67.	234153. 6	*****	1.8
68.	234173. 3	*****	1.8
69.	234193. 0	*****	1.8
70.	234212. 7	*****	1.8
71.	234232. 3	*****	1.8
72.	234252. 0	*****	1.8
73.	234271. 7	*****	1.8
74.	234291. 4	*****	1.8
75.	234311. 1	*****	1.8
76.	234330. 8	*****	1.8
77.	234697. 3	*****	1.8
78.	234653. 9	*****	1.8
79.	234610. 5	*****	1.8
80.	234567. 1	*****	1.8
81.	234523. 8	*****	1.8
82.	234480. 4	*****	1.8
83.	234458. 7	*****	1.8
84.	234437. 0	*****	1.8
85.	234415. 3	*****	1.8
86.	234393. 6	*****	1.8
87.	234371. 9	*****	1.8

JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT AM

RUN:

DATE : 06/19/ 0  
 TIME : 14: 50: 21

PAGE 4

RECEPTOR LOCATIONS

RECEPTOR	X	COORDINATES (M) Y	Z
88.	234350. 2	*****	1.8
89.	234328. 5	*****	1.8
90.	234306. 8	*****	1.8
91.	234285. 2	*****	1.8
92.	234378. 0	*****	1.8
93.	234398. 9	*****	1.8
94.	234419. 8	*****	1.8
95.	234440. 7	*****	1.8
96.	234461. 6	*****	1.8
97.	234482. 5	*****	1.8
98.	234503. 4	*****	1.8
99.	234524. 3	*****	1.8
100.	234566. 2	*****	1.8
101.	234608. 0	*****	1.8
102.	234649. 8	*****	1.8
103.	234691. 6	*****	1.8
104.	234733. 4	*****	1.8

JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT AM

RUN:

MODEL RESULTS

PAGE 5

WIND ANGLE (DEGR)	* CONCENTRATION																			
	* (PPM)																			
	* REC1	* REC2	* REC3	* REC4	* REC5	* REC6	* REC7	* REC8	* REC9	* REC10	* REC11	* REC12	* REC13	* REC14	* REC15	* REC16	* REC17	* REC18	* REC19	* REC20
0.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
20.	*	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0
30.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
40.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
50.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
60.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2
70.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1
80.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
90.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
100.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1
110.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
170.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.1
180.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.1
190.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2
200.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.1
210.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0
220.	*	0.1	0.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.0
230.	*	0.2	0.2	0.																

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* *	* CONCENTRATION																			
	*	* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC30 REC31 REC32 REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40																			
	*	* (PPM)																			
	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	*	0.0	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.2	0.1	0.2	0.1	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.4	0.3	0.3	0.3	0.0	0.2
40.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5
50.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.4
60.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
70.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
80.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
90.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
100.	*	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
110.	*	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
120.	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3
130.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.3	0.3
140.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3
150.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3
160.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2
170.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.3	0.2
180.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.4	0.3
190.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.4	0.6	0.5	0.5
200.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.7	0.6
210.	*	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
220.	*	0.0	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.1	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
350.	*	0.0	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0

MAX \* 0.2 0.2 0.3 0.3 0.3 0.3 0.2 0.2 0.2 0.2 S1 BDA Ist 0.2 0.4 0.5 0.4 0.4 0.4 0.5 0.7 0.6  
DEGR. \* 60 10 230 240 220 0 10 0 0 0 0.2 30 30 30 40 40 40 200 200

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JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT AM

RUN:

PAGE 7

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.2
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.2
20.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2
30.	*	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2
40.	*	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1
50.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1
60.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2
70.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.3
80.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.2
90.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.3
100.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.2
110.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.2
120.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.3
130.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.2
140.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.2	0.2
150.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.1
160.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1
170.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2
180.	*	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2
190.	*	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2
200.	*	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
210.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2
MAX DEGR.	*	0.7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3

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JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT AM

RUN:

PAGE 8

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC61	REC62	REC63	REC64	REC65	REC66	REC67	REC68	REC69	REC70	REC71	REC72	REC73	REC74	REC75	REC76	REC77	REC78	REC79	REC80
0.	*	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
60.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
90.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
100.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
110.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
120.	*	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0
140.	*	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0

S1 BDA.1st

290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
320.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
330.	*	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
340.	*	0.2	0.2	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
350.	*	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1
DEGR.	*	330	0	70	130	130	130	140	140	140	140	140	140	140	300	300	300	300	300	80

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JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT AM

RUN:

PAGE 9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE (DEGR)	* REC81	REC82	REC83	REC84	REC85	REC86	REC87	REC88	REC89	REC90	REC91	REC92	REC93	REC94	REC95	REC96	REC97	REC98	REC99	RE100
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
300.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2
310.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
DEGR.	*	80	80	80	80	80	80	80	310	310	250	320	230	130	130	130	130	130	140	170

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JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT AM

RUN:

PAGE 10

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE (DEGR)	* RE101	RE102	RE103	RE104
0.	*	0.0	0.0	0.0
10.	*	0.0	0.0	0.0
20.	*	0.0	0.0	0.0
30.	*	0.0	0.0	0.0
40.	*	0.0	0.0	0.0
50.	*	0.0	0.0	0.0
60.	*	0.0	0.0	0.0
70.	*	0.0	0.0	0.0
80.	*	0.0	0.0	0.0
90.	*	0.0	0.0	0.0
100.	*	0.0	0.0	0.0
110.	*	0.0	0.0	0.0
120.	*	0.0	0.0	0.0
130.	*	0.1	0.1	0.1
140.	*	0.1	0.1	0.1
150.	*	0.1	0.1	0.1
160.	*	0.1	0.1	0.1
170.	*	0.1	0.1	0.1
180.	*	0.1	0.1	0.1
190.	*	0.1	0.1	0.1
200.	*	0.1	0.0	0.1



210.	*	0.1	0.1	0.1	0.1
220.	*	0.1	0.1	0.1	0.1
230.	*	0.1	0.0	0.1	0.1
240.	*	0.1	0.1	0.1	0.1
250.	*	0.1	0.1	0.1	0.1
260.	*	0.1	0.1	0.1	0.1
270.	*	0.1	0.1	0.1	0.1
280.	*	0.1	0.1	0.1	0.1
290.	*	0.2	0.1	0.1	0.1
300.	*	0.2	0.1	0.1	0.1
310.	*	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0
<hr/>					
MAX		0.2	0.1	0.1	0.1
DEGR.	*	290	130	130	140

PAGE 11

RUN:

		CO/LINK (PPM) ANGLE (DEGREES)																			
		REC1 230	REC2 220	REC3 220	REC4 10	REC5 10	REC6 200	REC7 210	REC8 210	REC9 120	REC10 10	REC11 20	REC12 0	REC13 0	REC14 0	REC15 10	REC16 40	REC17 40	REC18 200	REC19 50	REC20 50
LNK #	*																				
1	*	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
2	*	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1
10	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	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	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	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	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	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	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	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															

RUN:

[illegible]

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RUN:

PAGE 13

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RUN:

PAGE 14

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RUN:

PAGE 15

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RUN:

PAGE 16

LIN K #	CO/LI NK (PPM) ANGLE (DEGREES)			
	RE101	RE102	RE103	RE104
	290	130	130	140
1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0
26	0.1	0.1	0.1	0.1
27	0.1	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0

S1 BDP. rds

'S1	SR33 & PELLISSIPPI PKWY PRE ALT PM	60.0	0.1	0.0	0.0	105	1	0	0	'PPM'
'S1	234502.87	3966718.71	1.8							
'S1	234489.74	3966697.43	1.8							
'S1	234476.61	3966676.16	1.8							
'S1	234463.48	3966654.88	1.8							
'S1	234450.35	3966633.61	1.8							
'S1	234444.49	3966662.78	1.8							
'S1	234458.36	3966683.59	1.8							
'S1	234472.23	3966704.39	1.8							
'S1	234486.09	3966725.19	1.8							
'S1	234447.97	3966629.75	1.8							
'S1	234434.32	3966608.81	1.8							
'S1	234420.66	3966587.86	1.8							
'S1	234407.01	3966566.92	1.8							
'S1	234395.2	3966546.1	1.8							
'S1	234383.8	3966525.8	1.8							
'S1	234411.15	3966611.72	1.8							
'S1	234424.86	3966632.63	1.8							
'S1	234347.8	3966523.3	1.8							
'S1	234367.1	3966551.0	1.8							
'S1	234381.0	3966571.7	1.8							
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CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:51:00

JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT PM

RUN:

DATE : 06/19/ 0

TIME : 14:51:00

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

#### SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MI XH = 1000. M AMB = 0.0 PPM

#### LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1 X2	Y2	* LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33ONS	* 234493.7	***** 234435.7	*****	* 105.	214. AG	1051.	1.7	0.0	6.0	
2. SR33ONS	* 234437.2	***** 234349.0	*****	* 161.	213. AG	1051.	1.7	0.0	9.0	
3. SR33OFFSD	* 234263.4	***** 234189.7	*****	* 152.	209. AG	3423.	1.7	0.0	9.0	
4. SR33OFFSD	* 234189.5	***** 234120.9	*****	* 157.	206. AG	3423.	1.7	0.0	7.0	
5. SR33OFFN	* 234125.2	***** 234194.8	*****	* 156.	27. AG	3496.	1.7	0.0	9.0	
6. SR33ONN	* 234269.2	***** 234312.4	*****	* 90.	29. AG	2793.	1.7	0.0	9.0	
7. SR33ONNL	* 234310.4	***** 234348.0	*****	* 78.	29. AG	1237.	1.7	0.0	9.0	
8. SR33ONNT	* 234312.4	***** 234353.6	*****	* 80.	31. AG	1556.	1.7	0.0	9.0	
9. SR33ONND	* 234354.0	***** 234441.6	*****	* 161.	33. AG	1759.	1.7	0.0	9.0	
10. SR33ONND	* 234441.6	***** 234496.4	*****	* 104.	32. AG	1759.	1.7	0.0	9.0	
11. SR33ONS	* 234412.0	***** 234399.0	*****	* 24.	213. AG	7. 100.0	0.0	6.0	0.42	3.9
12. SR33ONNL	* 234325.1	***** 236132.9	*****	* 3610.	30. AG	11. 100.0	0.0	3.0	8.36	601.7
13. SR33ONNT	* 234320.7	***** 234802.7	*****	* 936.	31. AG	3. 100.0	0.0	3.0	1.21	155.9
14. SR33OFFN	* 234194.9	***** 234269.7	*****	* 154.	29. AG	3496.	1.7	0.0	12.0	
15. SR33OFFN	* 234230.6	***** 234265.7	*****	* 73.	29. AG	44. 100.0	0.0	3.0	0.79	12.1
16. SR33OFFS	* 234347.8	***** 234294.5	*****	* 102.	211. AG	961.	1.7	0.0	12.0	
17. SR33OFFSL	* 234296.0	***** 234264.0	*****	* 67.	208. AG	1. 1.7	0.0	9.0		
18. SR33OFFSL	* 234284.1	***** 234284.0	*****	* 0.	210. AG	7. 100.0	0.0	3.0	0.00	0.0
19. SR33OFFST	* 234291.1	***** 234260.4	*****	* 68.	207. AG	961.	1.7	0.0	5.0	
20. SR33OFFST	* 234278.8	***** 233904.1	*****	* 857.	206. AG	7. 100.0	0.0	3.0	1.31	142.8
21. SR33OFFE	* 234034.9	***** 234078.5	*****	* 85.	149. AG	3220.	2.0	0.0	12.0	
22. SR33OFFE	* 234078.5	***** 234140.0	*****	* 173.	159. AG	3220.	2.0	0.0	12.0	
23. SR33OFFE	* 234140.0	***** 234257.9	*****	* 184.	140. AG	3220.	2.0	0.0	12.0	
24. SR33OFFE	* 234189.4	***** 236076.2	*****	* 2936.	140. AG	15. 100.0	0.0	6.0	2.21	489.3
25. SR33OFFED	* 234270.8	***** 234701.8	*****	* 497.	120. AG	1. 2.0	0.0	12.0		
26. SR33ONW	* 234752.5	***** 234352.1	*****	* 479.	303. AG	474.	2.0	0.0	12.0	
27. SR33ONW	* 234573.1	***** 234541.3	*****	* 38.	303. AG	23. 100.0	0.0	6.0	0.72	6.3
28. SR33ONWD	* 234337.0	***** 234128.3	*****	* 265.	308. AG	1663.	2.0	0.0	12.0	
29. SR33ONWD	* 234128.3	***** 234027.3	*****	* 165.	322. AG	1663.	2.0	0.0	12.0	

PAGE 2

JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT PM

RUN:

DATE : 06/19/ 0

TIME : 14:51:00

#### ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATI ON FLOW RATE (VPH)	IDLE FAC (gm/hr)	SIGNAL TYPE	ARRI VAL RATE
11. SR33ONS	* 120	27	2.0	1051	1692	5.43	1	3
12. SR33ONNL	* 120	93	2.0	1237	773	5.43	1	3
13. SR33ONNT	* 120	27	2.0	1556	1739	5.43	1	3
15. SR33OFFN	* 150	75	2.0	3496	1550	5.43	1	3
18. SR33OFFSL	* 150	75	2.0	1	1774	5.43	1	3
20. SR33OFFST	* 150	75	2.0	961	1550	5.43	1	3
24. SR33OFFE	* 150	75	2.0	3220	1539	5.43	1	3
27. SR33ONW	* 120	93	2.0	474	1710	5.43	1	3

#### RECEPTOR LOCATIONS

RECEPTOR	* X	COORDINATES (M) Y Z	* Z
1.	* 234502.9	*****	* 1.8
2.	* 234489.7	*****	* 1.8
3.	* 234476.6	*****	* 1.8
4.	* 234463.5	*****	* 1.8
5.	* 234450.3	*****	* 1.8
6.	* 234444.5	*****	* 1.8
7.	* 234458.4	*****	* 1.8
8.	* 234472.2	*****	* 1.8
9.	* 234486.1	*****	* 1.8
10.	* 234448.0	*****	* 1.8
11.	* 234434.3	*****	* 1.8
12.	* 234420.7	*****	* 1.8
13.	* 234407.0	*****	* 1.8
14.	* 234395.2	*****	* 1.8
15.	* 234383.8	*****	* 1.8
16.	* 234411.2	*****	* 1.8
17.	* 234424.9	*****	* 1.8
18.	* 234347.8	*****	* 1.8
19.	* 234367.1	*****	* 1.8
20.	* 234381.0	*****	* 1.8
21.	* 234394.8	*****	* 1.8
22.	* 234368.5	*****	* 1.8
23.	* 234272.1	*****	* 1.8
24.	* 234259.9	*****	* 1.8
25.	* 234247.6	*****	* 1.8
26.	* 234235.4	*****	* 1.8
27.	* 234189.9	*****	* 1.8

28. \* 234178. 7 \*\*\*\*\* 1.8 \*  
 29. \* 234167. 5 \*\*\*\*\* 1.8 \*  
 30. \* 234156. 3 \*\*\*\*\* 1.8 \*  
 31. \* 234145. 2 \*\*\*\*\* 1.8 \*  
 32. \* 234221. 8 \*\*\*\*\* 1.8 \*  
 33. \* 234115. 0 \*\*\*\*\* 1.8 \*  
 34. \* 234125. 9 \*\*\*\*\* 1.8 \*  
 35. \* 234136. 8 \*\*\*\*\* 1.8 \*  
 36. \* 234147. 7 \*\*\*\*\* 1.8 \*  
 37. \* 234158. 6 \*\*\*\*\* 1.8 \*

S1 BDP.lst

JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT PM

RUN:

DATE : 06/19/ 0  
 TIME : 14:51:00

PAGE 3

# RECEPTOR LOCATIONS

RECEPTOR	X	COORDINATES (M) Y	Z
38.	234169. 6	*****	1.8
39.	234242. 4	*****	1.8
40.	234224. 1	*****	1.8
41.	234195. 1	*****	1.8
42.	234512. 2	*****	1.8
43.	234600. 1	*****	1.8
44.	234568. 3	*****	1.8
45.	234699. 3	*****	1.8
46.	234028. 5	*****	1.8
47.	233738. 5	*****	1.8
48.	233660. 8	*****	1.8
49.	233615. 0	*****	1.8
50.	234070. 7	*****	1.8
51.	234045. 0	*****	1.8
52.	234131. 5	*****	1.8
53.	234113. 7	*****	1.8
54.	234095. 9	*****	1.8
55.	234078. 1	*****	1.8
56.	234034. 5	*****	1.8
57.	234065. 1	*****	1.8
58.	234095. 8	*****	1.8
59.	234126. 4	*****	1.8
60.	234234. 9	*****	1.8
61.	234218. 8	*****	1.8
62.	234202. 8	*****	1.8
63.	234186. 7	*****	1.8
64.	234170. 6	*****	1.8
65.	234154. 6	*****	1.8
66.	234138. 5	*****	1.8
67.	234133. 9	*****	1.8
68.	234153. 6	*****	1.8
69.	234173. 3	*****	1.8
70.	234193. 0	*****	1.8
71.	234212. 7	*****	1.8
72.	234232. 3	*****	1.8
73.	234252. 0	*****	1.8
74.	234271. 7	*****	1.8
75.	234291. 4	*****	1.8
76.	234311. 1	*****	1.8
77.	234330. 8	*****	1.8
78.	234697. 3	*****	1.8
79.	234653. 9	*****	1.8
80.	234610. 5	*****	1.8
81.	234567. 1	*****	1.8
82.	234523. 8	*****	1.8
83.	234480. 4	*****	1.8
84.	234437. 0	*****	1.8
85.	234415. 3	*****	1.8
86.	234393. 6	*****	1.8
87.	234371. 9	*****	1.8

JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT PM

RUN:

DATE : 06/19/ 0  
 TIME : 14:51:00

PAGE 4

# RECEPTOR LOCATIONS

RECEPTOR	X	COORDINATES (M) Y	Z
88.	234350. 2	*****	1.8
89.	234328. 5	*****	1.8
90.	234306. 8	*****	1.8
91.	234285. 2	*****	1.8
92.	234357. 1	*****	1.8
93.	234378. 0	*****	1.8
94.	234398. 9	*****	1.8
95.	234419. 8	*****	1.8
96.	234440. 7	*****	1.8
97.	234461. 6	*****	1.8
98.	234482. 5	*****	1.8
99.	234503. 4	*****	1.8
100.	234545. 3	*****	1.8
101.	234587. 1	*****	1.8
102.	234628. 9	*****	1.8
103.	234670. 7	*****	1.8
104.	234712. 5	*****	1.8
105.	234754. 3	*****	1.8

JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT PM

RUN:

MODEL RESULTS

PAGE 5

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0
20.	*	0.0	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.3	0.3	0.1	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0
30.	*	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.3	0.3	0.0	0.1	0.1
40.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.2
50.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.2
60.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2
70.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2
80.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
90.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.2
100.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
110.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
120.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
130.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
140.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
150.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.2
170.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.2
180.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2
190.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.2
200.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.4	0.2	0.3
210.	*	0.0	0.0	0.1	0.0	0.0	0.4	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.1	0.1	0.0
220.	*	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0
230.	*	0.3	0.3	0.2	0.2	0.3	0.1	0.1	0.1	0.0	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0
240.	*	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.0	0.0
250.	*	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0
260.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
270.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
280.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
290.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0
300.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
310.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
MAX DEGR.	*	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.3	0.3
		230	220	220	220	20	210	200	210	110	20	20	230	20	20	10	30	210	200	40	200

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JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT PM

RUN:

PAGE 6

# MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC40
0.	*	0.0	0.1	0.2	0.4	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
10.	*	0.0	0.2	0.2	0.2	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
20.	*	0.0	0.2	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
30.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6	0.6	0.7	0.6	0.5	0.3	0.3
40.	*	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.6	0.6	0.7	0.5	0.9
50.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7
60.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6
70.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
80.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.3	0.3	0.5	0.5
90.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
100.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5
110.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4
120.	*	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.4	0.5
130.	*	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.4	0.4
140.	*	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.3	0.3	0.5	0.5
150.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.3	0.5	0.5
160.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.5	0.4
170.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.5	0.4
180.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.5	0.5	0.5	0.6	0.5
190.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.5	0.5	0.8	0.7
200.	*	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.6	0.9	1.0
210.	*	0.0	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
220.	*	0.0	0.2	0.4	0.5	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.1	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



MAX DEGR.	*	0.3	0.3	0.8	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.7	0.7	0.7	0.7	0.6	0.7	0.9	1.0
		40	230	330	350	350	0	0	0	0	0	0	0	40	40	40	30	30	40	200	200

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JOB: S1 SR33 &amp; PELLISSIPPI PKWY PRE ALT PM

RUN:

PAGE 7

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE (DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.2
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.2
20.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2
30.	*	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2
40.	*	1.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2
50.	*	0.6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2
60.	*	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.3
70.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.3
80.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.3
90.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.3
100.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.3
110.	*	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.5
120.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.5
130.	*	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.1	0.4
140.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.6	0.3	0.3	0.1	0.1	0.1	0.2	0.3
150.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.0	0.4	0.5	0.5	0.2	0.2	0.1	0.1	0.2
160.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.3	0.2	0.3	0.1	0.2
170.	*	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
180.	*	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2
190.	*	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2
200.	*	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2
210.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.4
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.4
MAX DEGR.	*	1.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.5	0.4	0.4	0.6	0.5	0.5	0.3	0.2	0.3	0.2	0.6
		200	0	0	0	0	50	0	0	0	150	120	130	140	150	150	160	150	160	140	330

♀

JOB: S1 SR33 &amp; PELLISSIPPI PKWY PRE ALT PM

RUN:

PAGE 8

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE (DEGR)	*	REC61	REC62	REC63	REC64	REC65	REC66	REC67	REC68	REC69	REC70	REC71	REC72	REC73	REC74	REC75	REC76	REC77	REC78	REC79	REC80
0.	*	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
60.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
70.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
80.	*	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.4	0.4	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.4	0.4	0.5	0.5	0.5	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
140.	*	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0
150.	*	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0
160.	*	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
170.	*	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
180.	*	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0
190.	*	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
230.	*	0.0																			

S1 BDP.lst

280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
320.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.5	0.5	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.4	0.3	0.3	0.4	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.3	0.3	0.3	0.3	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.5	0.5	0.5	0.5	0.6	0.5	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0
DEGR.	*	330	330	330	330	340	350	300	290	290	140	300	140	140	140	140	200	200	0	0

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JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT PM

RUN:

PAGE 9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND \* CONCENTRATION

ANGLE (DEGR)	* REC81	REC82	REC83	REC84	REC85	REC86	REC87	REC88	REC89	REC90	REC91	REC92	REC93	REC94	REC95	REC96	REC97	REC98	REC99	RE100
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	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	0.3	0.1	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	0.3	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	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
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.4	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.3	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1
310.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.7	0.4	0.3	0.1	0.2	0.1	0.1	0.1	0.2
DEGR.	*	0	0	0	310	310	310	310	310	230	310	320	210	220	130	230	130	130	130	140

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JOB: S1 SR33 & PELLISSIPPI PKWY PRE ALT PM

RUN:

PAGE 10

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND \* CONCENTRATION

ANGLE (DEGR)	* RE101	RE102	RE103	RE104	RE105
0.	*	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.0
20.	*	0.0	0.0	0.0	0.0
30.	*	0.0	0.0	0.0	0.0
40.	*	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0
130.	*	0.1	0.1	0.0	0.0
140.	*	0.1	0.1	0.0	0.0
150.	*	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0

## S1 BDP.1st

```

200. * 0.0 0.0 0.0 0.0 0.0
210. * 0.0 0.0 0.0 0.0 0.0
220. * 0.0 0.0 0.0 0.0 0.0
230. * 0.0 0.0 0.0 0.0 0.0
240. * 0.0 0.0 0.0 0.0 0.0
250. * 0.0 0.0 0.0 0.0 0.0
260. * 0.0 0.0 0.0 0.0 0.0
270. * 0.1 0.0 0.0 0.0 0.0
280. * 0.1 0.0 0.0 0.0 0.0
290. * 0.2 0.1 0.1 0.1 0.1
300. * 0.1 0.1 0.1 0.1 0.1
310. * 0.0 0.0 0.0 0.0 0.0
320. * 0.0 0.0 0.0 0.0 0.0
330. * 0.0 0.0 0.0 0.0 0.0
340. * 0.0 0.0 0.0 0.0 0.0
350. * 0.0 0.0 0.0 0.0 0.0

```

```

MAX * 0.2 0.1 0.1 0.1 0.1
DEGR. * 290 130 140 290 290

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THE HIGHEST CONCENTRATION OF 1.00 PPM OCCURRED AT RECEPTOR REC41.

PAGE 11

♀

JOB: S1 SR33 &amp; PELLISSIPPI PKWY PRE ALT PM

RUN:

DATE : 06/19/ 0  
TIME : 14:51:00

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC1 230	REC2 220	REC3 220	REC4 220	REC5 20	REC6 210	REC7 200	REC8 210	REC9 110	REC10 20	REC11 20	REC12 230	REC13 20	REC14 20	REC15 10	REC16 30	REC17 210	REC18 200	REC19 40	REC20 200
1	*	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
9	*	0.0	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.1
10	*	0.2	0.2	0.1	0.0	0.2	0.0	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.1	0.1
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	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	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	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	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 12

♀

JOB: S1 SR33 &amp; PELLISSIPPI PKWY PRE ALT PM

RUN:

DATE : 06/19/ 0  
TIME : 14:51:00

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC21 40	REC22 230	REC23 330	REC24 350	REC25 350	REC26 0	REC27 0	REC28 0	REC29 0	REC30 0	REC31 0	REC32 0	REC33 40	REC34 40	REC35 40	REC36 30	REC37 30	REC38 40	REC39 200	REC40 200
1	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.5	0.5
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.4	0.4	0.2	0.2	0.2	0.0	0.1
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.0	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.1
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.2
15	*	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
21	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 13

RUN:

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

PAGE 14

RUN:

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

PAGE 15

RUN:

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

Page 7

[illegible]

RUN:

LIN#	#	CO/LIN# (PPM)				
		ANGLE (DEGREES)				
		RE101 290	RE102 130	RE103 140	RE104 290	RE105 290
1	*	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0
4	*	0.0	0.0	0.0	0.0	0.0
5	*	0.0	0.0	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.0	0.0	0.0	0.0
25	*	0.0	0.0	0.0	0.0	0.0
26	*	0.1	0.1	0.1	0.1	0.1
27	*	0.1	0.0	0.0	0.0	0.0
28	*	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0

										S1 Al tDA. rds			
'S1	SR33 & PELLISSIPPI PKWY ALT D AM'	60.0	0.1	0.0	0.0	108	1	0	0	'PPM'			
'S1	234502.87	3966718.71	1.8										
'S1	234489.74	3966697.43	1.8										
'S1	234476.61	3966676.16	1.8										
'S1	234463.48	3966654.88	1.8										
'S1	234450.35	3966633.61	1.8										
'S1	234444.49	3966662.78	1.8										
'S1	234458.36	3966683.59	1.8										
'S1	234472.23	3966704.39	1.8										
'S1	234486.09	3966725.19	1.8										
'S1	234447.97	3966629.75	1.8										
'S1	234434.32	3966608.81	1.8										
'S1	234420.66	3966587.86	1.8										
'S1	234407.01	3966566.92	1.8										
'S1	234395.2	3966546.1	1.8										
'S1	234383.8	3966525.8	1.8										
'S1	234411.15	3966611.72	1.8										
'S1	234424.86	3966632.63	1.8										
'S1	234347.8	3966523.3	1.8										
'S1	234367.1	3966551.0	1.8										
'S1	234381.0	3966571.7	1.8										
'S1	234394.8	3966592.7	1.8										
'S1	234368.49	3966502.5	1.8										
'S1	234272.1	3966322.23	1.8										
'S1	234259.87	3966300.43	1.8										
'S1	234247.63	3966278.62	1.8										
'S1	234235.4	3966256.82	1.8										
'S1	234189.88	3966164.86	1.8										
'S1	234178.7	3966142.5	1.8										
'S1	234167.52	3966120.14	1.8										
'S1	234156.34	3966097.78	1.8										
'S1	234145.16	3966075.42	1.8										
'S1	234221.8	3966224.5	1.8										
'S1	234114.96	3966083.98	1.8										
'S1	234125.88	3966106.47	1.8										
'S1	234136.8	3966128.96	1.8										
'S1	234147.72	3966151.45	1.8										
'S1	234158.64	3966173.94	1.8										
'S1	234169.56	3966196.43	1.8										
'S1	234219.97	3966593.39	1.8										
'S1	234240.65	3966579.35	1.8										
'S1	234261.34	3966565.31	1.8										
'S1	234282.02	3966551.27	1.8										
'S1	234302.71	3966537.22	1.8										
'S1	234323.39	3966523.18	1.8										
'S1	234146.98	3966658.56	1.8										
'S1	234165.58	3966641.86	1.8										
'S1	234184.18	3966625.16	1.8										
'S1	234202.79	3966608.45	1.8										
'S1	234051.34	3966763.6	1.8										
'S1	234068.1	3966745.05	1.8										
'S1	234084.86	3966726.5	1.8										
'S1	234101.63	3966707.95	1.8										
'S1	234118.39	3966689.41	1.8										
'S1	234135.15	3966670.86	1.8										
'S1	234070.08	3966654.3	1.8										
'S1	234057.25	3966675.76	1.8										
'S1	234044.42	3966697.22	1.8										
'S1	234031.59	3966718.68	1.8										
'S1	234123.3	3966515.09	1.8										
'S1	234114.38	3966538.44	1.8										
'S1	234105.46	3966561.8	1.8										
'S1	234096.55	3966585.16	1.8										
'S1	234087.63	3966608.51	1.8										
'S1	234078.71	3966631.87	1.8										
'S1	234069.79	3966655.22	1.8										
'S1	234157.53	3966458.61	1.8										
'S1	234144.42	3966479.9	1.8										
'S1	234131.31	3966501.19	1.8										
'S1	234254.65	3966350.21	1.8										
'S1	234237.92	3966368.78	1.8										
'S1	234221.18	3966387.35	1.8										
'S1	234204.44	3966405.93	1.8										
'S1	234187.71	3966424.5	1.8										
'S1	234170.97	3966443.07	1.8										
'S1	234242.4	3966329.7	1.8										
'S1	234224.1	3966296.0	1.8										
'S1	234195.1	3966243.2	1.8										
'S1	234512.2	3966621.9	1.8										
'S1	234600.1	3966550.8	1.8										
'S1	234568.3	3966699.6	1.8										
'S1	234699.3	3966476.9	1.8										
'S1	234028.5	3966030.6	1.8										
'S1	233738.5	3966129.8	1.8										
'S1	233660.8	3966260.8	1.8										
'S1	233615.0	3966344.1	1.8										
'S1	234379.34	3966483.37	1.8										
'S1	234400.13	3966469.48	1.8										
'S1	234420.91	3966455.59	1.8										
'S1	234441.7	3966441.7	1.8										
'S1	234462.48	3966427.81	1.8										
'S1	234504.05	3966400.03	1.8										
'S1	234545.63	3966372.24	1.8										
'S1	234587.2	3966344.46	1.8										
'S1	234628.77	3966316.68	1.8										
'S1	234670.34	3966288.9	1.8										
'S1	234711.91	3966261.11	1.8										
'S1	234753.48	3966233.33	1.8										
'S1	234294.8	3966309.2	1.8										
'S1	234316.7	3966297.7	1.8										
'S1	234340.2	3966284.2	1.8										
'S1	234367.8	3966270.6	1.8										
'S1	234409.0	3966244.1	1.8										
'S1	234448.6	3966220.1	1.8										
'S1	234486.6	3966199.8	1.8										
'S1	234535.6	3966169.0	1.8										

S1 Al tDA. rds

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'' 234588.2 3966140.3 1.8
'' 234639.3 3966119.0 1.8
'' 234702.4 3966095.0 1.8
'' 22 1 1 'C'
1 1
'SR330NS' 'AG' 234493.7 3966725.6 234435.7 3966638.6 2018 1.73 0.0 6.0
1 1
'SR330NS' 'AG' 234437.2 3966637.6 234349.0 3966503.0 2018 1.73 0.0 9.0
1 1
'SR330FFS' 'AG' 234343.8 3966503.6 234263.4 3966355.6 949 1.73 0.0 9.0
1 1
'SR330FFSD' 'AG' 234263.4 3966355.8 234189.7 3966222.9 4264 1.73 0.0 9.0
1 1
'SR330FFS' 'AG' 234189.5 3966222.4 234120.9 3966081.1 4264 1.73 0.0 7.0
1 1
'SR330FFN' 'AG' 234125.2 3966079.1 234194.8 3966218.3 3130 1.73 0.0 9.0
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'SR330NN' 'AG' 234269.2 3966352.3 234312.4 3966431.5 4716 1.73 0.0 9.0
1 1
'SR330NNL' 'AG' 234310.4 3966432.7 234348.0 3966500.7 2037 1.73 0.0 9.0
1 1
'SR330NNT' 'AG' 234312.4 3966431.5 234353.6 3966499.9 2679 1.73 0.0 9.0
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'SR330NND' 'AG' 234354.0 3966499.5 234441.6 3966633.9 2679 1.73 0.0 9.0
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'SR330NW' 'AG' 234339.3 3966503.2 234215.7 3966587.1 3106 1.97 0.0 9.0
1 1
'SR330NW' 'AG' 234215.2 3966587.1 234141.9 3966652.9 3106 1.97 0.0 9.0
1 1
'SR330NW' 'AG' 234141.5 3966652.5 234045.7 3966758.5 3106 1.97 0.0 9.0
1 1
'SR330FFE' 'AG' 234028.0 3966739.5 234076.6 3966658.2 4903 1.97 0.0 9.0
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'SR330FFE' 'AG' 234076.6 3966658.7 234130.4 3966517.8 4903 1.97 0.0 9.0
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'SR330FFE' 'AG' 234130.0 3966517.8 234164.0 3966462.6 4903 1.97 0.0 9.0
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'SR330FFE' 'AG' 234163.6 3966462.6 234260.3 3966355.3 4903 1.97 0.0 9.0
2 1
'SR330NS' 'AG' 234303.0 3966429.3 234267.2 3966362.5 0.0 3.0 1
150 100 2 949 5.43 1550 1 3
2 1
'SR330FFN' 'AG' 234217.8 3966258.9 234265.5 3966345.4 0.0 3.0 1
150 100 2 3130 5.43 1550 1 3
2 1
'SR330FFE' 'AG' 234184.3 3966439.5 234253.0 3966364.5 0.0 6.0 2
150 50 2 4903 5.43 1539 1 3
1.0 0 4 1000.0 0.0 'Y' 10 0 35
** BREEZE
** PROJECTN 0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "C:\PROJECT\TN PELLISSIPPI\MOBILE ANALYSIS\S1\S1 SR33&PELLISSIPPI1.JPG" "S1 SR33&PELLISSIPPI1" 3 UNKNOWN UNKNOWN 1 0 0 0 0 0 1
0 0 0 0 0 0 1 1 233569.9 234985.04 3966012.94 3966888.93
** OUTFILE "C:\Project\TN Pelli ssi ppi \Mobi le Anal ysi s\S1\S1 Al tDA. l st"
** RAWFILE

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1

CAL3QHC - (DATED 95221)

S1 Al tDA.l st

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:48:50

JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D AM

RUN:

DATE : 06/19/ 0  
TIME : 14:48:50

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

## SITE &amp; METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

## LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33ONS	234493.7	*****	234435.7	*****	105.	214. AG	2018.	1.7	0.0	6.0	
2. SR33ONS	234437.2	*****	234349.0	*****	161.	213. AG	2018.	1.7	0.0	9.0	
3. SR33OFFS	234343.8	*****	234263.4	*****	168.	209. AG	949.	1.7	0.0	9.0	
4. SR33OFFSD	234263.4	*****	234189.7	*****	152.	209. AG	4264.	1.7	0.0	9.0	
5. SR33OFFS	234189.5	*****	234120.9	*****	157.	206. AG	4264.	1.7	0.0	7.0	
6. SR33OFFN	234125.2	*****	234194.8	*****	156.	27. AG	3130.	1.7	0.0	9.0	
7. SR33OFFN	234194.4	*****	234269.6	*****	154.	29. AG	3130.	1.7	0.0	9.0	
8. SR33ONN	234269.2	*****	234312.4	*****	90.	29. AG	4716.	1.7	0.0	9.0	
9. SR33ONNL	234310.4	*****	234348.0	*****	78.	29. AG	2037.	1.7	0.0	9.0	
10. SR33ONNT	234312.4	*****	234353.6	*****	80.	31. AG	2679.	1.7	0.0	9.0	
11. SR33ONND	234354.0	*****	234441.6	*****	161.	33. AG	2679.	1.7	0.0	9.0	
12. SR33ONND	234441.6	*****	234496.4	*****	104.	32. AG	2679.	1.7	0.0	9.0	
13. SR33ONW	234339.3	*****	234215.7	*****	149.	304. AG	3106.	2.0	0.0	9.0	
14. SR33ONW	234215.2	*****	234141.9	*****	99.	312. AG	3106.	2.0	0.0	9.0	
15. SR33ONW	234141.5	*****	234045.7	*****	143.	318. AG	3106.	2.0	0.0	9.0	
16. SR33OFFE	234028.0	*****	234076.6	*****	95.	149. AG	4903.	2.0	0.0	9.0	
17. SR33OFFE	234076.6	*****	234130.4	*****	151.	159. AG	4903.	2.0	0.0	9.0	
18. SR33OFFE	234130.0	*****	234164.0	*****	65.	148. AG	4903.	2.0	0.0	9.0	
19. SR33OFFE	234163.6	*****	234260.3	*****	144.	138. AG	4903.	2.0	0.0	9.0	
20. SR33ONS	234303.0	*****	233525.8	*****	1645.	208. AG	10.	100.0	0.0	3.0	2.00 274.1
21. SR33OFFN	234217.8	*****	238418.6	*****	8699.	29. AG	10.	100.0	0.0	3.0	6.59 *****
22. SR33OFFE	234184.3	*****	237373.3	*****	4721.	138. AG	10.	100.0	0.0	6.0	2.49 786.9

PAGE 2

JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D AM

RUN:

DATE : 06/19/ 0  
TIME : 14:48:50

## 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
20. SR33ONS	150	100	2.0	949	1550	5.43	1	3
21. SR33OFFN	150	100	2.0	3130	1550	5.43	1	3
22. SR33OFFE	150	50	2.0	4903	1539	5.43	1	3

## RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1.	234502.9	*****	1.8
2.	234489.7	*****	1.8
3.	234476.6	*****	1.8
4.	234463.5	*****	1.8
5.	234450.3	*****	1.8
6.	234444.5	*****	1.8
7.	234458.4	*****	1.8
8.	234472.2	*****	1.8
9.	234486.1	*****	1.8
10.	234448.0	*****	1.8
11.	234434.3	*****	1.8
12.	234420.7	*****	1.8
13.	234407.0	*****	1.8
14.	234395.2	*****	1.8
15.	234383.8	*****	1.8
16.	234411.2	*****	1.8
17.	234424.9	*****	1.8
18.	234347.8	*****	1.8
19.	234367.1	*****	1.8
20.	234381.0	*****	1.8
21.	234394.8	*****	1.8
22.	234368.5	*****	1.8
23.	234272.1	*****	1.8
24.	234259.9	*****	1.8
25.	234247.6	*****	1.8
26.	234235.4	*****	1.8
27.	234189.9	*****	1.8
28.	234178.7	*****	1.8
29.	234167.5	*****	1.8
30.	234156.3	*****	1.8
31.	234145.2	*****	1.8
32.	234221.8	*****	1.8
33.	234115.0	*****	1.8
34.	234125.9	*****	1.8
35.	234136.8	*****	1.8
36.	234147.7	*****	1.8
37.	234158.6	*****	1.8
38.	234169.6	*****	1.8
39.	234220.0	*****	1.8



40. \* 234240.7 \*\*\*\*\* 1.8 \* S1 AltDA.lst  
 41. \* 234261.3 \*\*\*\*\* 1.8 \*  
 42. \* 234282.0 \*\*\*\*\* 1.8 \*

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D AM

RUN:

DATE : 06/19/ 0  
 TIME : 14:48:50

PAGE 3

# RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
43.	234302.7	*****	1.8
44.	234323.4	*****	1.8
45.	234147.0	*****	1.8
46.	234165.6	*****	1.8
47.	234184.2	*****	1.8
48.	234202.8	*****	1.8
49.	234051.3	*****	1.8
50.	234068.1	*****	1.8
51.	234084.9	*****	1.8
52.	234101.6	*****	1.8
53.	234118.4	*****	1.8
54.	234135.2	*****	1.8
55.	234070.1	*****	1.8
56.	234057.2	*****	1.8
57.	234044.4	*****	1.8
58.	234031.6	*****	1.8
59.	234123.3	*****	1.8
60.	234114.4	*****	1.8
61.	234105.5	*****	1.8
62.	234096.5	*****	1.8
63.	234087.6	*****	1.8
64.	234078.7	*****	1.8
65.	234069.8	*****	1.8
66.	234157.5	*****	1.8
67.	234144.4	*****	1.8
68.	234131.3	*****	1.8
69.	234254.7	*****	1.8
70.	234237.9	*****	1.8
71.	234221.2	*****	1.8
72.	234204.4	*****	1.8
73.	234187.7	*****	1.8
74.	234171.0	*****	1.8
75.	234242.4	*****	1.8
76.	234224.1	*****	1.8
77.	234195.1	*****	1.8
78.	234512.2	*****	1.8
79.	234600.1	*****	1.8
80.	234568.3	*****	1.8
81.	234699.3	*****	1.8
82.	234028.5	*****	1.8
83.	233738.5	*****	1.8
84.	233660.8	*****	1.8
85.	233615.0	*****	1.8
86.	234379.3	*****	1.8
87.	234400.1	*****	1.8
88.	234420.9	*****	1.8
89.	234441.7	*****	1.8
90.	234462.5	*****	1.8
91.	234504.0	*****	1.8
92.	234545.6	*****	1.8

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D AM

RUN:

DATE : 06/19/ 0  
 TIME : 14:48:50

PAGE 4

# RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
93.	234587.2	*****	1.8
94.	234628.8	*****	1.8
95.	234670.3	*****	1.8
96.	234711.9	*****	1.8
97.	234753.5	*****	1.8
98.	234294.8	*****	1.8
99.	234316.7	*****	1.8
100.	234340.2	*****	1.8
101.	234367.8	*****	1.8
102.	234409.0	*****	1.8
103.	234448.6	*****	1.8
104.	234486.6	*****	1.8
105.	234535.6	*****	1.8
106.	234588.2	*****	1.8
107.	234639.3	*****	1.8
108.	234702.4	*****	1.8

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D AM

RUN:

# MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

PAGE 5

## S1 AltDA.lst

WIND ANGLE (DEGR)	* REC1	* REC2	* REC3	* REC4	* REC5	* REC6	* REC7	* REC8	* REC9	* REC10	* REC11	* REC12	* REC13	* REC14	* REC15	* REC16	* REC17	* REC18	* REC19	* REC20
0.	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.1	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.0	0.0	0.0
20.	0.0	0.1	0.3	0.4	0.4	0.1	0.1	0.1	0.1	0.4	0.4	0.5	0.4	0.3	0.3	0.1	0.1	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.0	0.1	0.1
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.3	0.3	0.4
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.3	0.2
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
120.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
130.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
140.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
150.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
160.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
170.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
180.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
190.	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.2	0.2	0.2
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.4	0.4	0.4
210.	0.2	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.5	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.8	0.6	0.3	0.4
220.	0.6	0.4	0.5	0.5	0.4	0.1	0.1	0.1	0.1	0.4	0.4	0.4	0.5	0.3	0.4	0.1	0.1	0.1	0.1	0.0
230.	0.3	0.3	0.3	0.4	0.4	0.0	0.0	0.1	0.0	0.4	0.4	0.4	0.4	0.3	0.3	0.0	0.0	0.1	0.1	0.0
240.	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.1	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.1	0.1	0.0
250.	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.4	0.3	0.0	0.0	0.1	0.1	0.1
260.	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.4	0.3	0.0	0.0	0.1	0.1	0.1
270.	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.1	0.1	0.1
280.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.2	0.1	0.0
290.	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.2	0.1	0.0
300.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.1	0.0	0.0
310.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
320.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
330.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0
MAX DEGR.	0.6	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.8	0.6	0.4	0.4	0.4
	220	220	220	220	20	210	210	210	210	20	20	20	220	250	220	210	210	200	200	40

♀

JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D AM

RUN:

PAGE 6

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* REC21	* REC22	* REC23	* REC24	* REC25	* REC26	* REC27	* REC28	* REC29	* REC30	* REC31	* REC32	* REC33	* REC34	* REC35	* REC36	* REC37	* REC38	* REC39	* REC40
0.	0.0	0.3	0.2	0.3	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.1	0.3	0.3	0.2	0.3	0.5	0.3	0.4	0.3	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
20.	0.1	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.8	0.8	0.8	0.7	0.7	0.0	0.0
40.	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.8	0.7	0.7	0.0	0.0
50.	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.5	0.5	0.5	0.5	0.0	0.0
60.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
70.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.4	0.4	0.4	0.4	0.0	0.0
80.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0
90.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0
100.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0
110.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0
120.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.0	0.0
130.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.4	0.3
140.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3
150.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3
160.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.2	0.2
170.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.2	0.2
180.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.5	0.5	0.5	0.5	0.3	0.3
190.	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.6	0.6	0.6	0.6	0.3	0.3
200.	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.5	0.6	0.7	0.2	0.3
210.	0.5	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.2
220.	0.1	0.4	0.4	0.4	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
230.	0.0	0.3	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
240.	0.0	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
250.	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
260.	0.0	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
270.	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
280.	0.0	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
290.	0.0	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
300.	0.0	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4
310.	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
320.	0.0	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.0	0.2	0.7	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.2	0.4	0.4	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.2	0.1	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
MAX DEGR.	* 0.5 210	* 0.4 220	* 0.7 330	* 0.5 330	* 0.4 0	* 0.5 10	* 0.3 0	* 0.4 10	* 0.3 0	* 0.4 10	* 0.4 10	* 0.4 10	* 0.9 30	* 0.8 30	* 0.8 30	* 0.8 30	* 0.7 40	* 0.7 200	* 0.5 300	* 0.4 290



MAX \* 0.8 0.8 0.8 0.8 0.7 0.9 1.0 0.9 1.1 S1 Alt DA.1st 0.7 0.8 0.8 0.9 0.8 1.1 1.1 1.1 0.1 0.0 0.0  
DEGR. \* 150 150 150 150 150 340 340 140 200 330 330 330 330 330 200 200 200 240 0 0

♀

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D AM

RUN:

PAGE 9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE \* (PPM)  
(DEGR) \* REC81 REC82 REC83 REC84 REC85 REC86 REC87 REC88 REC89 REC90 REC91 REC92 REC93 REC94 REC95 REC96 REC97 REC98 REC99 RE100  
\*  
0. \* 0.0 0.0 0.0 0.0 0.0 0.2 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0  
10. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.1 0.0 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 0.1 0.0 0.0 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 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
40. \* 0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
50. \* 0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
60. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
70. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
80. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
90. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
100. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
110. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
120. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.0  
130. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.0  
140. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.2 0.1  
150. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0  
160. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
170. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
180. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
190. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
200. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
210. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
220. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.0  
230. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.2 0.0  
240. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.1  
250. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.0  
260. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.1  
270. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.1 0.1  
280. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.1 0.1  
290. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.1 0.0  
300. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.2 0.1 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.1  
310. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.3 0.3  
320. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.8 0.5 0.3  
330. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.2 0.1  
340. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.1 0.1  
350. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.0  
\*  
MAX \* 0.0 0.2 0.0 0.0 0.0 0.3 0.2 0.2 0.1 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.8 0.5 0.3  
DEGR. \* 0 40 0 0 0 220 220 230 250 260 300 0 0 0 0 0 0 320 320 310

♀

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D AM

RUN:

PAGE 10

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE \* (PPM)  
(DEGR) \* RE101 RE102 RE103 RE104 RE105 RE106 RE107 RE108  
\*  
0. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
10. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
20. \* 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  
40. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
50. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
60. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
70. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
80. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
90. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
100. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
110. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
120. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
130. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
140. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
150. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
160. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
170. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
180. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
190. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
200. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
210. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
220. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
230. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
240. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
250. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
260. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
270. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
280. \* 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

## S1 AltDA.lst

```

290. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
300. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
310. * 0.2 0.1 0.1 0.1 0.0 0.0 0.0 0.0
320. * 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0
330. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
340. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
350. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
-----
MAX * 0.2 0.1 0.1 0.1 0.0 0.0 0.0 0.0
DEGR. * 310 310 310 310 0 0 0 0

```

THE HIGHEST CONCENTRATION OF 1.10 PPM OCCURRED AT RECEPTOR REC69.

PAGE 11

JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D AM

RUN:

DATE : 06/19/ 0

TIME : 14:48:50

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	CO/LINK ANGLE (DEGREES)	REC1 220	REC2 220	REC3 220	REC4 220	REC5 20	REC6 210	REC7 210	REC8 210	REC9 210	REC10 20	REC11 20	REC12 20	REC13 220	REC14 250	REC15 220	REC16 210	REC17 210	REC18 200	REC19 200	REC20 40
1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.2	0.0	0.1	0.1
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.1	0.0
11	0.1	0.1	0.2	0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0
12	0.3	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.1	0.0	0.0	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	0.0	0.0	0.0	0.0	0.1	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.1
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 12

JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D AM

RUN:

DATE : 06/19/ 0

TIME : 14:48:50

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	CO/LINK ANGLE (DEGREES)	REC21 210	REC22 220	REC23 330	REC24 330	REC25 0	REC26 10	REC27 0	REC28 10	REC29 0	REC30 10	REC31 10	REC32 10	REC33 30	REC34 30	REC35 30	REC36 30	REC37 40	REC38 200	REC39 300	REC40 290
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.0	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.0	0.2	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.0
7	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
8	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
17	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
18	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0
21	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 13

JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D AM

RUN:

DATE : 06/19/ 0

TIME : 14:48:50

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	CO/LINK ANGLE (DEGREES)	REC41 280	REC42 280	REC43 290	REC44 290	REC45 140	REC46 140	REC47 300	REC48 300	REC49 170	REC50 170	REC51 170	REC52 160	REC53 150	REC54 160	REC55 150	REC56 120	REC57 120	REC58 120	REC59 140	REC60 140
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

[illegible]

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D AM

DATE : 06/19/ 0  
TIME : 14:48:50

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

		CO/LINK (PPM)																			
		ANGLE (DEGREES)																			
		REC61	REC62	REC63	REC64	REC65	REC66	REC67	REC68	REC69	REC70	REC71	REC72	REC73	REC74	REC75	REC76	REC77	REC78	REC79	REC80
LINK #	*	150	150	150	150	150	340	340	140	200	330	330	330	330	330	200	200	200	240	0	0
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.8	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.3	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	0.0	0.0	0.0	0.0	0.1	0.1	0.5	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	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	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	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	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	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.4	0.5	0.6	0.6	0.6	0.3	0.5	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.3	0.2	0.1	0.1	0.0	0.5	0.4	0.4	0.0	0.0	0.1	0.1	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.4	0.0	0.6	0.6	0.5	0.4	0.1	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	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	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	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D AM

DATE : 06/19/ 0  
TIME : 14:48:50

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR[illegible]

JOB: S1 SR33 & PELLISSI PPI PKWY ALT D AM

DATE : 06/19/ 0  
TIME : 14:48:50

RECEPTOR - LINK MATRIX X FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	*	CO/LINK (PPM)							
	*	ANGLE (DEGREES)							
	*	RE101	RE102	RE103	RE104	RE105	RE106	RE107	RE108
LINK #	*	310	310	310	310	0	0	0	0

1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	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
5	*	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
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	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
12	*	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
14	*	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
16	*	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
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.2	0.1	0.1	0.1	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
21	*	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

S1 Al tDA. l st

										S1 Al tDP. rds			
'S1	SR33 & PELLISSIPPI	PKWY ALT D PM'	60.0	0.1	0.0	0.0	108	1	0	0	'PPM'		
'S1	234502.87	3966718.71	1.8										
'S1	234489.74	3966697.43	1.8										
'S1	234476.61	3966676.16	1.8										
'S1	234463.48	3966654.88	1.8										
'S1	234450.35	3966633.61	1.8										
'S1	234444.49	3966662.78	1.8										
'S1	234458.36	3966683.59	1.8										
'S1	234472.23	3966704.39	1.8										
'S1	234486.09	3966725.19	1.8										
'S1	234447.97	3966629.75	1.8										
'S1	234434.32	3966608.81	1.8										
'S1	234420.66	3966587.86	1.8										
'S1	234407.01	3966566.92	1.8										
'S1	234395.2	3966546.1	1.8										
'S1	234383.8	3966525.8	1.8										
'S1	234411.15	3966611.72	1.8										
'S1	234424.86	3966632.63	1.8										
'S1	234347.8	3966523.3	1.8										
'S1	234367.1	3966551.0	1.8										
'S1	234381.0	3966571.7	1.8										
'S1	234394.8	3966592.7	1.8										
'S1	234368.49	3966502.5	1.8										
'S1	234272.1	3966322.23	1.8										
'S1	234259.87	3966300.43	1.8										
'S1	234247.63	3966278.62	1.8										
'S1	234235.4	3966256.82	1.8										
'S1	234189.88	3966164.86	1.8										
'S1	234178.7	3966142.5	1.8										
'S1	234167.52	3966120.14	1.8										
'S1	234156.34	3966097.78	1.8										
'S1	234145.16	3966075.42	1.8										
'S1	234221.8	3966224.5	1.8										
'S1	234114.96	3966083.98	1.8										
'S1	234125.88	3966106.47	1.8										
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S1 AI tDP. rds

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** RAWFILE

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1

CAL3QHC - (DATED 95221)

S1 Al tdp. l st

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:49:34

JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D PM

RUN:

DATE : 06/19/ 0  
TIME : 14:49:34

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

## SITE &amp; METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

## LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1 X2	* Y2	* LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33ONS	* 234493.7	***** 234435.7	***** *	105.	214. AG	2646.	1.7	0.0	6.0	
2. SR33ONS	* 234437.2	***** 234349.0	***** *	161.	213. AG	2646.	1.7	0.0	9.0	
3. SR33OFFS	* 234343.8	***** 234263.4	***** *	168.	209. AG	961.	1.7	0.0	9.0	
4. SR33OFFSD	* 234263.4	***** 234189.7	***** *	152.	209. AG	3423.	1.7	0.0	9.0	
5. SR33OFFSD	* 234189.5	***** 234120.9	***** *	157.	206. AG	3423.	1.7	0.0	7.0	
6. SR33OFFN	* 234125.2	***** 234194.8	***** *	156.	27. AG	3496.	1.7	0.0	9.0	
7. SR33OFFN	* 234194.4	***** 234269.6	***** *	154.	29. AG	3496.	1.7	0.0	9.0	
8. SR33ONN	* 234269.2	***** 234312.4	***** *	90.	29. AG	4254.	1.7	0.0	9.0	
9. SR33ONNL	* 234310.4	***** 234348.0	***** *	78.	29. AG	2578.	1.7	0.0	9.0	
10. SR33ONNT	* 234312.4	***** 234353.6	***** *	80.	31. AG	1676.	1.7	0.0	9.0	
11. SR33ONND	* 234354.0	***** 234441.6	***** *	161.	33. AG	1676.	1.7	0.0	9.0	
12. SR33ONND	* 234441.6	***** 234496.4	***** *	104.	32. AG	1676.	1.7	0.0	9.0	
13. SR33ONW	* 234339.3	***** 234215.7	***** *	149.	304. AG	4205.	2.0	0.0	9.0	
14. SR33ONW	* 234215.2	***** 234141.9	***** *	99.	312. AG	4205.	2.0	0.0	9.0	
15. SR33ONW	* 234141.5	***** 234045.7	***** *	143.	318. AG	4205.	2.0	0.0	9.0	
16. SR33OFFE	* 234028.0	***** 234076.6	***** *	95.	149. AG	3220.	2.0	0.0	9.0	
17. SR33OFFE	* 234076.6	***** 234130.4	***** *	151.	159. AG	3220.	2.0	0.0	9.0	
18. SR33OFFE	* 234130.0	***** 234164.0	***** *	65.	148. AG	3220.	2.0	0.0	9.0	
19. SR33OFFE	* 234163.6	***** 234260.3	***** *	144.	138. AG	3220.	2.0	0.0	9.0	
20. SR33ONS	* 234303.0	***** 233898.2	***** *	857.	208. AG	7.	100.0	0.0	3.0	1.31 142.8
21. SR33OFFN	* 234217.8	***** 238523.9	***** *	8917.	29. AG	7.	100.0	0.0	3.0	4.77 *****
22. SR33OFFE	* 234184.3	***** 236167.2	***** *	2936.	138. AG	15.	100.0	0.0	6.0	2.21 489.3

PAGE 2

JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D PM

RUN:

DATE : 06/19/ 0  
TIME : 14:49:34

## 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
20. SR33ONS	* 150	75	2.0	961	1550	5.43	1	3
21. SR33OFFN	* 150	75	2.0	3496	1550	5.43	1	3
22. SR33OFFE	* 150	75	2.0	3220	1539	5.43	1	3

## RECEPTOR LOCATIONS

RECEPTOR	* X	COORDINATES (M) Y	* Z	* Z
1.	* 234502.9	*****	1.8	*
2.	* 234489.7	*****	1.8	*
3.	* 234476.6	*****	1.8	*
4.	* 234463.5	*****	1.8	*
5.	* 234450.3	*****	1.8	*
6.	* 234444.5	*****	1.8	*
7.	* 234458.4	*****	1.8	*
8.	* 234472.2	*****	1.8	*
9.	* 234486.1	*****	1.8	*
10.	* 234448.0	*****	1.8	*
11.	* 234434.3	*****	1.8	*
12.	* 234420.7	*****	1.8	*
13.	* 234407.0	*****	1.8	*
14.	* 234395.2	*****	1.8	*
15.	* 234383.8	*****	1.8	*
16.	* 234411.2	*****	1.8	*
17.	* 234424.9	*****	1.8	*
18.	* 234347.8	*****	1.8	*
19.	* 234367.1	*****	1.8	*
20.	* 234381.0	*****	1.8	*
21.	* 234394.8	*****	1.8	*
22.	* 234368.5	*****	1.8	*
23.	* 234272.1	*****	1.8	*
24.	* 234259.9	*****	1.8	*
25.	* 234247.6	*****	1.8	*
26.	* 234235.4	*****	1.8	*
27.	* 234189.9	*****	1.8	*
28.	* 234178.7	*****	1.8	*
29.	* 234167.5	*****	1.8	*
30.	* 234156.3	*****	1.8	*
31.	* 234145.2	*****	1.8	*
32.	* 234221.8	*****	1.8	*
33.	* 234115.0	*****	1.8	*
34.	* 234125.9	*****	1.8	*
35.	* 234136.8	*****	1.8	*
36.	* 234147.7	*****	1.8	*
37.	* 234158.6	*****	1.8	*
38.	* 234169.6	*****	1.8	*
39.	* 234220.0	*****	1.8	*

40. \* 234240.7 \*\*\*\*\* 1.8 \* S1 Al tdp. l st  
 41. \* 234261.3 \*\*\*\*\* 1.8 \*  
 42. \* 234282.0 \*\*\*\*\* 1.8 \*

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D PM

RUN:

DATE : 06/19/ 0  
 TIME : 14:49:34

PAGE 3

# RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
43.	234302.7	*****	1.8
44.	234323.4	*****	1.8
45.	234147.0	*****	1.8
46.	234165.6	*****	1.8
47.	234184.2	*****	1.8
48.	234202.8	*****	1.8
49.	234051.3	*****	1.8
50.	234068.1	*****	1.8
51.	234084.9	*****	1.8
52.	234101.6	*****	1.8
53.	234118.4	*****	1.8
54.	234135.2	*****	1.8
55.	234070.1	*****	1.8
56.	234057.2	*****	1.8
57.	234044.4	*****	1.8
58.	234031.6	*****	1.8
59.	234123.3	*****	1.8
60.	234114.4	*****	1.8
61.	234105.5	*****	1.8
62.	234096.5	*****	1.8
63.	234087.6	*****	1.8
64.	234078.7	*****	1.8
65.	234069.8	*****	1.8
66.	234157.5	*****	1.8
67.	234144.4	*****	1.8
68.	234131.3	*****	1.8
69.	234254.7	*****	1.8
70.	234237.9	*****	1.8
71.	234221.2	*****	1.8
72.	234204.4	*****	1.8
73.	234187.7	*****	1.8
74.	234171.0	*****	1.8
75.	234242.4	*****	1.8
76.	234224.1	*****	1.8
77.	234195.1	*****	1.8
78.	234512.2	*****	1.8
79.	234600.1	*****	1.8
80.	234568.3	*****	1.8
81.	234699.3	*****	1.8
82.	234028.5	*****	1.8
83.	233738.5	*****	1.8
84.	233660.8	*****	1.8
85.	233615.0	*****	1.8
86.	234379.3	*****	1.8
87.	234400.1	*****	1.8
88.	234420.9	*****	1.8
89.	234441.7	*****	1.8
90.	234462.5	*****	1.8
91.	234504.0	*****	1.8
92.	234545.6	*****	1.8

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D PM

RUN:

DATE : 06/19/ 0  
 TIME : 14:49:34

PAGE 4

# RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
93.	234587.2	*****	1.8
94.	234628.8	*****	1.8
95.	234670.3	*****	1.8
96.	234711.9	*****	1.8
97.	234753.5	*****	1.8
98.	234294.8	*****	1.8
99.	234316.7	*****	1.8
100.	234340.2	*****	1.8
101.	234367.8	*****	1.8
102.	234409.0	*****	1.8
103.	234448.6	*****	1.8
104.	234486.6	*****	1.8
105.	234535.6	*****	1.8
106.	234588.2	*****	1.8
107.	234639.3	*****	1.8
108.	234702.4	*****	1.8

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D PM

RUN:

# MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

PAGE 5

WIND ANGLE (DEGR)	* REC1	* REC2	* REC3	* REC4	* REC5	* REC6	* REC7	* REC8	* REC9	* REC10	* REC11	* REC12	* REC13	* REC14	* REC15	* REC16	* REC17	* REC18	* REC19	* REC20
0.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.1	0.2	0.3	0.3	0.1	0.1	0.1	0.0	0.3	0.3	0.3	0.4	0.3	0.2	0.1	0.1	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.2	0.3	0.2	0.0	0.0	0.1
40.	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.3	0.3	0.3
50.	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3
60.	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3
70.	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2
80.	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2
90.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2
100.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
110.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
120.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
130.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
140.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
150.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
160.	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.2	0.2
170.	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.2	0.2
180.	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.2
190.	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3
200.	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.3	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.5	0.4	0.0	0.0	0.0	0.1	0.2	0.2	0.6	0.5	0.3	0.4	0.3
220.	0.4	0.5	0.4	0.4	0.4	0.1	0.1	0.1	0.0	0.4	0.3	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1
230.	0.4	0.4	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.2	0.3	0.1	0.0	0.1	0.1	0.1
240.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.3	0.2	0.0	0.0	0.1	0.1	0.1
250.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.1	0.0	0.1	0.1	0.1
260.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.2	0.1	0.1
270.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.3	0.0	0.0	0.2	0.1	0.1
280.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.3	0.0	0.0	0.2	0.1	0.1
290.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.2	0.1	0.0
300.	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.2	0.1	0.0
310.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
320.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
330.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
MAX DEGR.	0.4	0.5	0.4	0.4	0.4	0.5	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.6	0.5	0.5	0.4	0.3

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JOB: S1 SR33 &amp; PELLISSIPPI PKWY ALT D PM

RUN:

PAGE 6

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* REC21	* REC22	* REC23	* REC24	* REC25	* REC26	* REC27	* REC28	* REC29	* REC30	* REC31	* REC32	* REC33	* REC34	* REC35	* REC36	* REC37	* REC38	* REC39	* REC40
0.	0.0	0.2	0.1	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.1	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6	0.6	0.6	0.7	0.6	0.0	0.0
40.	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.6	0.5	0.7	0.0	0.0
50.	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
60.	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0
70.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0
80.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.3	0.0	0.0
90.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0
100.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0
110.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0
120.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.1	0.1
130.	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.5	0.5
140.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.3	0.3	0.5	0.5
150.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.3	0.4	0.4
160.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.3	0.3
170.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.3	0.3
180.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.5	0.5	0.5	0.3	0.3
190.	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.5	0.5	0.2	0.2
200.	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.6	0.2	0.2
210.	0.5	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
220.	0.2	0.3	0.4	0.4	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
230.	0.1	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
240.	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
250.	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
260.	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
270.	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
280.	0.1	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
290.	0.1	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
300.	0.0	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4
310.	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2
320.	0.0	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.0	0.2	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.2	0.1	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX DEGR.	* 0.5 210	* 0.5 300	* 0.6 330	* 0.4 220	* 0.4 0	* 0.4 0	* 0.3 0	* 0.3 0	* 0.3 0	* 0.3 0	* 0.3 0	* 0.3 10	* 0.7 40	* 0.7 40	* 0.7 40	* 0.6 30	* 0.7 40	* 0.7 40	* 0.6 30	* 0.5 140

S1 Al tDP. l st

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* *	CONCENTRATION (PPM)																			
	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.2	0.4	0.4
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.3	0.3
20.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
30.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
50.	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.3	0.2	0.3
60.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.2
70.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
80.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
90.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
100.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.2
110.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.2
120.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.2
130.	*	0.4	0.3	0.2	0.0	0.3	0.3	0.3	0.4	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.5	0.4	0.2
140.	*	0.5	0.5	0.4	0.3	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.3	0.3	0.3	0.5	0.6	0.3
150.	*	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.3	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.1	0.2	0.3	0.0	0.4
160.	*	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.1	0.1	0.0	0.0	0.0
170.	*	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.2	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.2	0.2	0.2	0.5	0.3	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0																			

PAGE 8

JOB: S1 SR33 & PELLISSI PPI PKWY ALT D PM

RUN:

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* *	* CONCENTRATION (PPM)																		* *										
	*	REC61	REC62	REC63	REC64	REC65	REC66	REC67	REC68	REC69	REC70	REC71	REC72	REC73	REC74	REC75	REC76	REC77	REC78	REC79	REC80									
0.	*	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0									
10.	*	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0									
20.	*	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0									
30.	*	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.6	0.2	0.2	0.2	0.2	0.4	0.4	0.6	0.0	0.0	0.0	0.0								
40.	*	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.7	0.4	0.2	0.2	0.2	0.7	0.8	0.9	0.0	0.0	0.0	0.0								
50.	*	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.7	0.3	0.2	0.3	0.2	0.2	0.6	0.6	0.6	0.0	0.0	0.0	0.0							
60.	*	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.5	0.5	0.5	0.0	0.0	0.0	0.0								
70.	*	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.4	0.4	0.4	0.0	0.0	0.0	0.0								
80.	*	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.0	0.0	0.0	0.0								
90.	*	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.4	0.4	0.0	0.0	0.0	0.0								
100.	*	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0							
110.	*	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.4	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0							
120.	*	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0							
130.	*	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.3	0.4	0.4	0.3	0.4	0.5	0.5	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0							
140.	*	0.4	0.3	0.3	0.3	0.3	0.2	0.5	0.6	0.4	0.3	0.3	0.1	0.2	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0								
150.	*	0.5	0.5	0.6	0.5	0.5	0.0	0.0	0.0	0.4	0.2	0.2	0.2	0.0	0.0	0.4	0.4	0.4	0.0	0.0	0.0	0.0								
160.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.4	0.2	0.2	0.2	0.0	0.0	0.3	0.4	0.4	0.0	0.0	0									

MAX \* 0.5 0.5 0.6 0.5 0.5 0.5 0.5 0.6 1.0 S1 Al tDP.1st  
DEGR. \* 350 350 150 150 150 340 340 140 200 0.6 0.6 0.6 0.6 0.6 0.8 0.9 1.0 0.0 0.0 0.0

♀

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D PM

RUN:

PAGE 9

MODEL RESULTS

REMARKS : In search of the angle corresponding to  
the maximum concentration, only the first  
angle, of the angles with same maximum  
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE \* (PPM)  
(DEGR) \* REC81 REC82 REC83 REC84 REC85 REC86 REC87 REC88 REC89 REC90 REC91 REC92 REC93 REC94 REC95 REC96 REC97 REC98 REC99 RE100

0.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
20.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.1
310.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2
320.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.1
330.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
340.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
350.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0

MAX \* 0.0 0.2 0.0 0.0 0.0 0.4 0.3 0.2 0.1 0.1 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.5 0.4 0.2  
DEGR. \* 0 50 0 0 0 300 300 230 250 300 300 300 0 0 0 0 0 0 320 310 310

♀

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D PM

RUN:

PAGE 10

MODEL RESULTS

REMARKS : In search of the angle corresponding to  
the maximum concentration, only the first  
angle, of the angles with same maximum  
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE \* (PPM)  
(DEGR) \* RE101 RE102 RE103 RE104 RE105 RE106 RE107 RE108

0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	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
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

S1 At tDP. l st

290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-----									
MAX	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
DEGR.	*	140	310	310	0	0	0	0	0

THE HIGHEST CONCENTRATION OF 1.00 PPM OCCURRED AT RECEPTOR REC77.

PAGE 11

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D PM

RUN:

DATE : 06/19/ 0

TIME : 14:49:34

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC1 220	REC2 220	REC3 220	REC4 220	REC5 220	REC6 210	REC7 200	REC8 210	REC9 200	REC10 220	REC11 230	REC12 220	REC13 20	REC14 20	REC15 220	REC16 210	REC17 210	REC18 200	REC19 210	REC20 40
1	*	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2	*	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.2	0.1	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
11	*	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0
12	*	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	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	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	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	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	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	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	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	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	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	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 12

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D PM

RUN:

DATE : 06/19/ 0

TIME : 14:49:34

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK	#	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC21 210	REC22 300	REC23 330	REC24 220	REC25 0	REC26 0	REC27 0	REC28 0	REC29 0	REC30 0	REC31 0	REC32 10	REC33 40	REC34 40	REC35 40	REC36 30	REC37 30	REC38 40	REC39 300	REC40 140
		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0
5	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.4	0.4	0.4	0.2	0.2	0.2	0.0	0.0	
6	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.0	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.0	0.0
8	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
9	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
14	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.1	0.1	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PAGE 13

JOB: S1 SR33 & PELLISSIPPI PKWY ALT D PM

RUN:

DATE : 06/19/ 0

TIME : 14:49:34

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM) ANGLE (DEGREES)																			
		REC41 140	REC42 300	REC43 290	REC44 300	REC45 140	REC46 300	REC47 300	REC48 300	REC49 170	REC50 150	REC51 150	REC52 290	REC53 310	REC54 300	REC55 150	REC56 120	REC57 120	REC58 120	REC59 140	REC60 140
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	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
5	*	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
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	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
12	*	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
14	*	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
16	*	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
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.1	0.1	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
21	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

S1 Al tDP.1 st

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**CAL3QHC Results**  
**for the Intersection of Old Knoxville Highway (SR 33)**  
**and Sam Houston School Road**

'S2 SR33 & SAM HOUSTON NBAM' 60.0 0.1 0.0 0.0 60 1 0 0 'S2 NBA. rds  
'PPM'

' 234630.93 3967105.58 1.8  
' 234641.44 3967154.46 1.8  
' 234651.96 3967203.34 1.8  
' 234662.47 3967252.22 1.8  
' 234672.99 3967301.11 1.8  
' 234683.5 3967349.99 1.8  
' 234635.1 3967127.9 1.8  
' 234621.41 3967058.41 1.8  
' 234626.37 3967082.91 1.8  
' 234576.52 3966813.9 1.8  
' 234585.93 3966863.01 1.8  
' 234595.35 3966912.11 1.8  
' 234604.77 3966961.22 1.8  
' 234620.91 3966958.74 1.8  
' 234610.83 3966909.76 1.8  
' 234600.75 3966860.79 1.8  
' 234590.66 3966811.82 1.8  
' 234633.39 3967009.3 1.8  
' 234627.71 3966984.95 1.8  
' 234753.35 3967023.01 1.8  
' 234728.8 3967027.71 1.8  
' 234704.24 3967032.41 1.8  
' 234679.69 3967037.11 1.8  
' 234655.14 3967041.82 1.8  
' 234662.7 3967052.79 1.8  
' 234687.25 3967048.09 1.8  
' 234711.81 3967043.39 1.8  
' 234736.36 3967038.68 1.8  
' 234643.2 3967035.3 1.8  
' 234817.18 3967008.06 1.8  
' 234792.88 3967013.93 1.8  
' 234768.58 3967019.81 1.8  
' 234755.72 3967034.44 1.8  
' 234780.02 3967028.57 1.8  
' 234804.32 3967022.69 1.8  
' 234888.33 3966982.82 1.8  
' 234864.76 3966991.16 1.8  
' 234841.19 3966999.5 1.8  
' 234817.63 3967007.83 1.8  
' 234820.27 3967018.78 1.8  
' 234843.84 3967010.44 1.8  
' 234867.41 3967002.1 1.8  
' 234890.97 3966993.77 1.8  
' 235017.21 3966928.05 1.8  
' 234971.19 3966947.6 1.8  
' 234925.17 3966967.15 1.8  
' 234892.39 3966993.25 1.8  
' 234938.41 3966973.7 1.8  
' 234984.43 3966954.15 1.8  
' 234610.89 3966999.94 1.8  
' 234615.15 3967024.57 1.8  
' 234619.41 3967049.21 1.8  
' 234704.91 3967362.38 1.8  
' 234694.6 3967313.45 1.8  
' 234684.29 3967264.53 1.8  
' 234673.98 3967215.6 1.8  
' 234663.66 3967166.68 1.8  
' 234653.35 3967117.75 1.8  
' 234648.19 3967093.29 1.8  
' 234643.04 3967068.83 1.8  
' 20 1 1 'C'

1 1  
'SR33S' 'AG' 234697.9 3967390.3 234636.4 3967104.4 706 1.73 0.0 5.0  
1 1  
'SR33SL' 'AG' 234640.0 3967103.8 234630.9 3967056.6 44 1.73 0.0 6.0  
2 1  
'SR33SL' 'AG' 234639.3 3967098.0 234632.2 3967064.1 0.0 3.0 1  
100 91 2 44 5.43 1566 1 3  
1 1  
'SR33SD' 'AG' 234617.8 3966996.8 234577.8 3966788.2 1190 1.73 0.0 6.0  
1 1  
'SR33N' 'AG' 234581.9 3966793.3 234621.2 3966984.2 720 1.65 0.0 3.5  
1 1  
'SR33NT' 'AG' 234619.9 3966984.2 234633.8 3967055.8 553 1.65 0.0 9.0  
2 1  
'SR33NT' 'AG' 234621.2 3966987.6 234631.8 3967043.6 0.0 3.0 1  
100 52 2 553 5.43 1676 1 3  
1 1  
'SR33NR' 'AG' 234621.9 3966982.5 234634.1 3967034.8 167 1.65 0.0 4.0  
1 1  
'SR33NR' 'AG' 234634.5 3967034.4 234646.0 3967042.9 167 1.65 0.0 4.0  
2 1  
'SR33NR' 'AG' 234622.6 3966988.0 234632.8 3967030.4 0.0 3.0 1  
100 52 2 167 5.43 1449 1 3  
1 1  
'SHW' 'AG' 235019.4 3966933.2 234890.2 3966988.1 645 1.72 0.0 5.0  
1 1  
'SHW' 'AG' 234890.2 3966988.1 234818.4 3967013.5 645 1.72 0.0 5.0  
1 1  
'SHW' 'AG' 234818.5 3967013.5 234754.4 3967029.0 645 1.72 0.0 5.0  
1 1  
'SHW' 'AG' 234754.5 3967029.0 234637.0 3967051.5 645 1.72 0.0 6.0  
2 1  
'SHW' 'AG' 234734.1 3967033.0 234651.3 3967048.8 0.0 6.0 2  
100 56 2 645 5.43 1523 1 3  
1 1  
'SHWR' 'AG' 234646.1 3967052.7 234636.6 3967062.2 117 1.72 0.0 4.0  
1 1  
'SR33SD' 'AG' 234626.9 3967056.7 234616.9 3966998.9 1190 1.73 0.0 6.0  
1 1  
'SR33ND' 'AG' 234634.1 3967056.0 234704.1 3967388.1 670 1.65 0.0 6.0  
1 1  
'SR33ST' 'AG' 234636.1 3967104.4 234625.9 3967057.3 662 1.73 0.0 6.0  
2 1  
'SR33ST' 'AG' 234634.6 3967097.4 234628.0 3967064.8 0.0 3.0 1

S2 NBA. rds

```
100 52 2 662 5.43 1644 1 3
1.0 0 4 1000.0 0.0 'Y' 10 0 35
** BREEZE
** PROJECTN 0 104 7 -177 0 0.9996 500000 0
** MAPPLAYER "C:\PROJECT\TN PELLISSIPPI\MOBILE ANALYSIS\S2\S2 SR33&SAM HOUSTON1.JPG" "S2 SR33&SAM HOUSTON1" 3 UNKNOWN UNKNOWN 1 0 0 0 0 0 1
0 0 0 0 0 1 1 234055.45 235249.6 3966684.5 3967423.7
** OUTFILE "C:\Project\TN Pel l i s s i p p i \M o b i l e A n a l y s i s \S 2 \S 2 NBA. l s t"
** RAWFILE
```

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:45:00

JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:45:00

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

#### SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

#### LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1 X2	* Y2	* LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33S	*	234697.9	***** 234636.4	***** *	292.	192. AG	706.	1.7	0.0	5.0
2. SR33SL	*	234640.0	***** 234630.9	***** *	48.	191. AG	44.	1.7	0.0	6.0
3. SR33SL	*	234639.3	***** 234637.8	***** *	7.	192. AG	13.	100.0	0.0	3.0 0.56 1.2
4. SR33SD	*	234617.8	***** 234577.8	***** *	212.	191. AG	1190.	1.7	0.0	6.0
5. SR33N	*	234581.9	***** 234621.2	***** *	195.	12. AG	720.	1.6	0.0	3.5
6. SR33NT	*	234619.9	***** 234633.8	***** *	73.	11. AG	553.	1.6	0.0	9.0
7. SR33NT	*	234621.2	***** 234630.1	***** *	48.	11. AG	8.	100.0	0.0	3.0 0.75 8.0
8. SR33NR	*	234621.9	***** 234634.1	***** *	54.	13. AG	167.	1.6	0.0	4.0
9. SR33NR	*	234634.5	***** 234646.0	***** *	14.	54. AG	167.	1.6	0.0	4.0
10. SR33NR	*	234622.6	***** 234626.0	***** *	14.	13. AG	8.	100.0	0.0	3.0 0.26 2.4
11. SHW	*	235019.4	***** 234890.2	***** *	140.	293. AG	645.	1.7	0.0	5.0
12. SHW	*	234890.2	***** 234818.4	***** *	76.	290. AG	645.	1.7	0.0	5.0
13. SHW	*	234818.5	***** 234754.4	***** *	66.	284. AG	645.	1.7	0.0	5.0
14. SHW	*	234754.5	***** 234637.0	***** *	120.	281. AG	645.	1.7	0.0	6.0
15. SHW	*	234734.1	***** 234704.6	***** *	30.	281. AG	16.	100.0	0.0	6.0 0.53 5.0
16. SHWR	*	234646.1	***** 234636.6	***** *	13.	315. AG	117.	1.7	0.0	4.0
17. SR33SD	*	234626.9	***** 234616.9	***** *	59.	190. AG	1190.	1.7	0.0	6.0
18. SR33ND	*	234634.1	***** 234704.1	***** *	339.	12. AG	670.	1.6	0.0	6.0
19. SR33ST	*	234636.1	***** 234625.9	***** *	48.	192. AG	662.	1.7	0.0	6.0
20. SR33ST	*	234634.6	***** 234620.4	***** *	72.	191. AG	8.	100.0	0.0	3.0 0.92 12.0

JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:45:00

#### ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* CYCLE LENGTH (SEC)	* RED TIME (SEC)	* CLEARANCE LOST TIME (SEC)	* APPROACH VOL (VPH)	* SATURATION FLOW RATE (VPH)	* IDLE EM FAC (gm/hr)	* SIGNAL TYPE	* ARRIVAL RATE
3. SR33SL	*	100	91	2.0	44	1566	5.43	1 3
7. SR33NT	*	100	52	2.0	553	1676	5.43	1 3
10. SR33NR	*	100	52	2.0	167	1449	5.43	1 3
15. SHW	*	100	56	2.0	645	1523	5.43	1 3
20. SR33ST	*	100	52	2.0	662	1644	5.43	1 3

#### RECEPTOR LOCATIONS

RECEPTOR	* X	COORDINATES (M) Y	* Z	* Z
1.	*	234630.9	*****	1.8
2.	*	234641.4	*****	1.8
3.	*	234652.0	*****	1.8
4.	*	234662.5	*****	1.8
5.	*	234673.0	*****	1.8
6.	*	234683.5	*****	1.8
7.	*	234635.1	*****	1.8
8.	*	234621.4	*****	1.8
9.	*	234626.4	*****	1.8
10.	*	234576.5	*****	1.8
11.	*	234585.9	*****	1.8
12.	*	234595.3	*****	1.8
13.	*	234604.8	*****	1.8
14.	*	234620.9	*****	1.8
15.	*	234610.8	*****	1.8
16.	*	234600.8	*****	1.8
17.	*	234590.7	*****	1.8
18.	*	234633.4	*****	1.8
19.	*	234627.7	*****	1.8
20.	*	234753.3	*****	1.8
21.	*	234728.8	*****	1.8
22.	*	234704.2	*****	1.8
23.	*	234679.7	*****	1.8
24.	*	234655.1	*****	1.8
25.	*	234662.7	*****	1.8
26.	*	234687.2	*****	1.8
27.	*	234711.8	*****	1.8
28.	*	234736.4	*****	1.8
29.	*	234643.2	*****	1.8
30.	*	234817.2	*****	1.8
31.	*	234792.9	*****	1.8
32.	*	234768.6	*****	1.8
33.	*	234755.7	*****	1.8
34.	*	234780.0	*****	1.8
35.	*	234804.3	*****	1.8
36.	*	234888.3	*****	1.8
37.	*	234864.8	*****	1.8
38.	*	234841.2	*****	1.8
39.	*	234817.6	*****	1.8

40. \* 234820.3 \*\*\*\*\* S2 NBA.1st  
1.8 \*

JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

PAGE 3

DATE : 06/19/ 0  
TIME : 14:45:00

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
41.	234843.8	*****	1.8
42.	234867.4	*****	1.8
43.	234891.0	*****	1.8
44.	235017.2	*****	1.8
45.	234971.2	*****	1.8
46.	234925.2	*****	1.8
47.	234892.4	*****	1.8
48.	234938.4	*****	1.8
49.	234984.4	*****	1.8
50.	234610.9	*****	1.8
51.	234615.2	*****	1.8
52.	234619.4	*****	1.8
53.	234704.9	*****	1.8
54.	234694.6	*****	1.8
55.	234684.3	*****	1.8
56.	234674.0	*****	1.8
57.	234663.7	*****	1.8
58.	234653.3	*****	1.8
59.	234648.2	*****	1.8
60.	234643.0	*****	1.8

JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

PAGE 4

MODEL RESULTS

REMARKS : In search of the angle corresponding to  
the maximum concentration, only the first  
angle, of the angles with same maximum  
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND \* CONCENTRATION

ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.1	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
20.	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.2	0.2	0.0
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.2	0.0
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
260.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
270.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
280.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
290.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2
300.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1
310.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
320.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
330.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
350.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.1	0.0

MAX DEGR.	20	20	20	20	20	30	20	20	20	10	10	20	20	200	0	0	0	200	200	200
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JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

PAGE 5

MODEL RESULTS

REMARKS : In search of the angle corresponding to  
the maximum concentration, only the first  
angle, of the angles with same maximum  
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND \* CONCENTRATION

ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
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Page 2



RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

PAGE 8

DATE : 06/19/ 0  
TIME : 14:45:00

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

PAGE 9

DATE : 06/19/ 0  
TIME : 14:45:00

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]



S2 SR33 & SAM HOUSTON NBAM' 60.0 0.1 0.0 0.0 60 1 0 0 S2 NBP. rds  
' PPM'

'	234630.93	3967105.58	1.8						
'	234641.44	3967154.46	1.8						
'	234651.96	3967203.34	1.8						
'	234662.47	3967252.22	1.8						
'	234672.99	3967301.11	1.8						
'	234683.5	3967349.99	1.8						
'	234635.1	3967127.9	1.8						
'	234621.41	3967058.41	1.8						
'	234626.37	3967082.91	1.8						
'	234576.52	3966813.9	1.8						
'	234585.93	3966863.01	1.8						
'	234595.35	3966912.11	1.8						
'	234604.77	3966961.22	1.8						
'	234620.91	3966958.74	1.8						
'	234610.83	3966909.76	1.8						
'	234600.75	3966860.79	1.8						
'	234590.66	3966811.82	1.8						
'	234633.39	3967009.3	1.8						
'	234627.71	3966984.95	1.8						
'	234753.35	3967023.01	1.8						
'	234728.8	3967027.71	1.8						
'	234704.24	3967032.41	1.8						
'	234679.69	3967037.11	1.8						
'	234655.14	3967041.82	1.8						
'	234662.7	3967052.79	1.8						
'	234687.25	3967048.09	1.8						
'	234711.81	3967043.39	1.8						
'	234736.36	3967038.68	1.8						
'	234643.2	3967035.3	1.8						
'	234817.18	3967008.06	1.8						
'	234792.88	3967013.93	1.8						
'	234768.58	3967019.81	1.8						
'	234755.72	3967034.44	1.8						
'	234780.02	3967028.57	1.8						
'	234804.32	3967022.69	1.8						
'	234888.33	3966982.82	1.8						
'	234864.76	3966991.16	1.8						
'	234841.19	3966999.5	1.8						
'	234817.63	3967007.83	1.8						
'	234820.27	3967018.78	1.8						
'	234843.84	3967010.44	1.8						
'	234867.41	3967002.1	1.8						
'	234890.97	3966993.77	1.8						
'	235017.21	3966928.05	1.8						
'	234971.19	3966947.6	1.8						
'	234925.17	3966967.15	1.8						
'	234892.39	3966993.25	1.8						
'	234938.41	3966973.7	1.8						
'	234984.43	3966954.15	1.8						
'	234610.89	3966999.94	1.8						
'	234615.15	3967024.57	1.8						
'	234619.41	3967049.21	1.8						
'	234704.91	3967362.38	1.8						
'	234694.6	3967313.45	1.8						
'	234684.29	3967264.53	1.8						
'	234673.98	3967215.6	1.8						
'	234663.66	3967166.68	1.8						
'	234653.35	3967117.75	1.8						
'	234648.19	3967093.29	1.8						
'	234643.04	3967068.83	1.8						
'	20	1	1						
1	1								
'SR33S'	'AG'	234697.9	3967390.3	234636.4	3967104.4	611	1.73	0.0	5.0
1	1								
'SR33SL'	'AG'	234640.0	3967103.8	234630.9	3967056.6	100	1.73	0.0	6.0
2	1								
'SR33SL'	'AG'	234639.3	3967098.0	234632.2	3967064.1	0.0	3.0	1	
120	90	2	100	5.43	1566	1	3		
1	1								
'SR33SD'	'AG'	234617.8	3966996.8	234577.8	3966788.2	658	1.73	0.0	6.0
1	1								
'SR33N'	'AG'	234581.9	3966793.3	234621.2	3966984.2	1163	1.65	0.0	3.5
1	1								
'SR33NT'	'AG'	234619.9	3966984.2	234633.8	3967055.8	873	1.65	0.0	9.0
2	1								
'SR33NT'	'AG'	234621.2	3966987.6	234631.8	3967043.6	0.0	3.0	1	
120	29	2	873	5.43	1676	1	3		
1	1								
'SR33NR'	'AG'	234621.9	3966982.5	234634.1	3967034.8	290	1.65	0.0	4.0
1	1								
'SR33NR'	'AG'	234634.5	3967034.4	234646.0	3967042.9	290	1.65	0.0	4.0
2	1								
'SR33NR'	'AG'	234622.6	3966988.0	234632.8	3967030.4	0.0	3.0	1	
120	29	2	290	5.43	1449	1	3		
1	1								
'SHW'	'AG'	235019.4	3966933.2	234890.2	3966988.1	173	1.72	0.0	5.0
1	1								
'SHW'	'AG'	234890.2	3966988.1	234818.4	3967013.5	173	1.72	0.0	5.0
1	1								
'SHW'	'AG'	234818.5	3967013.5	234754.4	3967029.0	173	1.72	0.0	5.0
1	1								
'SHW'	'AG'	234754.5	3967029.0	234637.0	3967051.5	173	1.72	0.0	6.0
2	1								
'SHW'	'AG'	234734.1	3967033.0	234651.3	3967048.8	0.0	6.0	2	
120	101	2	173	5.43	1523	1	3		
1	1								
'SHWR'	'AG'	234646.1	3967052.7	234636.6	3967062.2	26	1.72	0.0	4.0
1	1								
'SR33SD'	'AG'	234626.9	3967056.7	234616.9	3966998.9	658	1.73	0.0	6.0
1	1								
'SR33ND'	'AG'	234634.1	3967056.0	234704.1	3967388.1	899	1.65	0.0	6.0
1	1								
'SR33ST'	'AG'	234636.1	3967104.4	234625.9	3967057.3	511	1.73	0.0	6.0
2	1								
'SR33ST'	'AG'	234634.6	3967097.4	234628.0	3967064.8	0.0	3.0	1	

Page 1

S2\_NBP.rds

```
120 29 2 511 5.43 1644 1 3
1.0 0 4 1000.0 0.0 'Y' 10 0 35
** BREEZE
** PROJECTN 0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "C:\PROJECT\TN PELLISSIPPI\MOBILE ANALYSIS\S2\S2 SR33&SAM HOUSTON1.JPG" "S2 SR33&SAM HOUSTON1" 3 UNKNOWN UNKNOWN 1 0 0 0 0 0 1
0 0 0 0 0 1 1 234055.45 235249.6 3966684.5 3967423.7
** OUTFILE "C:\Project\TN Pel l i s s i p p i \M o b i l e A n a l y s i s \S 2 \S 2 N B P . l s t"
** RAWFILE
```

1

CAL3QHC - (DATED 95221)

S2 NBP.1st

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:45:54

JOB: S2 SR33 &amp; SAM HOUSTON NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:45:54

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

## SITE &amp; METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MI XH = 1000. M AMB = 0.0 PPM

## LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1 X2	* Y2	* LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33S	*	234697.9	***** 234636.4	***** *	292.	192. AG	611.	1.7	0.0	5.0
2. SR33SL	*	234640.0	***** 234630.9	***** *	48.	191. AG	100.	1.7	0.0	6.0
3. SR33SL	*	234639.3	***** 234636.2	***** *	15.	192. AG	11. 100.0	0.0	3.0	0.29 2.5
4. SR33SD	*	234617.8	***** 234577.8	***** *	212.	191. AG	658.	1.7	0.0	6.0
5. SR33N	*	234581.9	***** 234621.2	***** *	195.	12. AG	1163.	1.6	0.0	3.5
6. SR33NT	*	234619.9	***** 234633.8	***** *	73.	11. AG	873.	1.6	0.0	9.0
7. SR33NT	*	234621.2	***** 234629.0	***** *	42.	11. AG	4. 100.0	0.0	3.0	0.72 7.0
8. SR33NR	*	234621.9	***** 234634.1	***** *	54.	13. AG	290.	1.6	0.0	4.0
9. SR33NR	*	234634.5	***** 234646.0	***** *	14.	54. AG	290.	1.6	0.0	4.0
10. SR33NR	*	234622.6	***** 234625.9	***** *	14.	13. AG	4. 100.0	0.0	3.0	0.28 2.3
11. SHW	*	235019.4	***** 234890.2	***** *	140.	293. AG	173.	1.7	0.0	5.0
12. SHW	*	234890.2	***** 234818.4	***** *	76.	290. AG	173.	1.7	0.0	5.0
13. SHW	*	234818.5	***** 234754.4	***** *	66.	284. AG	173.	1.7	0.0	5.0
14. SHW	*	234754.5	***** 234637.0	***** *	120.	281. AG	173.	1.7	0.0	6.0
15. SHW	*	234734.1	***** 234719.9	***** *	14.	281. AG	25. 100.0	0.0	6.0	0.45 2.4
16. SHWR	*	234646.1	***** 234636.6	***** *	13.	315. AG	26.	1.7	0.0	4.0
17. SR33SD	*	234626.9	***** 234616.9	***** *	59.	190. AG	658.	1.7	0.0	6.0
18. SR33ND	*	234634.1	***** 234704.1	***** *	339.	12. AG	899.	1.6	0.0	6.0
19. SR33ST	*	234636.1	***** 234625.9	***** *	48.	192. AG	511.	1.7	0.0	6.0
20. SR33ST	*	234634.6	***** 234629.7	***** *	25.	191. AG	4. 100.0	0.0	3.0	0.43 4.1

JOB: S2 SR33 &amp; SAM HOUSTON NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:45:54

## 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. SR33SL	*	120	90	2.0	100	1566	5.43	1 3
7. SR33NT	*	120	29	2.0	873	1676	5.43	1 3
10. SR33NR	*	120	29	2.0	290	1449	5.43	1 3
15. SHW	*	120	101	2.0	173	1523	5.43	1 3
20. SR33ST	*	120	29	2.0	511	1644	5.43	1 3

## RECEPTOR LOCATIONS

RECEPTOR	* X	COORDINATES (M) Y	* Z	* Z
1.	*	234630.9	*****	1.8
2.	*	234641.4	*****	1.8
3.	*	234652.0	*****	1.8
4.	*	234662.5	*****	1.8
5.	*	234673.0	*****	1.8
6.	*	234683.5	*****	1.8
7.	*	234635.1	*****	1.8
8.	*	234621.4	*****	1.8
9.	*	234626.4	*****	1.8
10.	*	234576.5	*****	1.8
11.	*	234585.9	*****	1.8
12.	*	234595.3	*****	1.8
13.	*	234604.8	*****	1.8
14.	*	234620.9	*****	1.8
15.	*	234610.8	*****	1.8
16.	*	234600.8	*****	1.8
17.	*	234590.7	*****	1.8
18.	*	234633.4	*****	1.8
19.	*	234627.7	*****	1.8
20.	*	234753.3	*****	1.8
21.	*	234728.8	*****	1.8
22.	*	234704.2	*****	1.8
23.	*	234679.7	*****	1.8
24.	*	234655.1	*****	1.8
25.	*	234662.7	*****	1.8
26.	*	234687.2	*****	1.8
27.	*	234711.8	*****	1.8
28.	*	234736.4	*****	1.8
29.	*	234643.2	*****	1.8
30.	*	234817.2	*****	1.8
31.	*	234792.9	*****	1.8
32.	*	234768.6	*****	1.8
33.	*	234755.7	*****	1.8
34.	*	234780.0	*****	1.8
35.	*	234804.3	*****	1.8
36.	*	234888.3	*****	1.8
37.	*	234864.8	*****	1.8
38.	*	234841.2	*****	1.8
39.	*	234817.6	*****	1.8

RUN.

RECEPTOR LOCATIONS

	RECEPTOR	X	COORDINATES (M) Y	Z	
41.	*	234843.8	*****	1.8	*
42.	*	234867.4	*****	1.8	*
43.	*	234891.0	*****	1.8	*
44.	*	235017.2	*****	1.8	*
45.	*	234971.2	*****	1.8	*
46.	*	234925.2	*****	1.8	*
47.	*	234892.4	*****	1.8	*
48.	*	234938.4	*****	1.8	*
49.	*	234984.4	*****	1.8	*
50.	*	234610.9	*****	1.8	*
51.	*	234615.2	*****	1.8	*
52.	*	234619.4	*****	1.8	*
53.	*	234704.9	*****	1.8	*
54.	*	234694.6	*****	1.8	*
55.	*	234684.3	*****	1.8	*
56.	*	234674.0	*****	1.8	*
57.	*	234663.7	*****	1.8	*
58.	*	234653.3	*****	1.8	*
59.	*	234648.2	*****	1.8	*
60.	*	234643.0	*****	1.8	*

PAGE 4

RUN:

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)																			
	* REC1	* REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.0	0.1	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0
20.	*	0.2	0.2	0.2	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.1	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.1	0.1	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.1	0.1	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
230.	*	0.0	0.0	0.0	0.0															

PAGE 5

RUN:

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

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

[illegible]

♀

RUN:

WIND ANGLE RANGE: 0. -350.

ANGLE (DEGR)	* *	(PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
20.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	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	0.2	0.1	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
220.	*	0.0	0.0	0.0	0.0																

♀

RUN:

Page 3

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:45:54

PAGE 8

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

JOB: S2 SR33 & SAM HOUSTON NBAM

RUN:

DATE : 06/19/ 0  
TIME : 14:45:54

PAGE 9

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

S2 BDA. rds

S2 SR33 & SAM HOUSTON PREFERRED ALT AM'		60.0	0.1	0.0	0.0	60	1	0	0	'PPM'
'	234630.93	3967105.58	1.8							
'	234641.44	3967154.46	1.8							
'	234651.96	3967203.34	1.8							
'	234662.47	3967252.22	1.8							
'	234672.99	3967301.11	1.8							
'	234683.5	3967349.99	1.8							
'	234635.1	3967127.9	1.8							
'	234621.41	3967058.41	1.8							
'	234626.37	3967082.91	1.8							
'	234576.52	3966813.9	1.8							
'	234585.93	3966863.01	1.8							
'	234595.35	3966912.11	1.8							
'	234604.77	3966961.22	1.8							
'	234620.91	3966958.74	1.8							
'	234610.83	3966909.76	1.8							
'	234600.75	3966860.79	1.8							
'	234590.66	3966811.82	1.8							
'	234633.39	3967009.3	1.8							
'	234627.71	3966984.95	1.8							
'	234753.35	3967023.01	1.8							
'	234728.8	3967027.71	1.8							
'	234704.24	3967032.41	1.8							
'	234679.69	3967037.11	1.8							
'	234655.14	3967041.82	1.8							
'	234662.7	3967052.79	1.8							
'	234687.25	3967048.09	1.8							
'	234711.81	3967043.39	1.8							
'	234736.36	3967038.68	1.8							
'	234643.2	3967035.3	1.8							
'	234817.18	3967008.06	1.8							
'	234792.88	3967013.93	1.8							
'	234768.58	3967019.81	1.8							
'	234755.72	3967034.44	1.8							
'	234780.02	3967028.57	1.8							
'	234804.32	3967022.69	1.8							
'	234888.33	3966982.82	1.8							
'	234864.76	3966991.16	1.8							
'	234841.19	3966999.5	1.8							
'	234817.63	3967007.83	1.8							
'	234820.27	3967018.78	1.8							
'	234843.84	3967010.44	1.8							
'	234867.41	3967002.1	1.8							
'	234890.97	3966993.77	1.8							
'	235017.21	3966928.05	1.8							
'	234971.19	3966947.6	1.8							
'	234925.17	3966967.15	1.8							
'	234892.39	3966993.25	1.8							
'	234938.41	3966973.7	1.8							
'	234984.43	3966954.15	1.8							
'	234610.89	3966999.94	1.8							
'	234615.15	3967024.57	1.8							
'	234619.41	3967049.21	1.8							
'	234704.91	3967362.38	1.8							
'	234694.6	3967313.45	1.8							
'	234684.29	3967264.53	1.8							
'	234673.98	3967215.6	1.8							
'	234663.66	3967166.68	1.8							
'	234653.35	3967117.75	1.8							
'	234648.19	3967093.29	1.8							
'	234643.04	3967068.83	1.8							
'	20	1	1	'C'						
1	1									
'SR33S'	'AG'	234697.9	3967390.3	234636.4	3967104.4	936	1.73	0.0	5.0	
1	1									
'SR33SL'	'AG'	234640.0	3967103.8	234630.9	3967056.6	23	1.73	0.0	6.0	
2	1									
'SR33SL'	'AG'	234639.3	3967098.0	234632.2	3967064.1	0.0	3.0	1		
120	112	2	23	5.43	1566	1	3			
1	1									
'SR33SD'	'AG'	234617.8	3966996.8	234577.8	3966788.2	1187	1.73	0.0	6.0	
1	1									
'SR33N'	'AG'	234581.9	3966793.3	234621.2	3966984.2	1155	1.65	0.0	3.5	
1	1									
'SR33NT'	'AG'	234619.9	3966984.2	234633.8	3967055.8	1068	1.65	0.0	9.0	
2	1									
'SR33NT'	'AG'	234621.2	3966987.6	234631.8	3967043.6	0.0	3.0	1		
120	38	2	1068	5.43	1676	1	3			
1	1									
'SR33NR'	'AG'	234621.9	3966982.5	234634.1	3967034.8	87	1.65	0.0	4.0	
1	1									
'SR33NR'	'AG'	234634.5	3967034.4	234646.0	3967042.9	87	1.65	0.0	4.0	
2	1									
'SR33NR'	'AG'	234622.6	3966988.0	234632.8	3967030.4	0.0	3.0	1		
120	38	2	87	5.43	1449	1	3			
1	1									
'SHW'	'AG'	235019.4	3966933.2	234890.2	3966988.1	335	1.72	0.0	5.0	
1	1									
'SHW'	'AG'	234890.2	3966988.1	234818.4	3967013.5	335	1.72	0.0	5.0	
1	1									
'SHW'	'AG'	234818.5	3967013.5	234754.4	3967029.0	335	1.72	0.0	5.0	
1	1									
'SHW'	'AG'	234754.5	3967029.0	234637.0	3967051.5	335	1.72	0.0	6.0	
2	1									
'SHW'	'AG'	234734.1	3967033.0	234651.3	3967048.8	0.0	6.0	2		
120	90	2	335	5.43	1523	1	3			
1	1									
'SHWR'	'AG'	234646.1	3967052.7	234636.6	3967062.2	61	1.72	0.0	4.0	
1	1									
'SR33SD'	'AG'	234626.9	3967056.7	234616.9	3966998.9	1187	1.73	0.0	6.0	
1	1									
'SR33ND'	'AG'	234634.1	3967056.0	234704.1	3967388.1	1129	1.65	0.0	6.0	
1	1									
'SR33ST'	'AG'	234636.1	3967104.4	234625.9	3967057.3	913	1.73	0.0	6.0	
2	1									
'SR33ST'	'AG'	234634.6	3967097.4	234628.0	3967064.8	0.0	3.0	1		

S2\_BDA.rds

```
120 29 2 913 5.43 1644 1 3
1.0 0 4 1000.0 0.0 'Y' 10 0 35
** BREEZE
** PROJECTN 0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "C:\PROJECT\TN_PELLISSIPPI\MOBILE_ANALYSIS\S2\S2_SR33&SAM_HOUSTON1.JPG" "S2_SR33&SAM_HOUSTON1" 3 UNKNOWN UNKNOWN 1 0 0 0 0 0 1
0 0 0 0 0 1 1 234055.45 235249.6 3966684.5 3967423.7
** OUTFILE "C:\Project\TN_Pellissippi\Mobile_Analysis\S2\S2_BDA.lst"
** RAWFILE
```



CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:42:45

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT AM

RUN:

DATE : 06/19/ 0  
TIME : 14:42:45

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

#### SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MI XH = 1000. M AMB = 0.0 PPM

#### LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1	X2	Y2	* LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33S	*	234697.9	*****	234636.4	*****	292.	192. AG	936.	1.7	0.0	5.0
2. SR33SL	*	234640.0	*****	234630.9	*****	48.	191. AG	23.	1.7	0.0	6.0
3. SR33SL	*	234639.3	*****	234638.4	*****	4.	192. AG	14.	100.0	0.0	3.0 0.44 0.7
4. SR33SD	*	234617.8	*****	234577.8	*****	212.	191. AG	1187.	1.7	0.0	6.0
5. SR33N	*	234581.9	*****	234621.2	*****	195.	12. AG	1155.	1.6	0.0	3.5
6. SR33NT	*	234619.9	*****	234633.8	*****	73.	11. AG	1068.	1.6	0.0	9.0
7. SR33NT	*	234621.2	*****	234640.8	*****	105.	11. AG	5.	100.0	0.0	3.0 0.98 17.5
8. SR33NR	*	234621.9	*****	234634.1	*****	54.	13. AG	87.	1.6	0.0	4.0
9. SR33NR	*	234634.5	*****	234646.0	*****	14.	54. AG	87.	1.6	0.0	4.0
10. SR33NR	*	234622.6	*****	234623.9	*****	6.	13. AG	5.	100.0	0.0	3.0 0.09 0.9
11. SHW	*	235019.4	*****	234890.2	*****	140.	293. AG	335.	1.7	0.0	5.0
12. SHW	*	234890.2	*****	234818.4	*****	76.	290. AG	335.	1.7	0.0	5.0
13. SHW	*	234818.5	*****	234754.4	*****	66.	284. AG	335.	1.7	0.0	5.0
14. SHW	*	234754.5	*****	234637.0	*****	120.	281. AG	335.	1.7	0.0	6.0
15. SHW	*	234734.1	*****	234709.5	*****	25.	281. AG	22.	100.0	0.0	6.0 0.51 4.2
16. SHWR	*	234646.1	*****	234636.6	*****	13.	315. AG	61.	1.7	0.0	4.0
17. SR33SD	*	234626.9	*****	234616.9	*****	59.	190. AG	1187.	1.7	0.0	6.0
18. SR33ND	*	234634.1	*****	234704.1	*****	339.	12. AG	1129.	1.6	0.0	6.0
19. SR33ST	*	234636.1	*****	234625.9	*****	48.	192. AG	913.	1.7	0.0	6.0
20. SR33ST	*	234634.6	*****	234625.9	*****	44.	191. AG	4.	100.0	0.0	3.0 0.77 7.4

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT AM

RUN:

DATE : 06/19/ 0  
TIME : 14:42:45

#### 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. SR33SL	*	120	112	2.0	23	1566	5.43	1 3
7. SR33NT	*	120	38	2.0	1068	1676	5.43	1 3
10. SR33NR	*	120	38	2.0	87	1449	5.43	1 3
15. SHW	*	120	90	2.0	335	1523	5.43	1 3
20. SR33ST	*	120	29	2.0	913	1644	5.43	1 3

#### RECEPTOR LOCATIONS

RECEPTOR	* X	COORDINATES (M) Y	* Z	* Z
1.	*	234630.9	*****	1.8
2.	*	234641.4	*****	1.8
3.	*	234652.0	*****	1.8
4.	*	234662.5	*****	1.8
5.	*	234673.0	*****	1.8
6.	*	234683.5	*****	1.8
7.	*	234635.1	*****	1.8
8.	*	234621.4	*****	1.8
9.	*	234626.4	*****	1.8
10.	*	234576.5	*****	1.8
11.	*	234585.9	*****	1.8
12.	*	234595.3	*****	1.8
13.	*	234604.8	*****	1.8
14.	*	234620.9	*****	1.8
15.	*	234610.8	*****	1.8
16.	*	234600.8	*****	1.8
17.	*	234590.7	*****	1.8
18.	*	234633.4	*****	1.8
19.	*	234627.7	*****	1.8
20.	*	234753.3	*****	1.8
21.	*	234728.8	*****	1.8
22.	*	234704.2	*****	1.8
23.	*	234679.7	*****	1.8
24.	*	234655.1	*****	1.8
25.	*	234662.7	*****	1.8
26.	*	234687.2	*****	1.8
27.	*	234711.8	*****	1.8
28.	*	234736.4	*****	1.8
29.	*	234643.2	*****	1.8
30.	*	234817.2	*****	1.8
31.	*	234792.9	*****	1.8
32.	*	234768.6	*****	1.8
33.	*	234755.7	*****	1.8
34.	*	234780.0	*****	1.8
35.	*	234804.3	*****	1.8
36.	*	234888.3	*****	1.8
37.	*	234864.8	*****	1.8
38.	*	234841.2	*****	1.8
39.	*	234817.6	*****	1.8

40. \* 234820.3 \*\*\*\*\* S2 BDA.1st  
1.8 \*

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT AM

RUN:

PAGE 3

DATE : 06/19/ 0  
TIME : 14:42:45

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
41.	234843.8	*****	1.8
42.	234867.4	*****	1.8
43.	234891.0	*****	1.8
44.	235017.2	*****	1.8
45.	234971.2	*****	1.8
46.	234925.2	*****	1.8
47.	234892.4	*****	1.8
48.	234938.4	*****	1.8
49.	234984.4	*****	1.8
50.	234610.9	*****	1.8
51.	234615.2	*****	1.8
52.	234619.4	*****	1.8
53.	234704.9	*****	1.8
54.	234694.6	*****	1.8
55.	234684.3	*****	1.8
56.	234674.0	*****	1.8
57.	234663.7	*****	1.8
58.	234653.3	*****	1.8
59.	234648.2	*****	1.8
60.	234643.0	*****	1.8

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT AM

RUN:

PAGE 4

MODEL RESULTS

REMARKS : In search of the angle corresponding to  
the maximum concentration, only the first  
angle, of the angles with same maximum  
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.1	0.1	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.1	0.1	0.0
20.	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.2	0.2	0.0
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.0	0.0
260.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.0	0.0
270.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.0	0.0
280.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.0
290.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.1
300.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.1	0.0
310.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.0
320.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.0
330.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0
340.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0
350.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2	0.0
MAX DEGR.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT AM

RUN:

PAGE 5

MODEL RESULTS

REMARKS : In search of the angle corresponding to  
the maximum concentration, only the first  
angle, of the angles with same maximum  
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
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Page 2



RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT AM

RUN:

DATE : 06/19/ 0  
TIME : 14:42:45

TIME : 14:42:45

PAGE 8

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT AM

RUN:

DATE : 06/19/ 0  
TIME : 14:42:45

TIME : 14:42:45

PAGE 9

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

S2 BDP: rds

S2 SR33 & SAM HOUSTON PREFERRED ALT PM'										60.0	0.1	0.0	0.0	0.0	60	1	0	0	'PPM'
'	234630.93	3967105.58	1.8																
'	234641.44	3967154.46	1.8																
'	234651.96	3967203.34	1.8																
'	234662.47	3967252.22	1.8																
'	234672.99	3967301.11	1.8																
'	234683.5	3967349.99	1.8																
'	234635.1	3967127.9	1.8																
'	234621.41	3967058.41	1.8																
'	234626.37	3967082.91	1.8																
'	234576.52	3966813.9	1.8																
'	234585.93	3966863.01	1.8																
'	234595.35	3966912.11	1.8																
'	234604.77	3966961.22	1.8																
'	234620.91	3966958.74	1.8																
'	234610.83	3966909.76	1.8																
'	234600.75	3966860.79	1.8																
'	234590.66	3966811.82	1.8																
'	234633.39	3967009.3	1.8																
'	234627.71	3966984.95	1.8																
'	234753.35	3967023.01	1.8																
'	234728.8	3967027.71	1.8																
'	234704.24	3967032.41	1.8																
'	234679.69	3967037.11	1.8																
'	234655.14	3967041.82	1.8																
'	234662.7	3967052.79	1.8																
'	234687.25	3967048.09	1.8																
'	234711.81	3967043.39	1.8																
'	234736.36	3967038.68	1.8																
'	234643.2	3967035.3	1.8																
'	234817.18	3967008.06	1.8																
'	234792.88	3967013.93	1.8																
'	234768.58	3967019.81	1.8																
'	234755.72	3967034.44	1.8																
'	234780.02	3967028.57	1.8																
'	234804.32	3967022.69	1.8																
'	234888.33	3966982.82	1.8																
'	234864.76	3966991.16	1.8																
'	234841.19	3966999.5	1.8																
'	234817.63	3967007.83	1.8																
'	234820.27	3967018.78	1.8																
'	234843.84	3967010.44	1.8																
'	234867.41	3967002.1	1.8																
'	234890.97	3966993.77	1.8																
'	235017.21	3966928.05	1.8																
'	234971.19	3966947.6	1.8																
'	234925.17	3966967.15	1.8																
'	234892.39	3966993.25	1.8																
'	234938.41	3966973.7	1.8																
'	234984.43	3966954.15	1.8																
'	234610.89	3966999.94	1.8																
'	234615.15	3967024.57	1.8																
'	234619.41	3967049.21	1.8																
'	234704.91	3967362.38	1.8																
'	234694.6	3967313.45	1.8																
'	234684.29	3967264.53	1.8																
'	234673.98	3967215.6	1.8																
'	234663.66	3967166.68	1.8																
'	234653.35	3967117.75	1.8																
'	234648.19	3967093.29	1.8																
'	234643.04	3967068.83	1.8																
'	20	1	1																
1	1																		
'SR33S'	'AG'	234697.9	3967390.3	234636.4	3967104.4	965	1.73	0.0	5.0										
1	1																		
'SR33SL'	'AG'	234640.0	3967103.8	234630.9	3967056.6	52	1.73	0.0	6.0										
2	1																		
'SR33SL'	'AG'	234639.3	3967098.0	234632.2	3967064.1	0.0	3.0	1											
120	112	2	52	5.43	1566	1	3												
1	1																		
'SR33SD'	'AG'	234617.8	3966996.8	234577.8	3966788.2	989	1.73	0.0	6.0										
1	1																		
'SR33N'	'AG'	234581.9	3966793.3	234621.2	3966984.2	1571	1.65	0.0	3.5										
1	1																		
'SR33NT'	'AG'	234619.9	3966984.2	234633.8	3967055.8	1421	1.65	0.0	9.0										
2	1																		
'SR33NT'	'AG'	234621.2	3966987.6	234631.8	3967043.6	0.0	3.0	1											
120	22	2	1421	5.43	1676	1	3												
1	1																		
'SR33NR'	'AG'	234621.9	3966982.5	234634.1	3967034.8	150	1.65	0.0	4.0										
1	1																		
'SR33NR'	'AG'	234634.5	3967034.4	234646.0	3967042.9	150	1.65	0.0	4.0										
2	1																		
'SR33NR'	'AG'	234622.6	3966988.0	234632.8	3967030.4	0.0	3.0	1											
120	22	2	150	5.43	1449	1	3												
1	1																		
'SHW'	'AG'	235019.4	3966933.2	234890.2	3966988.1	90	1.72	0.0	5.0										
1	1																		
'SHW'	'AG'	234890.2	3966988.1	234818.4	3967013.5	90	1.72	0.0	5.0										
1	1																		
'SHW'	'AG'	234818.5	3967013.5	234754.4	3967029.0	90	1.72	0.0	5.0										
1	1																		
'SHW'	'AG'	234754.5	3967029.0	234637.0	3967051.5	90	1.72	0.0	6.0										
2	1																		
'SHW'	'AG'	234734.1	3967033.0	234651.3	3967048.8	0.0	6.0	2											
120	107	2	90	5.43	1523	1	3												
1	1																		
'SHWR'	'AG'	234646.1	3967052.7	234636.6	3967062.2	14	1.72	0.0	4.0										
1	1																		
'SR33SD'	'AG'	234626.9	3967056.7	234616.9	3966998.9	989	1.73	0.0	6.0										
1	1																		
'SR33ND'	'AG'	234634.1	3967056.0	234704.1	3967388.1	1435	1.65	0.0	6.0										
1	1																		
'SR33ST'	'AG'	234636.1	3967104.4	234625.9	3967057.3	913	1.73	0.0	6.0										
2	1																		
'SR33ST'	'AG'	234634.6	3967097.4	234628.0	3967064.8	0.0	3.0	1											

S2\_BDP.rds

```
120 22 2 913 5.43 1644 1 3
1.0 0 4 1000.0 0.0 'Y' 10 0 35
** BREEZE
** PROJECTN 0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "C:\PROJECT\TN_PELLISSIPPI\MOBILE_ANALYSIS\S2\S2_SR33&SAM_HOUSTON1.JPG" "S2_SR33&SAM_HOUSTON1" 3 UNKNOWN UNKNOWN 1 0 0 0 0 0 1
0 0 0 0 0 1 1 234055.45 235249.6 3966684.5 3967423.7
** OUTFILE "C:\Project\TN_Pel l i s s i p p i \M o b i l e _A n a l y s i s \S 2 \S 2 _B D P . l s t"
** RAWFILE
```

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:44:02

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT PM

RUN:

DATE : 06/19/ 0

TIME : 14:44:02

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

#### SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MI XH = 1000. M AMB = 0.0 PPM

#### LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1 X2	Y2	* LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33S	*	234697.9	***** 234636.4	***** *	292.	192. AG	965.	1.7	0.0	5.0
2. SR33SL	*	234640.0	***** 234630.9	***** *	48.	191. AG	52.	1.7	0.0	6.0
3. SR33SL	*	234639.3	***** 234635.1	***** *	20.	192. AG	14.	100.0	0.0	3.0 1.00 3.4
4. SR33SD	*	234617.8	***** 234577.8	***** *	212.	191. AG	989.	1.7	0.0	6.0
5. SR33N	*	234581.9	***** 234621.2	***** *	195.	12. AG	1571.	1.6	0.0	3.5
6. SR33NT	*	234619.9	***** 234633.8	***** *	73.	11. AG	1421.	1.6	0.0	9.0
7. SR33NT	*	234621.2	***** 234702.5	***** *	438.	11. AG	3.	100.0	0.0	3.0 1.08 72.9
8. SR33NR	*	234621.9	***** 234634.1	***** *	54.	13. AG	150.	1.6	0.0	4.0
9. SR33NR	*	234634.5	***** 234646.0	***** *	14.	54. AG	150.	1.6	0.0	4.0
10. SR33NR	*	234622.6	***** 234623.9	***** *	6.	13. AG	3.	100.0	0.0	3.0 0.13 0.9
11. SHW	*	235019.4	***** 234890.2	***** *	140.	293. AG	90.	1.7	0.0	5.0
12. SHW	*	234890.2	***** 234818.4	***** *	76.	290. AG	90.	1.7	0.0	5.0
13. SHW	*	234818.5	***** 234754.4	***** *	66.	284. AG	90.	1.7	0.0	5.0
14. SHW	*	234754.5	***** 234637.0	***** *	120.	281. AG	90.	1.7	0.0	6.0
15. SHW	*	234734.1	***** 234726.2	***** *	8.	280. AG	26.	100.0	0.0	6.0 0.39 1.3
16. SHWR	*	234646.1	***** 234636.6	***** *	13.	315. AG	14.	1.7	0.0	4.0
17. SR33SD	*	234626.9	***** 234616.9	***** *	59.	190. AG	989.	1.7	0.0	6.0
18. SR33ND	*	234634.1	***** 234704.1	***** *	339.	12. AG	1435.	1.6	0.0	6.0
19. SR33ST	*	234636.1	***** 234625.9	***** *	48.	192. AG	913.	1.7	0.0	6.0
20. SR33ST	*	234634.6	***** 234628.0	***** *	33.	191. AG	3.	100.0	0.0	3.0 0.71 5.6

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT PM

RUN:

DATE : 06/19/ 0

TIME : 14:44:02

#### 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. SR33SL	*	120	112	2.0	52	1566	5.43	1 3
7. SR33NT	*	120	22	2.0	1421	1676	5.43	1 3
10. SR33NR	*	120	22	2.0	150	1449	5.43	1 3
15. SHW	*	120	107	2.0	90	1523	5.43	1 3
20. SR33ST	*	120	22	2.0	913	1644	5.43	1 3

#### RECEPTOR LOCATIONS

RECEPTOR	* X	COORDINATES (M) Y	Z	* Z
1.	*	234630.9	*****	1.8 *
2.	*	234641.4	*****	1.8 *
3.	*	234652.0	*****	1.8 *
4.	*	234662.5	*****	1.8 *
5.	*	234673.0	*****	1.8 *
6.	*	234683.5	*****	1.8 *
7.	*	234635.1	*****	1.8 *
8.	*	234621.4	*****	1.8 *
9.	*	234626.4	*****	1.8 *
10.	*	234576.5	*****	1.8 *
11.	*	234585.9	*****	1.8 *
12.	*	234595.3	*****	1.8 *
13.	*	234604.8	*****	1.8 *
14.	*	234620.9	*****	1.8 *
15.	*	234610.8	*****	1.8 *
16.	*	234600.8	*****	1.8 *
17.	*	234590.7	*****	1.8 *
18.	*	234633.4	*****	1.8 *
19.	*	234627.7	*****	1.8 *
20.	*	234753.3	*****	1.8 *
21.	*	234728.8	*****	1.8 *
22.	*	234704.2	*****	1.8 *
23.	*	234679.7	*****	1.8 *
24.	*	234655.1	*****	1.8 *
25.	*	234662.7	*****	1.8 *
26.	*	234687.2	*****	1.8 *
27.	*	234711.8	*****	1.8 *
28.	*	234736.4	*****	1.8 *
29.	*	234643.2	*****	1.8 *
30.	*	234817.2	*****	1.8 *
31.	*	234792.9	*****	1.8 *
32.	*	234768.6	*****	1.8 *
33.	*	234755.7	*****	1.8 *
34.	*	234780.0	*****	1.8 *
35.	*	234804.3	*****	1.8 *
36.	*	234888.3	*****	1.8 *
37.	*	234864.8	*****	1.8 *
38.	*	234841.2	*****	1.8 *
39.	*	234817.6	*****	1.8 *

40. \* 234820.3 \*\*\*\*\* S2 BDP.1st  
1.8 \*

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT PM

RUN:

PAGE 3

DATE : 06/19/ 0  
TIME : 14:44:02

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
41.	234843.8	*****	1.8
42.	234867.4	*****	1.8
43.	234891.0	*****	1.8
44.	235017.2	*****	1.8
45.	234971.2	*****	1.8
46.	234925.2	*****	1.8
47.	234892.4	*****	1.8
48.	234938.4	*****	1.8
49.	234984.4	*****	1.8
50.	234610.9	*****	1.8
51.	234615.2	*****	1.8
52.	234619.4	*****	1.8
53.	234704.9	*****	1.8
54.	234694.6	*****	1.8
55.	234684.3	*****	1.8
56.	234674.0	*****	1.8
57.	234663.7	*****	1.8
58.	234653.3	*****	1.8
59.	234648.2	*****	1.8
60.	234643.0	*****	1.8

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT PM

RUN:

PAGE 4

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.1	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.0
20.	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.2	0.3	0.0
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2	0.2	0.0
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
260.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
270.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
280.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
290.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
300.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
310.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
320.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
330.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0
340.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0
350.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2	0.0

MAX ANGLE (DEGR)	20	20	20	20	20	40	20	20	180	20	20	20	20	0	0	0	0	0	0	0
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JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT PM

RUN:

PAGE 5

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
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Page 2





RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT PM

RUN:

DATE : 06/19/ 0  
TIME : 14:44:02

PAGE 8

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

JOB: S2 SR33 & SAM HOUSTON PREFERRED ALT PM

RUN:

DATE : 06/19/ 0  
TIME : 14:44:02

PAGE 9

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]

S2 Al tDA. rds  
' S2 SR33 & SAM HOUSTON ALT D AM' 60.0 0.1 0.0 0.0 60 1 0 0 ' PPM'

'	234630.93	3967105.58	1.8
'	234641.44	3967154.46	1.8
'	234651.96	3967203.34	1.8
'	234662.47	3967252.22	1.8
'	234672.99	3967301.11	1.8
'	234683.5	3967349.99	1.8
'	234635.1	3967127.9	1.8
'	234621.41	3967058.41	1.8
'	234626.37	3967082.91	1.8
'	234576.52	3966813.9	1.8
'	234585.93	3966863.01	1.8
'	234595.35	3966912.11	1.8
'	234604.77	3966961.22	1.8
'	234620.91	3966958.74	1.8
'	234610.83	3966909.76	1.8
'	234600.75	3966860.79	1.8
'	234590.66	3966811.82	1.8
'	234633.39	3967009.3	1.8
'	234627.71	3966984.95	1.8
'	234753.35	3967023.01	1.8
'	234728.8	3967027.71	1.8
'	234704.24	3967032.41	1.8
'	234679.69	3967037.11	1.8
'	234655.14	3967041.82	1.8
'	234662.7	3967052.79	1.8
'	234687.25	3967048.09	1.8
'	234711.81	3967043.39	1.8
'	234736.36	3967038.68	1.8
'	234643.2	3967035.3	1.8
'	234817.18	3967008.06	1.8
'	234792.88	3967013.93	1.8
'	234768.58	3967019.81	1.8
'	234755.72	3967034.44	1.8
'	234780.02	3967028.57	1.8
'	234804.32	3967022.69	1.8
'	234888.33	3966982.82	1.8
'	234864.76	3966991.16	1.8
'	234841.19	3966999.5	1.8
'	234817.63	3967007.83	1.8
'	234820.27	3967018.78	1.8
'	234843.84	3967010.44	1.8
'	234867.41	3967002.1	1.8
'	234890.97	3966993.77	1.8
'	235017.21	3966928.05	1.8
'	234971.19	3966947.6	1.8
'	234925.17	3966967.15	1.8
'	234892.39	3966993.25	1.8
'	234938.41	3966973.7	1.8
'	234984.43	3966954.15	1.8
'	234610.89	3966999.94	1.8
'	234615.15	3967024.57	1.8
'	234619.41	3967049.21	1.8
'	234704.91	3967362.38	1.8
'	234694.6	3967313.45	1.8
'	234684.29	3967264.53	1.8
'	234673.98	3967215.6	1.8
'	234663.66	3967166.68	1.8
'	234653.35	3967117.75	1.8
'	234648.19	3967093.29	1.8
'	234643.04	3967068.83	1.8
'	20	1	1
'	1	1	1
'	SR33S'	'AG'	234697.9 3967390.3 234636.4 3967104.4 1247 1.73 0.0 5.0
'	1	1	1
'	SR33SL'	'AG'	234640.0 3967103.8 234630.9 3967056.6 411 1.73 0.0 6.0
'	2	1	1
'	SR33SL'	'AG'	234639.3 3967098.0 234632.2 3967064.1 0.0 3.0 1
'	80 63 2 411	5.43 1566 1 3	
'	1	1	1
'	SR33SD'	'AG'	234617.8 3966996.8 234577.8 3966788.2 1973 1.73 0.0 6.0
'	1	1	1
'	SR33N'	'AG'	234581.9 3966793.3 234621.2 3966984.2 2599 1.65 0.0 3.5
'	1	1	1
'	SR33NT'	'AG'	234619.9 3966984.2 234633.8 3967055.8 740 1.65 0.0 9.0
'	2	1	1
'	SR33NT'	'AG'	234621.2 3966987.6 234631.8 3967043.6 0.0 3.0 1
'	80 37 2 740	5.43 1676 1 3	
'	1	1	1
'	SR33NR'	'AG'	234621.9 3966982.5 234634.1 3967034.8 1859 1.65 0.0 4.0
'	1	1	1
'	SR33NR'	'AG'	234634.5 3967034.4 234646.0 3967042.9 1859 1.65 0.0 4.0
'	2	1	1
'	SR33NR'	'AG'	234622.6 3966988.0 234632.8 3967030.4 0.0 3.0 1
'	80 37 2 1859	5.43 1449 1 3	
'	1	1	1
'	SHW'	'AG'	235019.4 3966933.2 234890.2 3966988.1 1497 1.72 0.0 5.0
'	1	1	1
'	SHW'	'AG'	234890.2 3966988.1 234818.4 3967013.5 1497 1.72 0.0 5.0
'	1	1	1
'	SHW'	'AG'	234818.5 3967013.5 234754.4 3967029.0 1497 1.72 0.0 5.0
'	1	1	1
'	SHW'	'AG'	234754.5 3967029.0 234637.0 3967051.5 1497 1.72 0.0 6.0
'	2	1	1
'	SHW'	'AG'	234734.1 3967033.0 234651.3 3967048.8 0.0 6.0 2
'	80 60 2 1497	5.43 1523 1 3	
'	1	1	1
'	SHWR'	'AG'	234646.1 3967052.7 234636.6 3967062.2 360 1.72 0.0 4.0
'	1	1	1
'	SR33SD'	'AG'	234626.9 3967056.7 234616.9 3966998.9 1571 1.73 0.0 6.0
'	1	1	1
'	SR33ND'	'AG'	234634.1 3967056.0 234704.1 3967388.1 1100 1.65 0.0 6.0
'	1	1	1
'	SR33ST'	'AG'	234636.1 3967104.4 234625.9 3967057.3 836 1.73 0.0 6.0
'	2	1	1
'	SR33ST'	'AG'	234634.6 3967097.4 234628.0 3967064.8 0.0 3.0 1

Page 1

S2 Al tDA. rds

```
80 37 2 836 5.43 1644 1 3
1.0 0 4 1000.0 0.0 'Y' 10 0 35
** BREEZE
** PROJECTN 0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "C:\PROJECT\TN PELLISSIPPI\MOBILE ANALYSIS\S2\S2 SR33&SAM HOUSTON1.JPG" "S2 SR33&SAM HOUSTON1" 3 UNKNOWN UNKNOWN 1 0 0 0 0 0 1
0 0 0 0 0 1 1 234055.45 235249.6 3966684.5 3967423.7
** OUTFILE "C:\Project\TN Pel l i s s i p p i \Mobi l e A n a l y s i s\S2\S2 Al tDA. l st"
** RAWFILE
```

1

CAL3QHC - (DATED 95221)

S2 AltDA.lst

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:39:34

JOB: S2 SR33 &amp; SAM HOUSTON ALT D AM

RUN:

DATE : 06/19/ 0

TIME : 14:39:34

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

## SITE &amp; METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

## LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33S	234697.9	234636.4			292.	192. AG	1247.	1.7	0.0	5.0	
2. SR33SL	234640.0	234630.9			48.	191. AG	411.	1.7	0.0	6.0	
3. SR33SL	234639.3	234526.4			553.	192. AG	11. 100.0	0.0	3.0	1.62	92.1
4. SR33SD	234617.8	234577.8			212.	191. AG	1973.	1.7	0.0	6.0	
5. SR33N	234581.9	234621.2			195.	12. AG	2599.	1.6	0.0	3.5	
6. SR33NT	234619.9	234633.8			73.	11. AG	740.	1.6	0.0	9.0	
7. SR33NT	234621.2	234632.1			59.	11. AG	7. 100.0	0.0	3.0	0.91	9.8
8. SR33NR	234621.9	234634.1			54.	13. AG	1859.	1.6	0.0	4.0	
9. SR33NR	234634.5	234646.0			14.	54. AG	1859.	1.6	0.0	4.0	
10. SR33NR	234622.6	235481.2			3678.	13. AG	7. 100.0	0.0	3.0	2.63	613.0
11. SHW	235019.4	234890.2			140.	293. AG	1497.	1.7	0.0	5.0	
12. SHW	234890.2	234818.4			76.	290. AG	1497.	1.7	0.0	5.0	
13. SHW	234818.5	234754.4			66.	284. AG	1497.	1.7	0.0	5.0	
14. SHW	234754.5	234637.0			120.	281. AG	1497.	1.7	0.0	6.0	
15. SHW	234734.1	233289.3			1471.	281. AG	22. 100.0	0.0	6.0	2.46	245.1
16. SHWR	234646.1	234636.6			13.	315. AG	360.	1.7	0.0	4.0	
17. SR33SD	234626.9	234616.9			59.	190. AG	1571.	1.7	0.0	6.0	
18. SR33ND	234634.1	234704.1			339.	12. AG	1100.	1.6	0.0	6.0	
19. SR33ST	234636.1	234625.9			48.	192. AG	836.	1.7	0.0	6.0	
20. SR33ST	234634.6	234595.0			201.	191. AG	7. 100.0	0.0	3.0	1.04	33.4

JOB: S2 SR33 &amp; SAM HOUSTON ALT D AM

RUN:

DATE : 06/19/ 0

TIME : 14:39:34

## 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
3. SR33SL	80	63	2.0	411	1566	5.43	1	3
7. SR33NT	80	37	2.0	740	1676	5.43	1	3
10. SR33NR	80	37	2.0	1859	1449	5.43	1	3
15. SHW	80	60	2.0	1497	1523	5.43	1	3
20. SR33ST	80	37	2.0	836	1644	5.43	1	3

## RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1.	234630.9		1.8
2.	234641.4		1.8
3.	234652.0		1.8
4.	234662.5		1.8
5.	234673.0		1.8
6.	234683.5		1.8
7.	234635.1		1.8
8.	234621.4		1.8
9.	234626.4		1.8
10.	234576.5		1.8
11.	234585.9		1.8
12.	234595.3		1.8
13.	234604.8		1.8
14.	234620.9		1.8
15.	234610.8		1.8
16.	234600.8		1.8
17.	234590.7		1.8
18.	234633.4		1.8
19.	234627.7		1.8
20.	234753.3		1.8
21.	234728.8		1.8
22.	234704.2		1.8
23.	234679.7		1.8
24.	234655.1		1.8
25.	234662.7		1.8
26.	234687.2		1.8
27.	234711.8		1.8
28.	234736.4		1.8
29.	234643.2		1.8
30.	234817.2		1.8
31.	234792.9		1.8
32.	234768.6		1.8
33.	234755.7		1.8
34.	234780.0		1.8
35.	234804.3		1.8
36.	234888.3		1.8
37.	234864.8		1.8
38.	234841.2		1.8
39.	234817.6		1.8

JOB: S2 SR33 & SAM HOUSTON ALT D AM

RUN:

DATE : 06/19/ 0  
TIME : 14:39:34

## RECEPTOR LOCATIONS

	RECEPTOR	X	COORDINATES (M) Y	Z	
41.	*	234843.8	*****	1.8	*
42.	*	234867.4	*****	1.8	*
43.	*	234891.0	*****	1.8	*
44.	*	235017.2	*****	1.8	*
45.	*	234971.2	*****	1.8	*
46.	*	234925.2	*****	1.8	*
47.	*	234892.4	*****	1.8	*
48.	*	234938.4	*****	1.8	*
49.	*	234984.4	*****	1.8	*
50.	*	234610.9	*****	1.8	*
51.	*	234615.2	*****	1.8	*
52.	*	234619.4	*****	1.8	*
53.	*	234704.9	*****	1.8	*
54.	*	234694.6	*****	1.8	*
55.	*	234684.3	*****	1.8	*
56.	*	234674.0	*****	1.8	*
57.	*	234663.7	*****	1.8	*
58.	*	234653.3	*****	1.8	*
59.	*	234648.2	*****	1.8	*
60.	*	234643.0	*****	1.8	*

JOB: S2 SR33 & SAM HOUSTON ALT D AM

RUN:

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)																			
	* REC1	* REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.5	0.1	0.3	0.1
10.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.3	0.3	0.2	0.3	0.0
20.	*	0.3	0.3	0.3	0.2	0.1	0.1	0.2	0.3	0.2	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.1
40.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1
50.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1
60.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1
70.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1
90.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1
100.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2
110.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.5	0.3	0.2	0.4	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.2	0.2	0.4	0.1	0.1	0.0	0.0	0.1	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.5	0.5	0.3	0.0	0.4	0.3
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.3
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.3
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.3
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.3
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.1
MAX DEGR.	*	0.3	0.3	0.3	0.2	0.2	0.2	0.5	0.3	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.3	0.3
	*	20	20	20	20	30	40	20	180	180	20	20	180	180	200	200	0	200	0	290

JOB: S2 SR33 & SAM HOUSTON ALT D AM

RUN:

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

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

[illegible]

♀

JOB: S2 SR33 & SAM HOUSTON ALT D AM

RUN:

PAGE 6

## MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0. -350.

WIND \* CONCENTRATION

(ANGLE DEGR)	*	(PPM)																			
	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.3	0.3
10.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.3	0.3
20.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.3	0.2	0.4	0.0	0.0	0.0	0.1	0.1	0.0	0.0
30.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
40.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2
130.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
140.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
150.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
190.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.3
200.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.3	0.4	0.5
210.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.2</				

THE HIGHEST CONCENTRATION OF 0.60 PPM OCCURRED AT RECEPTOR REC12.

♀

JOB: S2 SR33 & SAM HOUSTON ALT D AM

RUN:

PAGE 7

DATE : 06/19/ 0  
TIME : 14:39:34

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

		CO/LINK (PPM) ANGLE (DEGREES)																			
LINK	#	REC1 20	REC2 20	REC3 20	REC4 20	REC5 30	REC6 40	REC7 20	REC8 180	REC9 180	REC10 20	REC11 20	REC12 180	REC13 180	REC14 200	REC15 200	REC16 0	REC17 0	REC18 200	REC19 0	REC20 290
1	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	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	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	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	0.0	0.0	0.0	0.0	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	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	0.1	0.0	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	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

JOB: S2 SR33 & SAM HOUSTON ALT D AM

RUN:

DATE : 06/19/ 0  
TIME : 14:39:34

PAGE 8

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR[illegible]

JOB: S2 SR33 & SAM HOUSTON ALT D AM

RUN:

DATE : 06/19/ 0  
TIME : 14:39:34

PAGE 9

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

[illegible]



S2 Al tDP. rds  
' S2 SR33 & SAM HOUSTON ALT D PM' 60.0 0.1 0.0 0.0 60 1 0 0 'PPM'

'	234630.93	3967105.58	1.8
'	234641.44	3967154.46	1.8
'	234651.96	3967203.34	1.8
'	234662.47	3967252.22	1.8
'	234672.99	3967301.11	1.8
'	234683.5	3967349.99	1.8
'	234635.1	3967127.9	1.8
'	234621.41	3967058.41	1.8
'	234626.37	3967082.91	1.8
'	234576.52	3966813.9	1.8
'	234585.93	3966863.01	1.8
'	234595.35	3966912.11	1.8
'	234604.77	3966961.22	1.8
'	234620.91	3966958.74	1.8
'	234610.83	3966909.76	1.8
'	234600.75	3966860.79	1.8
'	234590.66	3966811.82	1.8
'	234633.39	3967009.3	1.8
'	234627.71	3966984.95	1.8
'	234753.35	3967023.01	1.8
'	234728.8	3967027.71	1.8
'	234704.24	3967032.41	1.8
'	234679.69	3967037.11	1.8
'	234655.14	3967041.82	1.8
'	234662.7	3967052.79	1.8
'	234687.25	3967048.09	1.8
'	234711.81	3967043.39	1.8
'	234736.36	3967038.68	1.8
'	234643.2	3967035.3	1.8
'	234817.18	3967008.06	1.8
'	234792.88	3967013.93	1.8
'	234768.58	3967019.81	1.8
'	234755.72	3967034.44	1.8
'	234780.02	3967028.57	1.8
'	234804.32	3967022.69	1.8
'	234888.33	3966982.82	1.8
'	234864.76	3966991.16	1.8
'	234841.19	3966999.5	1.8
'	234817.63	3967007.83	1.8
'	234820.27	3967018.78	1.8
'	234843.84	3967010.44	1.8
'	234867.41	3967002.1	1.8
'	234890.97	3966993.77	1.8
'	235017.21	3966928.05	1.8
'	234971.19	3966947.6	1.8
'	234925.17	3966967.15	1.8
'	234892.39	3966993.25	1.8
'	234938.41	3966973.7	1.8
'	234984.43	3966954.15	1.8
'	234610.89	3966999.94	1.8
'	234615.15	3967024.57	1.8
'	234619.41	3967049.21	1.8
'	234704.91	3967362.38	1.8
'	234694.6	3967313.45	1.8
'	234684.29	3967264.53	1.8
'	234673.98	3967215.6	1.8
'	234663.66	3967166.68	1.8
'	234653.35	3967117.75	1.8
'	234648.19	3967093.29	1.8
'	234643.04	3967068.83	1.8
'	20	1	1
'	1	1	1
'	SR33S'	'AG'	234697.9 3967390.3 234636.4 3967104.4 1708 1.73 0.0 5.0
'	1	1	1
'	SR33SL'	'AG'	234640.0 3967103.8 234630.9 3967056.6 402 1.73 0.0 6.0
'	2	1	1
'	SR33SL'	'AG'	234639.3 3967098.0 234632.2 3967064.1 0.0 3.0 1
'	70 59 2 402	5.43 1566 1 3	
'	1	1	1
'	SR33SD'	'AG'	234617.8 3966996.8 234577.8 3966788.2 2802 1.73 0.0 6.0
'	1	1	1
'	SR33N'	'AG'	234581.9 3966793.3 234621.2 3966984.2 1642 1.65 0.0 3.5
'	1	1	1
'	SR33NT'	'AG'	234619.9 3966984.2 234633.8 3967055.8 835 1.65 0.0 9.0
'	2	1	1
'	SR33NT'	'AG'	234621.2 3966987.6 234631.8 3967043.6 0.0 3.0 1
'	70 43 2 835	5.43 1676 1 3	
'	1	1	1
'	SR33NR'	'AG'	234621.9 3966982.5 234634.1 3967034.8 807 1.65 0.0 4.0
'	1	1	1
'	SR33NR'	'AG'	234634.5 3967034.4 234646.0 3967042.9 807 1.65 0.0 4.0
'	2	1	1
'	SR33NR'	'AG'	234622.6 3966988.0 234632.8 3967030.4 0.0 3.0 1
'	70 43 2 807	5.43 1449 1 3	
'	1	1	1
'	SHW'	'AG'	235019.4 3966933.2 234890.2 3966988.1 1817 1.72 0.0 5.0
'	1	1	1
'	SHW'	'AG'	234890.2 3966988.1 234818.4 3967013.5 1817 1.72 0.0 5.0
'	1	1	1
'	SHW'	'AG'	234818.5 3967013.5 234754.4 3967029.0 1817 1.72 0.0 5.0
'	1	1	1
'	SHW'	'AG'	234754.5 3967029.0 234637.0 3967051.5 1817 1.72 0.0 6.0
'	2	1	1
'	SHW'	'AG'	234734.1 3967033.0 234651.3 3967048.8 0.0 6.0 2
'	70 38 2 1817	5.43 1523 1 3	
'	1	1	1
'	SHWR'	'AG'	234646.1 3967052.7 234636.6 3967062.2 360 1.72 0.0 4.0
'	1	1	1
'	SR33SD'	'AG'	234626.9 3967056.7 234616.9 3966998.9 2802 1.73 0.0 6.0
'	1	1	1
'	SR33ND'	'AG'	234634.1 3967056.0 234704.1 3967388.1 1156 1.65 0.0 6.0
'	1	1	1
'	SR33ST'	'AG'	234636.1 3967104.4 234625.9 3967057.3 1306 1.73 0.0 6.0
'	2	1	1
'	SR33ST'	'AG'	234634.6 3967097.4 234628.0 3967064.8 0.0 3.0 1

Page 1

S2 Al tDP. rds

70 43 2 1306 5.43 1644 1 3  
1.0 0 4 1000.0 0.0 'Y' 10 0 35

\*\* BREEZE

\*\* PROJECTN 0 104 7 -177 0 0.9996 500000 0

\*\* MAPLAYER "C:\PROJECT\TN PELLISSIPPI\MOBILE ANALYSIS\S2\S2 SR33&SAM HOUSTON1.JPG" "S2 SR33&SAM HOUSTON1" 3 UNKNOWN UNKNOWN 1 0 0 0 0 0 1  
0 0 0 0 0 1 1 234055.45 235249.6 3966684.5 3967423.7

\*\* OUTFILE "C:\Project\TN Pel l i s s i p p i \Mobi l e A n a l y s i s\S2\S2 Al tDP. l st"

\*\* RAWFILE

1

CAL3QHC - (DATED 95221)

S2 Al tdp. l st

CAL3QHC PC (32 BIT) VERSION 3.0.0  
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/19/2014 at 14:41:23

JOB: S2 SR33 &amp; SAM HOUSTON ALT D PM

RUN:

DATE : 06/19/ 0

TIME : 14:41:23

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

## SITE &amp; METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S ZO = 0. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

## LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1 X2	* Y2	* LENGTH (M)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (M)	W (M)	V/C QUEUE (VEH)
1. SR33S	*	234697.9	***** 234636.4	***** *	292.	192. AG	1708.	1.7	0.0	5.0
2. SR33SL	*	234640.0	***** 234630.9	***** *	48.	191. AG	402.	1.7	0.0	6.0
3. SR33SL	*	234639.3	***** 234470.7	***** *	826.	192. AG	12.	100.0	0.0	3.0 2.58 137.6
4. SR33SD	*	234617.8	***** 234577.8	***** *	212.	191. AG	2802.	1.7	0.0	6.0
5. SR33N	*	234581.9	***** 234621.2	***** *	195.	12. AG	1642.	1.6	0.0	3.5
6. SR33NT	*	234619.9	***** 234633.8	***** *	73.	11. AG	835.	1.6	0.0	9.0
7. SR33NT	*	234621.2	***** 234801.1	***** *	968.	11. AG	9.	100.0	0.0	3.0 1.52 161.3
8. SR33NR	*	234621.9	***** 234634.1	***** *	54.	13. AG	807.	1.6	0.0	4.0
9. SR33NR	*	234634.5	***** 234646.0	***** *	14.	54. AG	807.	1.6	0.0	4.0
10. SR33NR	*	234622.6	***** 234880.8	***** *	1106.	13. AG	9.	100.0	0.0	3.0 1.70 184.3
11. SHW	*	235019.4	***** 234890.2	***** *	140.	293. AG	1817.	1.7	0.0	5.0
12. SHW	*	234890.2	***** 234818.4	***** *	76.	290. AG	1817.	1.7	0.0	5.0
13. SHW	*	234818.5	***** 234754.4	***** *	66.	284. AG	1817.	1.7	0.0	5.0
14. SHW	*	234754.5	***** 234637.0	***** *	120.	281. AG	1817.	1.7	0.0	6.0
15. SHW	*	234734.1	***** 233742.5	***** *	1009.	281. AG	16.	100.0	0.0	6.0 1.49 168.2
16. SHWR	*	234646.1	***** 234636.6	***** *	13.	315. AG	360.	1.7	0.0	4.0
17. SR33SD	*	234626.9	***** 234616.9	***** *	59.	190. AG	2802.	1.7	0.0	6.0
18. SR33ND	*	234634.1	***** 234704.1	***** *	339.	12. AG	1156.	1.6	0.0	6.0
19. SR33ST	*	234636.1	***** 234625.9	***** *	48.	192. AG	1306.	1.7	0.0	6.0
20. SR33ST	*	234634.6	***** 234146.0	***** *	2475.	191. AG	9.	100.0	0.0	3.0 2.42 412.5

PAGE 2

JOB: S2 SR33 &amp; SAM HOUSTON ALT D PM

RUN:

DATE : 06/19/ 0

TIME : 14:41:23

## 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. SR33SL	*	70	59	2.0	402	1566	5.43	1 3
7. SR33NT	*	70	43	2.0	835	1676	5.43	1 3
10. SR33NR	*	70	43	2.0	807	1449	5.43	1 3
15. SHW	*	70	38	2.0	1817	1523	5.43	1 3
20. SR33ST	*	70	43	2.0	1306	1644	5.43	1 3

## RECEPTOR LOCATIONS

RECEPTOR	* X	COORDINATES (M) Y	* Z	* Z
1.	*	234630.9	*****	1.8
2.	*	234641.4	*****	1.8
3.	*	234652.0	*****	1.8
4.	*	234662.5	*****	1.8
5.	*	234673.0	*****	1.8
6.	*	234683.5	*****	1.8
7.	*	234635.1	*****	1.8
8.	*	234621.4	*****	1.8
9.	*	234626.4	*****	1.8
10.	*	234576.5	*****	1.8
11.	*	234585.9	*****	1.8
12.	*	234595.3	*****	1.8
13.	*	234604.8	*****	1.8
14.	*	234620.9	*****	1.8
15.	*	234610.8	*****	1.8
16.	*	234600.8	*****	1.8
17.	*	234590.7	*****	1.8
18.	*	234633.4	*****	1.8
19.	*	234627.7	*****	1.8
20.	*	234753.3	*****	1.8
21.	*	234728.8	*****	1.8
22.	*	234704.2	*****	1.8
23.	*	234679.7	*****	1.8
24.	*	234655.1	*****	1.8
25.	*	234662.7	*****	1.8
26.	*	234687.2	*****	1.8
27.	*	234711.8	*****	1.8
28.	*	234736.4	*****	1.8
29.	*	234643.2	*****	1.8
30.	*	234817.2	*****	1.8
31.	*	234792.9	*****	1.8
32.	*	234768.6	*****	1.8
33.	*	234755.7	*****	1.8
34.	*	234780.0	*****	1.8
35.	*	234804.3	*****	1.8
36.	*	234888.3	*****	1.8
37.	*	234864.8	*****	1.8
38.	*	234841.2	*****	1.8
39.	*	234817.6	*****	1.8

40. \* 234820.3 \*\*\*\*\* S2 Al tdp. l st  
1.8 \*

JOB: S2 SR33 & SAM HOUSTON ALT D PM

RUN:

PAGE 3

DATE : 06/19/ 0  
TIME : 14:41:23

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
41.	234843.8	*****	1.8
42.	234867.4	*****	1.8
43.	234891.0	*****	1.8
44.	235017.2	*****	1.8
45.	234971.2	*****	1.8
46.	234925.2	*****	1.8
47.	234892.4	*****	1.8
48.	234938.4	*****	1.8
49.	234984.4	*****	1.8
50.	234610.9	*****	1.8
51.	234615.2	*****	1.8
52.	234619.4	*****	1.8
53.	234704.9	*****	1.8
54.	234694.6	*****	1.8
55.	234684.3	*****	1.8
56.	234674.0	*****	1.8
57.	234663.7	*****	1.8
58.	234653.3	*****	1.8
59.	234648.2	*****	1.8
60.	234643.0	*****	1.8

JOB: S2 SR33 & SAM HOUSTON ALT D PM

RUN:

PAGE 4

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND \* CONCENTRATION

ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.4	0.4	0.5	0.0	0.3	0.1
10.	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.4	0.4	0.5	0.1	0.2	0.2	0.3	0.3	0.1
20.	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30.	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
40.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1
60.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1
70.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
90.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
100.	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2
110.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.1	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
170.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.1	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
180.	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.6	0.4	0.3	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	0.4	0.3	0.2	0.1	0.2	0.3	0.5	0.5	0.4	0.3	0.4	0.5	0.5	0.2	0.1	0.0	0.0	0.2	0.2	0.0
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.5	0.5	0.4	0.0	0.3	0.4	0.0
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.3	0.3	0.0
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.2	0.0
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.1	0.2	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2	0.0
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2	0.0
260.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0
270.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0
280.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.2
290.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.3
300.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.2
310.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1
320.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1
330.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2	0.1
340.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.2	0.2	0.1
350.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.4	0.1

JOB: S2 SR33 & SAM HOUSTON ALT D PM

RUN:

PAGE 5

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND \* CONCENTRATION

ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LNK #	*	*	CO/LINK (PPM)																			
			ANGLE (DEGREES)																			
			REC1 190	REC2 20	REC3 20	REC4 20	REC5 30	REC6 180	REC7 190	REC8 180	REC9 20	REC10 20	REC11 20	REC12 20	REC13 20	REC14 200	REC15 200	REC16 0	REC17 0	REC18 10	REC19 200	REC20 290
1	*	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3	*	*	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
4	*	*	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.0	0.2	0.0
5	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.0	0.2	0.0
6	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	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	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	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	0.0	0.0	0.0	0.0	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
16	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	*	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	*	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
19	*	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	*	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

JOB: S2 SR33 & SAM HOUSTON ALT D PM

RUN:

DATE : 06/19/ 0  
TIME : 14:41:23

TIME : 14:41:23

PAGE 8

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR[illegible]

JOB: S2 SR33 & SAM HOUSTON ALT D PM

RUN:

DATE : 06/19/ 0  
TIME : 14:41:23

TIME : 14:41:23

PAGE 9

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 #	*	280	120	120	300	100	100	120	120	130	180	180	180	200	0	0	0	0	200	200	200
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
11	*	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

## CO Emissions for Pellissippi Parkway Extension 2040, June 16, 2015

movesRur	yearId	monthId	dayId	hourId	linkId	pollutant	GramsPerVehMile	GramsPerVehHour	linkAvgSpeed	linkDescription
1	2040	1	5	8	1	CO	1.7172362			45 Sam Houston School Free Flow
1	2040	1	5	8	2	CO	1.818599654			40 SR 33 Free Flow
1	2040	1	5	8	3	CO		5.427884952		0 Sam Houston School Idle
1	2040	1	5	8	4	CO		5.427884952		0 SR 33 Idle
1	2040	1	5	8	5	CO	1.79905584			40 SR 33 West to Pellissippi
1	2040	1	5	8	6	CO	1.971985966			35 SR 33 West to Pellissippi
1	2040	1	5	8	7	CO		5.382705624		0 SR 33 West to Pellissippi Idle
1	2040	1	5	8	8	CO		5.382705624		0 SR 33 West to Pellissippi Idle
1	2040	1	5	8	9	CO	1.818601764			40 Pellissippi to Sam Houston School
1	2040	1	5	8	10	CO	1.993310174			35 Pellissippi to Sam Houston School
1	2040	1	5	8	11	CO		5.427890646		0 NB Pellissippi Off Ramp Idle
1	2040	1	5	8	12	CO	3.993909657			5 NB Pellissippi Off Ramp
1	2040	1	5	8	13	CO	2.766063799			10 NB Pellissippi Off Ramp
1	2040	1	5	8	14	CO	2.30897076			15 NB Pellissippi Off Ramp
1	2040	1	5	8	15	CO	2.058695923			20 NB Pellissippi Off Ramp
1	2040	1	5	8	16	CO	1.935252053			25 NB Pellissippi Off Ramp
1	2040	1	5	8	17	CO	1.856219991			30 NB Pellissippi Off Ramp
1	2040	1	5	8	18	CO	1.783013257			35 NB Pellissippi Off Ramp
1	2040	1	5	8	19	CO	1.726503102			40 NB Pellissippi Off Ramp
1	2040	1	5	8	20	CO	1.682548048			45 NB Pellissippi Off Ramp
1	2040	1	5	8	21	CO	1.649051404			50 NB Pellissippi Off Ramp
1	2040	1	5	8	22	CO	1.622095435			55 NB Pellissippi Off Ramp
1	2040	1	5	8	23	CO	1.623153674			60 NB Pellissippi Off Ramp
1	2040	1	5	8	24	CO	1.745759211			65 NB Pellissippi Off Ramp
1	2040	1	5	8	25	CO		5.42789333		0 SB Pellissippi On Ramp Idle
1	2040	1	5	8	26	CO	3.993928414			5 SB Pellissippi On Ramp
1	2040	1	5	8	27	CO	2.7660585			10 SB Pellissippi On Ramp
1	2040	1	5	8	28	CO	2.308962573			15 SB Pellissippi On Ramp
1	2040	1	5	8	29	CO	2.058690913			20 SB Pellissippi On Ramp
1	2040	1	5	8	30	CO	1.935253567			25 SB Pellissippi On Ramp
1	2040	1	5	8	31	CO	1.856217868			30 SB Pellissippi On Ramp
1	2040	1	5	8	32	CO	1.783010659			35 SB Pellissippi On Ramp
1	2040	1	5	8	33	CO	1.726503817			40 SB Pellissippi On Ramp
1	2040	1	5	8	34	CO	1.68254948			45 SB Pellissippi On Ramp
1	2040	1	5	8	35	CO	1.649055634			50 SB Pellissippi On Ramp
1	2040	1	5	8	36	CO	1.622095183			55 SB Pellissippi On Ramp
1	2040	1	5	8	37	CO	1.623152495			60 SB Pellissippi On Ramp
1	2040	1	5	8	38	CO	1.745759718			65 SB Pellissippi On Ramp

## **APPENDIX D: MSATS BACKGROUND INFORMATION**



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## **Mobile Source Air Toxics (MSATs)**

**From: FHWA's "Interim Guidance Update on Air Toxic Analysis in NEPA Documents," December 6, 2012.**

### **Background**

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules. The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (vehicle-miles travelled, VMT) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in Figure 1.

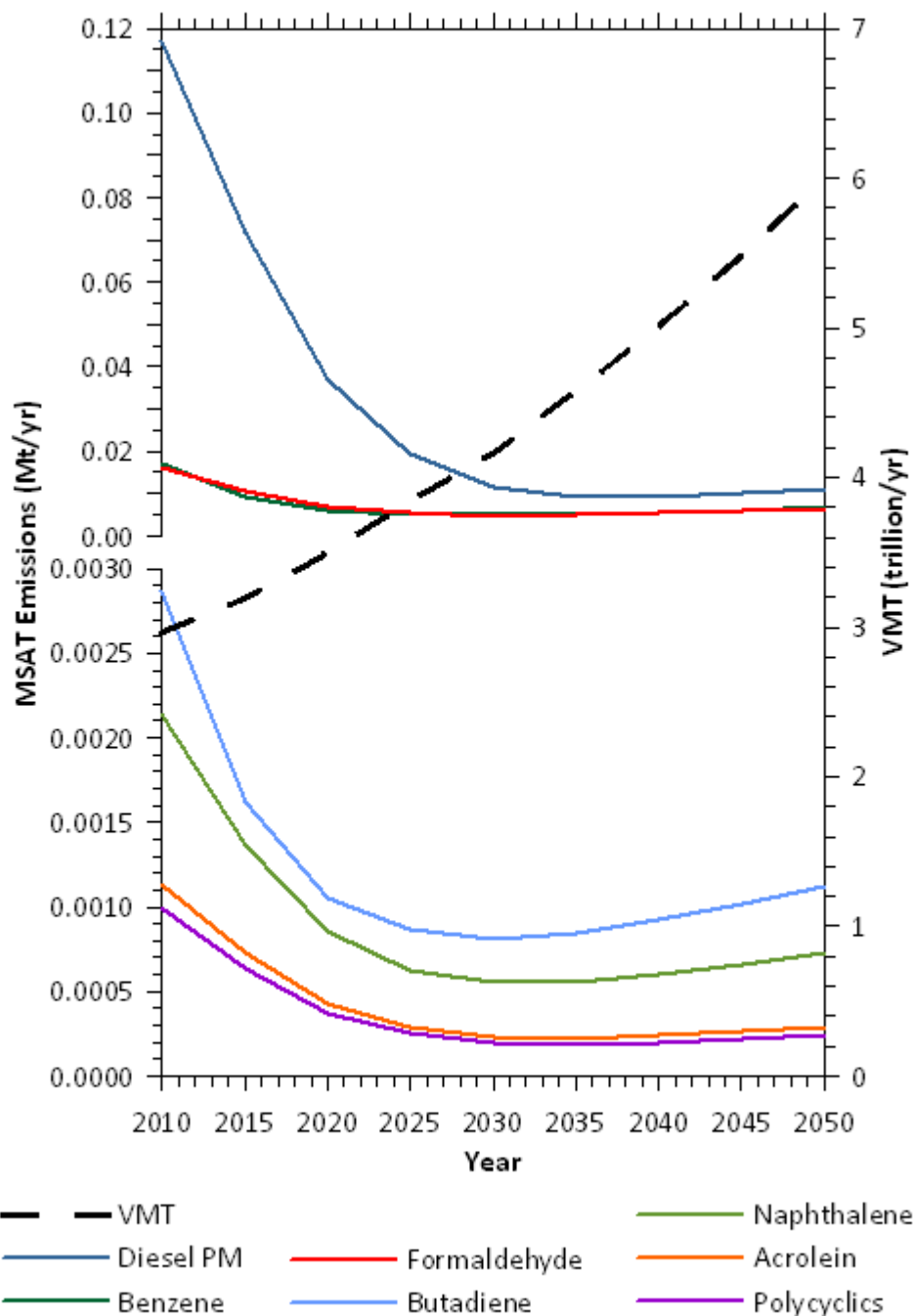
### **Motor Vehicle Emissions Simulator (MOVES)**

According to EPA, MOVES improves upon the previous MOBILE model in several key aspects: MOVES is based on a vast amount of in-use vehicle data collected and analyzed since the latest release of MOBILE, including millions of emissions measurements from light-duty vehicles. Analysis of this data enhanced EPA's understanding of how mobile sources contribute to emissions inventories and the relative effectiveness of various control strategies. In addition, MOVES accounts for the significant effects that vehicle speed and temperature have on PM emissions estimates, whereas MOBILE did not. MOVES2010b includes all air toxic pollutants in NATA that are emitted by mobile sources. EPA has incorporated more recent data into MOVES2010b to update and enhance the quality of MSAT emission estimates. These data reflect advanced emission control technology and modern fuels, plus additional data for older technology vehicles.

Based on an FHWA analysis using EPA's MOVES2010b model, as shown in Figure 1, even if vehicle-miles travelled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

The implications of MOVES on MSAT emissions estimates compared to MOBILE are: lower estimates of total MSAT emissions; significantly lower benzene emissions; significantly higher diesel PM emissions, especially for lower speeds. Consequently, diesel PM is projected to be the dominant component of the emissions total.

**Figure 1: NATIONAL MSAT EMISSION TRENDS 1999 – 2050 FOR VEHICLES OPERATING ON ROADWAYS USING EPA's MOVES2010b MODEL**



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: EPA MOVES2010b model runs conducted during May - June 2012 by FHWA.

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## **MSAT Research**

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

## **NEPA Context**

The NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals. The NEPA also requires Federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment. The NEPA requires and FHWA is committed to the examination and avoidance of potential impacts to the natural and human environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are contained in regulation at 23 CFR Part 771.

## **Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis**

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, <http://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

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Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).

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 encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) 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, since such information is unavailable. It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (<http://www.epa.gov/risk/basicinformation.htm#g>) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

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Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting 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, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Due to the limitations cited, a discussion such as the example provided in this Appendix (reflecting any local and project-specific circumstances), should be included regarding incomplete or unavailable information in accordance with Council on Environmental Quality (CEQ) regulations [40 CFR 1502.22(b)]. The FHWA Headquarters and Resource Center staff Victoria Martinez (787) 766-5600 X231, Bruce Bender (202) 366-2851, and Michael Claggett (505) 820-2047, are available to provide guidance and technical assistance and support.

## **APPENDIX E: MSAT VMT CALCULATIONS**

**Table E-1: Pellissippi Parkway Extension Link by Link VMTs, Four-Lane Alternatives\***

Segment	No-Build			Four-Lane Alternatives*		
	Length (mi)	2040 ADT	Daily VMT	Length (mi)	2040 ADT	Daily VMT
<b>Wildwood Road</b>						
E. Broadway / Old Knoxville Hwy (SR 33) to Reservoir Rd	1.31	7,640	10,008	1.31	7,180	9,406
Reservoir Rd to Sam Houston School Rd	1.34	17,870	23,946	1.34	7,630	10,224
Sam Houston School Rd to End of Study Area	2.09	7,390	15,445	2.09	6,600	13,794
<b>Pellissippi Parkway</b>						
Topside Rd to Alcoa Hwy (SR 115/US 129)	1.43	67,480	96,496	1.43	73,980	105,791
Alcoa Hwy (SR 115/US 129) to Relocated Alcoa Highway	1.00	40,850	40,850	1.00	51,750	51,750
Relocated Alcoa Highway to E. Broadway / Old Knoxville Hwy (SR 33)	1.47	34,320	50,450	1.47	55,330	81,335
E. Broadway / Old Knoxville Hwy (SR 33) to US 411 (SR 35)	-	-	-	2.98	38,040	113,359
US 411 (SR 35) to Lamar Alexander Pkwy (SR 73/US 321)	-	-	-	1.39	25,240	35,084
<b>Lamar Alexander Parkway (SR 73 / US 321)</b>						
E. Broadway / Old Knoxville Hwy (SR 33) to Jones Ave	0.87	38,020	33,077	0.87	32,580	28,345
Jones Ave to Merritt Rd	1.46	39,020	56,969	1.46	30,680	44,793
Merritt Rd to Tuckaleechee Pk	3.04	33,860	102,934	3.04	28,120	85,485
Tuckaleechee Pk to Tuckaleechee Pk	0.30	33,110	9,933	0.30	37,420	11,226
Tuckaleechee Pk to Melrose Station Rd	2.70	23,860	64,422	2.70	28,160	76,032
Melrose Station Rd to Foothills Pkwy	2.38	11,650	27,727	2.38	12,970	30,869
<b>Hall Road (SR 35)</b>						
Alcoa Hwy (SR 115/US 129) to Bessemer St	1.52	35,370	53,762	1.52	31,200	47,424
Bessemer St to E. Broadway / Old Knoxville Hwy (SR 33)	1.07	32,530	34,807	1.07	23,930	25,605
<b>Washington Street (SR 35)</b>						
E. Broadway / Old Knoxville Hwy (SR 33) / US 411 (SR 35)	0.23	29,900	6,877	0.23	20,130	4,630
US 411 (SR 35) Lamar Alexander Pkwy (SR 73 / US 321)	0.16	25,570	4,091	0.16	18,630	2,981
<b>US 411 (SR 35)</b>						
Washington Street (SR 35) to S. Everett High Rd	0.87	15,400	13,398	0.87	13,780	11,989
S. Everett High Rd to Westfield Dr.	0.84	15,080	12,667	0.84	14,800	12,432
Westfield Dr. to Hitch Rd	2.73	14,140	38,602	2.73	14,800	40,404
Hitch Rd to End of Study Area	0.74	15,670	11,596	0.74	19,800	14,652

**Table E-1: Pellissippi Parkway Extension Link by Link VMTs, Four-Lane Alternatives\*, continued**

Segment	No-Build			Four-Lane Alternatives*		
	Length (mi)	2040 ADT	Daily VMT	Length (mi)	2040 ADT	Daily VMT
<b>E. Broadway / Old Knoxville Hwy (SR 33)</b>						
Hall Rd to Wildwood Rd	1.87	21,510	40,224	1.87	19,130	35,773
Wildwood Rd to Hunt Rd	1.26	19,470	24,532	1.26	17,210	21,685
Hunt Rd to Pellissippi Pkwy	0.45	36,330	16,349	0.45	36,130	16,259
Pellissippi Pkwy to Sam Houston School Rd	0.45	17,050	7,673	0.45	19,240	8,658
Sam Houston School Rd to County Line	4.29	11,940	51,223	4.29	19,240	82,540
<b>Alcoa Highway (SR 115 / US 129)</b>						
Louisville Rd to Hall Rd	1.26	62,250	78,435	1.26	61,380	77,339
Hall Rd to Hunt Rd	0.74	94,460	69,900	0.74	88,800	65,712
Hunt Rd to Relocated Alcoa Hwy	0.98	97,820	95,864	0.98	92,470	90,621
Relocated Alcoa Hwy to Pellissippi Pkwy	2.64	45,270	119,513	2.64	44,950	118,668
Pellissippi Pkwy to County Line	2.74	35,820	98,147	2.74	37,100	101,654
<b>Sam Houston School Road</b>						
SR 33 to Wildwood Rd	2.65	15,030	39,830	2.65	-	-
<b>Peppermint Road</b>						
Wildwood Rd to Sevierville Rd	1.10	5,960	6,556	1.10	-	-
<b>Hitch Road</b>						
Sevierville Rd to Davis Ford Rd	1.20	2,450	2,940	1.20	-	-
<b>Helton Road</b>						
Davis Ford Rd to Lamar Alexander Pkwy	0.88	640	563	0.88	-	-
<b>TOTAL</b>	<b>50</b>	<b>1,004,730</b>	<b>1,359,807</b>	<b>54</b>	<b>1,028,400</b>	<b>1,476,516</b>

\* The four-lane alternatives are Preferred Alternative (A), Preferred Alternative with East Shift, Preferred Alternative with West Shift, and DEIS Alternative C.



**Table E-2: Pellissippi Parkway Extension Link by Link VMTs, Alternative D**

Segment	No-Build			Alternative D		
	Length (mi)	2040 ADT	Daily VMT	Length (mi)	2040 ADT	Daily VMT
<b>Sam Houston School Road</b>						
SR 33 to Wildwood Rd	2.65	15,030	39,830	2.65	16,800	44,520
<b>Peppermint Road</b>						
Wildwood Rd to Sevierville Rd	1.10	5,960	6,556	1.10	20,580	22,638
<b>Hitch Road</b>						
Sevierville Rd to Davis Ford Rd	1.20	2,450	2,940	0.90	14,890	13,401
<b>Helton Road</b>						
Davis Ford Rd to Lamar Alexander Pkwy	1.30	640	832	1.07	15,790	16,895
<b>TOTAL</b>	<b>6.25</b>	<b>24,080</b>	<b>50,158</b>	<b>5.72</b>	<b>68,060</b>	<b>97,454</b>