HORROCKS ENGINEERS

To:

From:

Date: September 20, 2007 **Memorandum**

Subject: Main and Gentile, 750 South and SPUI, 750 South and Main, Air Quality Evaluation in Layton, Utah

INTRODUCTION

The purpose of this memo is to describe the air quality analysis of Main Street / Gentile Street, 750 South / SPUI and 750 South / Main Street in Layton, Utah. A total of three intersections were examined to determine compliance with National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO).

SCREENING PROCESS

The National Ambient Air Quality Standard for CO is nine 9 parts per million (ppm) for an 8 hour period, and 35 ppm for a 1 hour period. CAL3QHC is a hot spot CO concentration model developed by the Federal Highway Administration (FHWA) that gives, within reasonable accuracy, a worst case CO concentration level and therefore acts as a screener. For example, if an intersection has a modeled CO concentration level below NAAQS standard, it can generally be assumed that the intersection's actual CO concentration levels also fall below the NAAQS standard. If the modeled results fall above the NAAQS standard then further analysis is required.

Intersections that operate, or are expected to operate in the future, at a level of service (LOS) A, B, or C according to the guidelines laid out by the Highway Capacity Manual (HCM), are exempt from CAL3QHC analysis according to to the FHWA. Intersections that have volumes below the maximum average daily traffic volumes as laid out by UDOT in the Air Quality Hot Spot Manual (August 2003) are also exempt. However, projects that are in or directly affect the following areas may not be excluded as part of this manual:

- Salt Lake City,
- Ogden City,
- Provo City, and
- Orem City (Orem City's attainment status is uncertain, but UDOT's Air Quality Hot Spot Manual assumes a more conservative stance to include Orem as non-attainment area until otherwise approved by the Utah Department of Air Quality (DAQ). This assumption is made because presently the Environmental Protection Agency (EPA) does not recognize Orem as a non-attainment area whereas the Utah DAQ does).

CAL3QHC ANALYSIS

The CAL3QHC analysis for the Main Street / Gentile Street, 750 South / SPUI and 750 South / Main Street were performed using 1-hour CO concentrations from existing and projected 2030 PM peak hour time periods. From the 1-hour CO concentrations, the 8-hour concentrations are determined using the following formula.

$$CO_8 = PF * (CO_1 - BG_1) + BG_8$$

where: CO_8 = Total 8-hour CO concentration
PF = Persistency Factor (0.7 used)
CO_1 = Total 1-hour CO concentration
BG_1 = 1-hour Ambient Background CO Concentration
BG_8 = 8-hour Ambient Background CO Concentration

As discussed earlier, the National Ambient Air Quality Standard for CO is 9 ppm for an 8 hour period and 35 ppm for a 1 hour period. Table 1 summarize the CO concentrations for the Main Street / Gentile Street, 750 South / SPUI and 750 South / SPUI under projected 2030 traffic conditions using the CAL3QHC program.

Table 1: Projected 2030 Conditions CAL3QHC CO Analysis Results

Interchange	1-Hour CO Concentration (ppm)
Main Street and Gentile Street	13.90
750 South and Main Street	14.30
750 South and SPUI	15.20

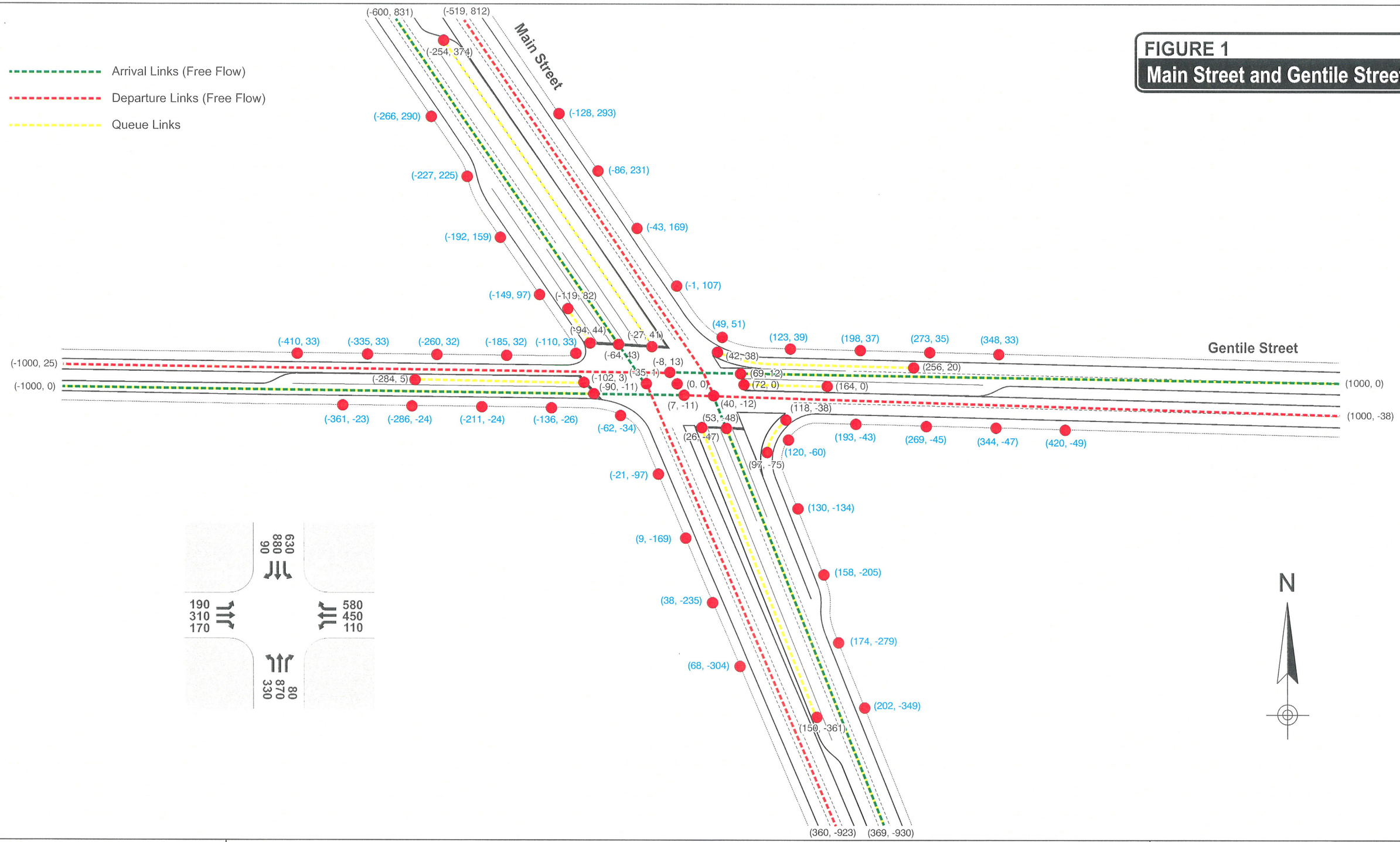
PM10 HOT SPOTS

Particulate Matter (PM) is the term commonly used for dust, dirt, and smoke in the air. Particles of concern are those less than ten micrometers in diameter, and so are usually referred to as PM10. According to the EPA, presently PM10 hot spot concentrations cannot be reliably estimated using quantitative techniques. However, qualitative estimates can be made by comparing the subject intersection volumes to other intersections around the area. While intersection timing, queue lengths, adjacent intersection location, and many other factors may affect actual PM10 hot spot concentrations, anecdotal evidence suggests that gravel or unpaved roads are the predominant contributing factor to PM10 hot spot problems. Therefore, based on comparative traffic analysis and a review of the land uses in the project vicinity area, it would not appear that hot spot PM10 levels would be a problem along Gentile, Main Street and 750 South.

CONCLUSIONS

The National Ambient Air Quality Standard for CO emissions is 9 ppm for an 8-hour period and 35 ppm for a 1-hour period. As shown in Table 1 all intersections are below the standard for CO emissions based on the 1-hour period. Based on comparative traffic analysis and a review of the land uses in the project vicinity area, it would not appear that hot spot PM10 levels would be a problem 750 South and Gentile Street. Therefore, air quality standards will not be violated for the Main Street / Gentile Street, 750 South / SPUI and 750 South / Main Street in Layton, Utah.

FIGURE 1
Main Street and Gentile Street



HORROCKS ENGINEERS

Layton Interchange EIS

PROJECT #: 0601-085
DATE: September 18, 2007

```
'Main&Gentile' 60. 108. 0. 0. 36 .3048 1 1
'REC 1' 348. 33. 6.
'REC 2' 273. 35. 6.
'REC 3' 198. 37. 6.
'REC 4' 123. 39. 6.
'REC 5' 49. 51. 6.
'REC 6' -1. 107. 6.
'REC 7' -43. 169. 6.
'REC 8' -86. 231. 6.
'REC 9' -128. 293. 6.
'REC 10' -266. 290. 6.
'REC 11' -227. 225. 6.
'REC 12' -192. 159. 6.
'REC 13' -149. 97. 6.
'REC 14' -110. 33. 6.
'REC 15' -185. 32. 6.
'REC 16' -260. 32. 6.
'REC 17' -335. 33. 6.
'REC 18' -410. 33. 6.
'REC 19' -361. -23. 6.
'REC 20' -286. -24. 6.
'REC 21' -211. -24. 6.
'REC 22' -136. -26. 6.
'REC 23' -62. -34. 6.
'REC 24' -21. -97. 6.
'REC 25' 9. -169. 6.
'REC 26' 38. -235. 6.
'REC 27' 68. -304. 6.
'REC 28' 202. -349. 6.
'REC 29' 174. -279. 6.
'REC 30' 158. -205. 6.
'REC 31' 130. -134. 6.
'REC 32' 120. -60. 6.
'REC 33' 193. -43. 6.
'REC 34' 269. -45. 6.
'REC 35' 344. -47. 6.
'REC 36' 420. -49. 6.
'Main and Gentile' 19 1 0 'C'
1
'Gentile WB APPR.'   'AG'    1000. 0.  -8.  13.  450.    5.5  1.  44.
2
'Gentile WB QUEUE'   'AG'    69. 12. 1000. 0.   1. 24. 2
        110 72 2. 450  54.9  1800  1   3
1
'Gentile WB DEP.'    'AG'    -8. 13.  -1000. 25.  870.  5.5  1.  32.
2
'Gentile WB L. QUEUE'  'AG'  72.  0.  164. 0.  1. 12. 1
        110 100 2.  110  54.9  1800  1   3
2
'Gentile WB R. QUEUE' 'AG'  42. 38. 256. 20.  1. 12. 1
        110 10 2. 580  54.9  1800  1  3
1
'Gentile EB APPR.'    'AG'    7. -11.  -1000. 0. 310. 5.5  1.  32.
2
'Gentile EB QUEUE'    'AG'  -90. -11. -1000. 0.   1. 12.  1
        110 70 2. 310  54.9  1800  1  3
1
'Gentile EB DEP.'     'AG'  7. -11. 1000. -38.  1020.  5.5  1.  44.
2
'Gentile EB L QUEUE'  'AG'  -90.  -11. -284. 5.  1. 12. 1
        110 98 2. 190  54.9  1800  1  3
1
'Main SB APPR.'  'AG'  -600. 831.  -35. 1.  880.   5.5    1.  56.
```

```
2
'Main SB Queue'  'AG'  -64. 43.  -600. 831.  1.   36.  3
        110 84 2. 880 54.9  1800  1  3
1
'Main SB DEP.'  'AG'  -35.  1.   360.  -923.  1160.   5.5    1.  56.
2
'Main SB L. Queue' 'AG'  -27. 41.  -254. 374.  1. 12. 1
        110 83 2. 630  54.9  1800  1  3
2
'Main SB R. Queue'  'AG'  -94. 44.  -119. 82.  1. 12. 1
        110 10 2. 90  54.9   1800  1   3
1
'Main NB APPR.' 'AG'  369. -930.  40. -12.  870.   5.5   1.  56.
2
'Main NB QUEUE' 'AG'  53. -48.  369. -930.   1. 12. 1
        110 85 2. 870  54.9   1800  1    3
1
'Main NB DEP.' 'AG'  40. -12.  -519. 812.   1640.  5.5   1.  56.
2
'Main NB L Queue' 'AG' 26. -47.  150. -361.   1. 12.  1
        110 74 2. 330  54.9   1800  1    3
2
'Main NB R Queue.' 'AG'  118. -38.  97. -75.  1. 12. 1
        110 10 2. 80  54.9   1800  1   3
1.0 0.  5  1000. 12. 'Y' 10  0 36
```

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: Main&Gentile RUN: Main and Gentile

DATE : 9/20/ 7
TIME : 13:35:54

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

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES
MIXH = 1000. M AMB = 12.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)	LINK COORDINATES (FT) X1	Y1	X2	Y2
1. Gentile WB APPR.	1008.	271. AG	AG	450.	5.5	1.0	44.0			1000.0	.0	-8.0	13.0
2. Gentile WB QUEUE	89.	91. AG	AG	193.	100.0	1.0	24.0	.40	4.5	69.0	12.0	157.6	10.9
3. Gentile WB DEP.	992.	271. AG	AG	870.	5.5	1.0	32.0			-8.0	13.0	-1000.0	25.0
4. Gentile WB L. QUEUE	233.	90. AG	AG	134.	100.0	1.0	12.0	1.12	11.8	72.0	.0	304.6	.0
5. Gentile WB R. QUEUE	32.	95. AG	AG	13.	100.0	1.0	12.0	.37	1.6	42.0	38.0	73.6	35.3
6. Gentile EB APPR.	1007.	271. AG	AG	310.	5.5	1.0	32.0			7.0	-11.0	-1000.0	.0
7. Gentile EB QUEUE	119.	271. AG	AG	94.	100.0	1.0	12.0	.53	6.0	-90.0	-11.0	-208.6	-9.6
8. Gentile EB DEP.	993.	92. AG	AG	1020.	5.5	1.0	44.0			7.0	-11.0	1000.0	-38.0
9. Gentile EB L QUEUE	774.	275. AG	AG	131.	100.0	1.0	12.0	1.46	39.3	-90.0	-11.0	-861.1	52.6
10. Main SB APPR.	1004.	146. AG	AG	880.	5.5	1.0	56.0			-600.0	831.0	-35.0	1.0
11. Main SB Queue	150.	326. AG	AG	337.	100.0	1.0	36.0	.82	7.6	-64.0	43.0	-148.2	166.7
12. Main SB DEP.	1005.	157. AG	AG	1160.	5.5	1.0	56.0			-35.0	1.0	360.0	-923.0
13. Main SB L. Queue	2944.	326. AG	AG	111.	100.0	1.0	12.0	1.68	149.6	-27.0	41.0	-1685.3	2473.6
14. Main SB R. Queue	5.	327. AG	AG	13.	100.0	1.0	12.0	.06	.3	-94.0	44.0	-96.7	48.1
15. Main NB APPR.	975.	340. AG	AG	870.	5.5	1.0	56.0			369.0	-930.0	40.0	-12.0
16. Main NB QUEUE	5820.	160. AG	AG	114.	100.0	1.0	12.0	2.54	295.7	53.0	-48.0	2016.0	-5527.0
17. Main NB DEP.	996.	326. AG	AG	1640.	5.5	1.0	56.0			40.0	-12.0	-519.0	812.0
18. Main NB L Queue	134.	158. AG	AG	99.	100.0	1.0	12.0	.63	6.8	26.0	-47.0	75.0	-171.2

```
      19. Main NB R Queue.     *     118.0      -38.0      115.8      -41.8 *
4.   210. AG     13. 100.0   1.0 12.0  .05     .2
```

JOB: Main&Gentile RUN: Main and Gentile

DATE : 9/20/ 7
TIME : 13:35:54

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
2. Gentile WB QUEUE	110	72	2.0	450	1800	54.90	1	3
4. Gentile WB L. QUEUE	110	100	2.0	110	1800	54.90	1	3
5. Gentile WB R. QUEUE	110	10	2.0	580	1800	54.90	1	3
7. Gentile EB QUEUE	110	70	2.0	310	1800	54.90	1	3
9. Gentile EB L QUEUE	110	98	2.0	190	1800	54.90	1	3
11. Main SB Queue	110	84	2.0	880	1800	54.90	1	3
13. Main SB L. Queue	110	83	2.0	630	1800	54.90	1	3
14. Main SB R. Queue	110	10	2.0	90	1800	54.90	1	3
16. Main NB QUEUE	110	85	2.0	870	1800	54.90	1	3
18. Main NB L Queue	110	74	2.0	330	1800	54.90	1	3
19. Main NB R Queue.	110	10	2.0	80	1800	54.90	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1	348.0	33.0	6.0
2. REC 2	273.0	35.0	6.0
3. REC 3	198.0	37.0	6.0
4. REC 4	123.0	39.0	6.0
5. REC 5	49.0	51.0	6.0
6. REC 6	-1.0	107.0	6.0
7. REC 7	-43.0	169.0	6.0
8. REC 8	-86.0	231.0	6.0
9. REC 9	-128.0	293.0	6.0
10. REC 10	-266.0	290.0	6.0
11. REC 11	-227.0	225.0	6.0
12. REC 12	-192.0	159.0	6.0
13. REC 13	-149.0	97.0	6.0
14. REC 14	-110.0	33.0	6.0

15. REC 15	*	-185.0	32.0	6.0	*
16. REC 16	*	-260.0	32.0	6.0	*
17. REC 17	*	-335.0	33.0	6.0	*
18. REC 18	*	-410.0	33.0	6.0	*
19. REC 19	*	-361.0	-23.0	6.0	*
20. REC 20	*	-286.0	-24.0	6.0	*
21. REC 21	*	-211.0	-24.0	6.0	*
22. REC 22	*	-136.0	-26.0	6.0	*
23. REC 23	*	-62.0	-34.0	6.0	*
24. REC 24	*	-21.0	-97.0	6.0	*
25. REC 25	*	9.0	-169.0	6.0	*
26. REC 26	*	38.0	-235.0	6.0	*
27. REC 27	*	68.0	-304.0	6.0	*
28. REC 28	*	202.0	-349.0	6.0	*
29. REC 29	*	174.0	-279.0	6.0	*
30. REC 30	*	158.0	-205.0	6.0	*
31. REC 31	*	130.0	-134.0	6.0	*
32. REC 32	*	120.0	-60.0	6.0	*
33. REC 33	*	193.0	-43.0	6.0	*
34. REC 34	*	269.0	-45.0	6.0	*

JOB: Main&Gentile RUN: Main and Gentile

DATE : 9/20/ 7
TIME : 13:35:54

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
35. REC 35	344.0	-47.0	6.0
36. REC 36	420.0	-49.0	6.0

JOB: Main&Gentile RUN: Main and Gentile

MODEL RESULTS

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

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) *	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.6	12.6	12.6	13.2	13.6	12.3	12.3	12.3	12.2	12.8	12.8
10.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.6	12.6	12.6	13.4	13.5	12.5	12.3	12.3	12.2	12.7	12.8
20.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.6	12.6	12.5	13.4	13.4	12.7	12.3	12.3	12.2	12.6	12.8
30.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.5	12.5	12.5	13.4	13.3	12.8	12.4	12.3	12.2	12.7	12.9
40.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.5	12.5	12.4	13.2	13.2	12.8	12.5	12.2	12.2	12.8	12.9
50.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.5	12.5	12.4	13.2	13.2	12.8	12.6	12.3	12.2	12.9	13.1
60.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.6	12.5	12.4	13.2	13.1	12.8	12.7	12.4	12.3	13.0	13.2
70.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.5	12.5	12.6	13.2	13.0	12.8	12.7	12.5	12.4	13.1	13.2
80.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.5	12.5	12.9	13.4	12.8	12.7	12.7	12.6	12.5	13.1	13.3
90.	*	12.2	12.2	12.2	12.3	12.3	12.0	12.0	12.0	12.0	12.6	12.6	13.1	13.4	13.0	13.0	13.2	12.9	12.9	12.7	12.8
100.	*	12.4	12.4	12.5	12.6	12.6	12.2	12.0	12.0	12.0	12.6	12.6	13.5	13.9	13.1	12.9	12.9	13.1	13.2	12.2	12.5
110.	*	12.4	12.3	12.5	12.7	12.9	12.3	12.1	12.1	12.0	12.7	12.8	13.9	13.8	12.8	12.8	13.1	13.2	13.2	12.2	12.2
120.	*	12.3	12.3	12.6	12.8	13.1	12.6	12.2	12.2	12.1	12.9	13.3	13.8	13.4	12.7	13.1	13.3	13.0	13.1	12.2	12.2
130.	*	12.3	12.4	12.6	13.0	13.0	12.5	12.3	12.3	12.2	13.0	13.3	13.4	13.0	12.7	13.0	13.0	12.8	13.0	12.2	12.2
140.	*	12.2	12.4	12.5	13.0	12.8	12.5	12.4	12.4	12.4	13.2	13.3	12.9	12.9	12.8	13.0	12.8	12.8	12.7	12.1	12.2
150.	*	12.2	12.4	12.5	13.0	12.7	12.8	12.9	12.8	13.0	12.8	12.9	12.7	12.7	12.9	13.0	12.6	12.6	12.7	12.1	12.1
160.	*	12.3	12.5	12.5	13.1	13.1	13.2	13.1	13.3	13.4	12.3	12.4	12.5	12.6	12.7	12.8	12.6	12.6	12.6	12.1	12.1
170.	*	12.3	12.7	12.7	13.4	13.2	13.0	12.9	13.2	13.4	12.1	12.1	12.3	12.3	12.5	12.6	12.5	12.5	12.6	12.0	12.0
180.	*	12.3	12.8	12.8	13.3	13.0	12.5	12.9	13.2	13.3	12.1	12.1	12.3	12.3	12.6	12.6	12.5	12.5	12.5	12.0	12.0
190.	*	12.4	12.8	12.7	13.3	12.8	12.5	13.0	13.4	13.0	12.1										

```
12.1  12.2  12.3  12.6  12.6  12.5  12.5  12.5  12.0  12.0
 200.  *  12.4  12.8  12.7  13.4  12.6  12.7  13.4  13.3  12.8  12.1
12.1  12.2  12.3  12.6  12.5  12.5  12.5  12.6  12.0  12.0
 210.  *  12.4  12.8  12.8  13.4  12.5  12.7  13.4  13.2  12.7  12.1
12.1  12.2  12.2  12.6  12.6  12.5  12.5  12.6  12.0  12.0
 220.  *  12.4  12.8  13.0  13.4  12.4  13.0  13.3  13.0  12.7  12.1
12.2  12.2  12.3  12.6  12.5  12.5  12.5  12.6  12.0  12.0
 230.  *  12.4  12.7  13.1  13.1  12.4  13.3  13.3  13.0  12.7  12.1
12.2  12.2  12.3  12.7  12.5  12.5  12.6  12.6  12.0  12.0
 240.  *  12.7  12.9  13.3  12.9  12.5  13.5  13.3  12.8  12.7  12.1
12.2  12.2  12.3  12.8  12.6  12.8  12.7  12.9  12.0  12.0
 250.  *  12.7  12.8  13.0  12.9  12.8  13.4  13.3  12.8  12.7  12.0
12.2  12.2  12.3  12.8  12.8  12.8  12.9  12.9  12.0  12.0
 260.  *  12.8  12.9  13.0  13.0  13.3  13.4  13.2  12.7  12.6  12.0
12.0  12.2  12.3  12.9  12.9  13.0  13.0  13.1  12.0  12.0
 270.  *  12.9  12.9  12.8  12.9  13.1  13.3  12.9  12.6  12.6  12.0
12.0  12.0  12.2  12.6  12.7  12.8  12.8  13.0  12.3  12.4
 280.  *  12.4  12.6  12.6  12.9  13.2  13.2  12.7  12.6  12.6  12.0
12.0  12.0  12.0  12.2  12.2  12.4  12.4  12.5  12.6  12.7
 290.  *  12.3  12.4  12.5  12.7  13.1  13.1  12.7  12.7  12.7  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.1  12.7  12.8
 300.  *  12.2  12.3  12.5  12.7  13.1  12.9  12.7  12.7  12.7  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.7  12.7
 310.  *  12.2  12.2  12.5  12.5  12.9  12.9  12.9  12.9  12.9  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.5  12.6
 320.  *  12.1  12.1  12.2  12.4  12.8  12.9  12.9  12.9  12.9  12.3
12.2  12.2  12.2  12.2  12.0  12.0  12.0  12.0  12.5  12.5
 330.  *  12.0  12.0  12.0  12.1  12.3  12.4  12.4  12.4  12.4  12.7
12.7  12.6  12.6  12.8  12.3  12.1  12.1  12.1  12.6  12.6
 340.  *  12.0  12.0  12.0  12.0  12.0  12.1  12.1  12.1  12.1  12.8
12.8  12.7  12.8  13.2  12.4  12.3  12.1  12.1  12.6  12.6
 350.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.6
12.6  12.6  12.9  13.4  12.4  12.3  12.3  12.1  12.6  12.8
 360.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.6
12.6  12.6  13.2  13.6  12.3  12.3  12.3  12.2  12.8  12.8
 ------
*-------------------------------------------------------------------------
-------------------------------------------------
 MAX   *  12.9  12.9  13.3  13.4  13.3  13.5  13.4  13.4  13.4  13.2
13.3  13.9  13.9  13.6  13.1  13.3  13.2  13.2  13.1  13.3
 DEGR. *  270   240   240   170   260   240   200   190   160   140
120   110   100     0   120   120   110   100    70    80
```

JOB: Main&Gentile RUN: Main and Gentile

MODEL RESULTS

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

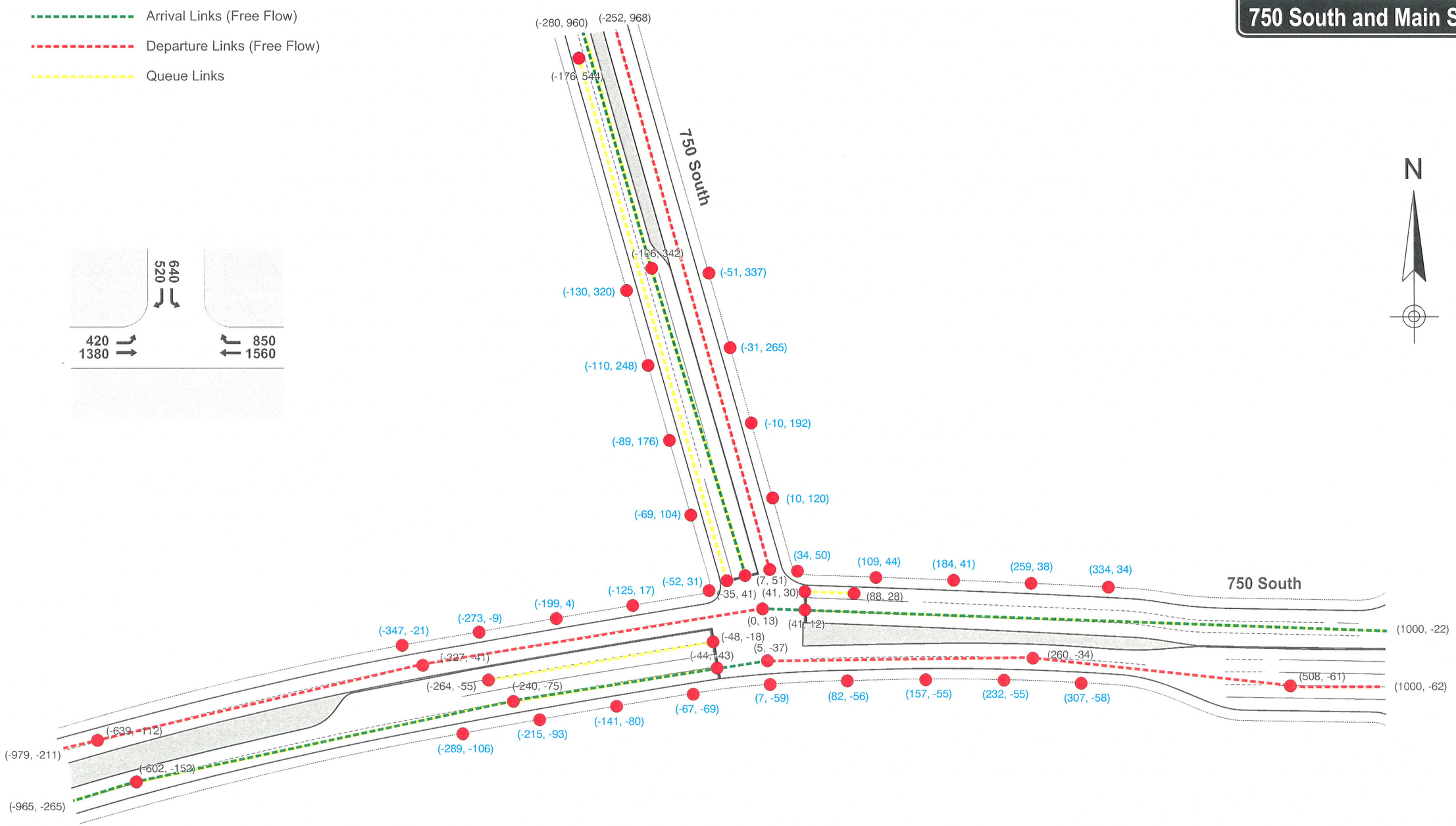
WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	12.9	13.5	13.3	12.7	12.4	12.7	12.7	12.1	12.1	12.3	12.4	12.6	12.5	12.5	12.3	12.3
10.	13.0	13.6	12.9	12.5	12.7	13.0	12.9	12.1	12.1	12.2	12.3	12.6	12.5	12.5	12.3	12.3
20.	13.2	13.6	12.6	12.4	12.8	12.9	12.6	12.0	12.1	12.2	12.2	12.5	12.5	12.5	12.3	12.3
30.	13.5	13.7	12.7	12.4	12.9	12.9	12.6	12.0	12.1	12.2	12.2	12.4	12.5	12.5	12.3	12.3
40.	13.5	13.6	12.6	12.8	12.8	12.7	12.6	12.0	12.1	12.1	12.2	12.5	12.6	12.4	12.3	12.3
50.	13.6	13.4	12.5	12.8	12.7	12.5	12.6	12.0	12.1	12.1	12.2	12.5	12.6	12.3	12.3	12.3
60.	13.7	13.2	12.7	12.9	12.7	12.5	12.5	12.0	12.1	12.1	12.1	12.5	12.5	12.3	12.3	12.3
70.	13.4	13.0	12.9	12.8	12.6	12.5	12.4	12.0	12.0	12.1	12.1	12.5	12.6	12.4	12.4	12.4
80.	13.4	13.0	13.0	12.7	12.6	12.4	12.4	12.0	12.0	12.0	12.1	12.4	12.6	12.5	12.5	12.5
90.	13.0	12.7	12.9	12.6	12.5	12.4	12.5	12.0	12.0	12.0	12.0	12.2	12.4	12.3	12.3	12.3
100.	12.5	12.5	12.6	12.5	12.4	12.5	12.5	12.0	12.0	12.0	12.0	12.0	12.1	12.1	12.1	12.1
110.	12.3	12.4	12.5	12.6	12.5	12.5	12.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
120.	12.3	12.4	12.5	12.7	12.6	12.6	12.6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
130.	12.3	12.3	12.7	12.7	12.6	12.6	12.6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
140.	12.3	12.5	12.7	12.7	12.7	12.7	12.7	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
150.	12.3	12.4	12.6	12.9	12.9	12.9	12.9	12.1	12.1	12.1	12.1	12.1	12.0	12.0	12.0	12.0
160.	12.1	12.1	12.4	12.6	12.6	12.6	12.6	12.6	12.7	12.5	12.5	12.5	12.1	12.1	12.1	12.1
170.	12.0	12.0	12.0	12.1	12.1	12.1	12.2	12.8	13.0	12.7	12.7	12.6	12.4	12.2	12.1	12.1
180.	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.7	12.8	12.7	12.6	12.6	12.4	12.3	12.1	12.1
190.	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.7	12.7	12.6						

```
12.6  12.4  12.3  12.3  12.3  12.1
 200.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.6  12.6  12.5
12.5  12.5  12.3  12.3  12.3  12.2
 210.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.5  12.5  12.4
12.4  12.5  12.3  12.3  12.2  12.2
 220.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.4  12.4  12.4
12.4  12.5  12.3  12.3  12.2  12.1
 230.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.4  12.4  12.4
12.4  12.5  12.4  12.3  12.2  12.1
 240.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.4  12.4  12.4
12.5  12.5  12.4  12.3  12.2  12.1
 250.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.4  12.4  12.4
12.5  12.5  12.4  12.4  12.2  12.1
 260.  *  12.1  12.1  12.1  12.0  12.0  12.0  12.0  12.4  12.4  12.4
12.5  12.5  12.4  12.4  12.2  12.2
 270.  *  12.4  12.6  12.6  12.0  12.0  12.0  12.0  12.4  12.4  12.4
12.5  12.6  12.6  12.5  12.5  12.5
 280.  *  12.8  13.1  13.1  12.3  12.1  12.0  12.0  12.4  12.4  12.5
12.7  12.9  12.9  13.0  13.1  13.1
 290.  *  12.9  13.2  13.2  12.4  12.3  12.1  12.1  12.6  12.6  12.7
12.9  12.7  13.5  13.4  13.2  13.0
 300.  *  12.8  13.1  12.8  12.4  12.3  12.2  12.1  12.7  12.7  12.8
12.9  13.0  13.6  13.2  13.1  12.7
 310.  *  12.6  12.9  12.5  12.4  12.3  12.1  12.1  12.8  12.8  13.0
13.1  13.1  13.6  13.0  12.7  12.5
 320.  *  12.6  12.9  12.7  12.7  12.6  12.3  12.3  13.1  13.2  13.3
13.2  13.4  13.2  12.7  12.5  12.4
 330.  *  12.6  13.3  13.2  13.2  12.9  12.9  12.7  13.3  13.2  12.9
13.0  12.8  12.8  12.5  12.3  12.3
 340.  *  12.9  13.3  13.7  13.5  13.1  13.0  13.1  12.5  12.5  12.4
12.4  12.6  12.6  12.5  12.3  12.3
 350.  *  12.8  13.5  13.4  13.1  12.8  12.9  13.0  12.2  12.2  12.3
12.4  12.6  12.5  12.5  12.3  12.3
 360.  *  12.9  13.5  13.3  12.7  12.4  12.7  12.7  12.1  12.1  12.3
12.4  12.6  12.5  12.5  12.3  12.3
 ------
*-----------------------------------------------------------------------
-------------------------
 MAX   *  13.7  13.7  13.7  13.5  13.1  13.0  13.1  13.3  13.2  13.3
13.2  13.4  13.6  13.4  13.2  13.1
 DEGR. *   60    30   340   340   340    10   340   330   320   320
320   320   300   290   290   280

 THE HIGHEST CONCENTRATION OF   13.90 PPM OCCURRED AT RECEPTOR REC13.
```

FIGURE 2
750 South and Main Street



HORROCKS ENGINEERS

Layton Interchange EIS

PROJECT #: 0601-085
DATE: September 18, 2007

```
'Main&750South' 60. 108. 0. 0. 27 .3048 1 1
'REC 1' 334. 34. 6.
'REC 2' 259. 38. 6.
'REC 3' 184. 41. 6.
'REC 4' 109. 44. 6.
'REC 5' 34. 50. 6.
'REC 6' 10. 120. 6.
'REC 7' -10. 192. 6.
'REC 8' -31. 265. 6.
'REC 9' -51. 337. 6.
'REC 10' -130. 320. 6.
'REC 11' -110. 248. 6.
'REC 12' -89. 176. 6.
'REC 13' -69. 104. 6.
'REC 14' -52. 31. 6.
'REC 15' -125. 17. 6.
'REC 16' -199. 4. 6.
'REC 17' -273. -9. 6.
'REC 18' -347. -21. 6.
'REC 19' -289. -106. 6.
'REC 20' -215. -93. 6.
'REC 21' -141. -80. 6.
'REC 22' -67. -69. 6.
'REC 23' 7. -59. 6.
'REC 24' 82. -56. 6.
'REC 25' 157. -55. 6.
'REC 26' 232. -55. 6.
'REC 27' 307. -58. 6.
'Main and 750 South' 18 1 0 'C'
1
'750S WB APPR.'   'AG'    1000. -22.  0.  13.  2410.    5.5  1.  56.
2
'750S WB QUEUE'   'AG'    41. 12.  1000. -22.   1. 36. 3
        100 47 2. 2410  54.9  1800  1   3
1
'750S WB Dep1.'    'AG'    0. 13.  -327. -41.  2080.  5.5  1.  32.
1
'750S WB Dep2.'    'AG'    -327. -41.  -639. -112.  2080.  5.5  1.  32.
1
'750S WB Dep3.'    'AG'    -639. -112.  -979. -211.  2080.  5.5  1.  32.
2
'750S WB R QUEUE' 'AG'  41. 30.  88. 28.  1. 12. 1
        100 10 2. 850  54.9  1800  1  3
1
'750S EB Appr1.'    'AG'    -965. -265.  -602. -152.  1800.  5.5  1.  44.
1
'750S EB Appr2.'    'AG'    -602. -152.  -240. -75.  1800.  5.5  1.  44.
1
'750S EB Appr3.'    'AG'    -240. -75.  5. -37.  1800.  5.5  1.  44.
2
'750S EB QUEUE'    'AG'  -44. -43. -965. -265.   1. 24.  2
        100 28 2. 1800  54.9  1800  1  3
1
'750S EB Dep1.'    'AG'  5. -37. 260. -34.  2020.  5.5  1.  44.
1
'750S EB Dep2.'    'AG'  260. -34. 508. -61.  2020.  5.5  1.  44.
1
'750S EB Dep3.'    'AG'  508. -61. 1000. -62.  2020.  5.5  1.  56.
2
'750S EB L QUEUE'  'AG'  -48.  -18. -264. -55.  1. 12. 1
        100 81 2. 420  54.9  1800  1  3
1
'Main SB APPR.'  'AG'  -280. 960.  -4. 25.  1160.   5.5    1.  44.
```

```
2
'Main SB Queue'  'AG'  -35. 41.  -280. 960.  1.   24.  2
        100 72 2. 1160 54.9  1800  1  3
1
'Main SB DEP.'  'AG'  7.  51.   -252.  968.  1270.   5.5    1.  44.
2
'Main NB R Queue.' 'AG'  118. -38.  145. -216.  1. 12. 1
        100 10 2. 80  54.9   1800  1   3
1.0 0.  5  1000. 12. 'Y' 10  0 36
```

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

JOB: Main&750South RUN: Main and 750 South

DATE : 9/20/ 7
TIME : 14:59:54

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

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES
MIXH = 1000. M AMB = 12.0 PPM

LINK VARIABLES

LINK DESCRIPTION					*	LINK COORDINATES (FT)							
LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	*	H (FT)	W (FT)	V/C	QUEUE (VEH)	X1	Y1	X2	Y2 *
1.	750S WB APPR.				*	1000.0		-22.0		.0		13.0	*
1001.	272. AG	2410.	5.5	1.0	56.0								
2.	750S WB QUEUE				*	41.0		12.0		291.5		3.1	*
251.	92. AG	208.	100.0	1.0	36.0	.91	12.7						
3.	750S WB Dep1.				*	.0		13.0		-327.0		-41.0	*
331.	261. AG	2080.	5.5	1.0	32.0								
4.	750S WB Dep2.				*	-327.0		-41.0		-639.0		-112.0	*
320.	257. AG	2080.	5.5	1.0	32.0								
5.	750S WB Dep3.				*	-639.0		-112.0		-979.0		-211.0	*
354.	254. AG	2080.	5.5	1.0	32.0								
6.	750S WB R QUEUE				*	41.0		30.0		87.4		28.0	*
46.	92. AG	15.	100.0	1.0	12.0	.55	2.4						
7.	750S EB Appr1.				*	-965.0		-265.0		-602.0		-152.0	*
380.	73. AG	1800.	5.5	1.0	44.0								
8.	750S EB Appr2.				*	-602.0		-152.0		-240.0		-75.0	*
370.	78. AG	1800.	5.5	1.0	44.0								
9.	750S EB Appr3.				*	-240.0		-75.0		5.0		-37.0	*
248.	81. AG	1800.	5.5	1.0	44.0								
10.	750S EB QUEUE				*	-44.0		-43.0		-178.0		-75.3	*
138.	256. AG	82.	100.0	1.0	24.0	.74	7.0						
11.	750S EB Dep1.				*	5.0		-37.0		260.0		-34.0	*
255.	89. AG	2020.	5.5	1.0	44.0								
12.	750S EB Dep2.				*	260.0		-34.0		508.0		-61.0	*
249.	96. AG	2020.	5.5	1.0	44.0								
13.	750S EB Dep3.				*	508.0		-61.0		1000.0		-62.0	*
492.	90. AG	2020.	5.5	1.0	56.0								
14.	750S EB L QUEUE				*	-48.0		-18.0		-1809.4		-319.7	*
1787.	260. AG	119.	100.0	1.0	12.0	1.56	90.8						
15.	Main SB APPR.				*	-280.0		960.0		-4.0		25.0	*
975.	164. AG	1160.	5.5	1.0	44.0								
16.	Main SB Queue				*	-35.0		41.0		-504.1		1800.5	*
1821.	345. AG	212.	100.0	1.0	24.0	1.34	92.5						
17.	Main SB DEP.				*	7.0		51.0		-252.0		968.0	*
953.	344. AG	1270.	5.5	1.0	44.0								
18.	Main NB R Queue.				*	118.0		-38.0		118.7		-42.3	*
4.	171. AG	15.	100.0	1.0	12.0	.05	.2						

JOB: Main&750South RUN:
Main and 750 South

DATE : 9/20/ 7
TIME : 14:59:54

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
2. 750S WB QUEUE	100	47	2.0	2410	1800	54.90	1	3
6. 750S WB R QUEUE	100	10	2.0	850	1800	54.90	1	3
10. 750S EB QUEUE	100	28	2.0	1800	1800	54.90	1	3
14. 750S EB L QUEUE	100	81	2.0	420	1800	54.90	1	3
16. Main SB Queue	100	72	2.0	1160	1800	54.90	1	3
18. Main NB R Queue.	100	10	2.0	80	1800	54.90	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1	334.0	34.0	6.0
2. REC 2	259.0	38.0	6.0
3. REC 3	184.0	41.0	6.0
4. REC 4	109.0	44.0	6.0
5. REC 5	34.0	50.0	6.0
6. REC 6	10.0	120.0	6.0
7. REC 7	-10.0	192.0	6.0
8. REC 8	-31.0	265.0	6.0
9. REC 9	-51.0	337.0	6.0
10. REC 10	-130.0	320.0	6.0
11. REC 11	-110.0	248.0	6.0
12. REC 12	-89.0	176.0	6.0
13. REC 13	-69.0	104.0	6.0
14. REC 14	-52.0	31.0	6.0
15. REC 15	-125.0	17.0	6.0
16. REC 16	-199.0	4.0	6.0
17. REC 17	-273.0	-9.0	6.0
18. REC 18	-347.0	-21.0	6.0
19. REC 19	-289.0	-106.0	6.0
20. REC 20	-215.0	-93.0	6.0
21. REC 21	-141.0	-80.0	6.0
22. REC 22	-67.0	-69.0	6.0
23. REC 23	7.0	-59.0	6.0
24. REC 24	82.0	-56.0	6.0

25. REC 25	*	157.0	-55.0	6.0	*
26. REC 26	*	232.0	-55.0	6.0	*
27. REC 27	*	307.0	-58.0	6.0	*

JOB: Main&750South RUN: Main and 750 South

MODEL RESULTS

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

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	12.0	12.0	12.0	12.0	12.0	12.1	12.1	12.1	12.1	13.8	13.8	13.9	14.0	13.8	12.7	12.5	12.2	12.2	12.9	13.2
10.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.6	13.6	13.6	13.6	13.4	12.6	12.5	12.4	12.3	13.1	13.2
20.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.3	13.3	13.3	13.4	13.2	12.6	12.5	12.4	12.4	13.1	13.1
30.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.2	13.2	13.2	13.2	13.1	12.5	12.4	12.4	12.4	13.2	13.2
40.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.1	13.1	13.2	13.2	13.0	12.5	12.4	12.4	12.4	13.3	13.2
50.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.1	13.1	13.1	13.1	12.8	12.5	12.4	12.4	12.3	13.2	13.3
60.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.9	12.9	13.0	13.0	12.6	12.5	12.4	12.4	12.2	13.4	13.5
70.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.9	12.9	13.0	13.0	12.6	12.5	12.5	12.3	12.2	13.5	13.6
80.	*	12.1	12.1	12.1	12.1	12.1	12.0	12.0	12.0	12.0	12.9	13.0	13.0	13.0	12.6	12.8	12.8	12.7	12.9	13.1	13.5
90.	*	12.6	12.5	12.7	12.8	12.7	12.1	12.0	12.0	12.0	13.0	13.0	13.0	13.1	13.6	13.5	13.6	13.6	13.5	12.6	12.9
100.	*	13.0	13.0	13.2	13.5	13.4	12.3	12.1	12.1	12.0	13.1	13.2	13.3	13.8	14.0	13.6	13.6	13.4	13.4	12.1	12.1
110.	*	13.0	13.1	13.5	13.8	13.8	12.7	12.3	12.2	12.1	13.3	13.4	13.7	14.2	13.4	13.1	13.1	13.1	13.2	12.0	12.0
120.	*	12.9	13.1	13.5	13.7	13.6	12.8	12.4	12.4	12.2	13.3	13.6	13.8	13.8	13.0	12.9	13.0	13.0	12.8	12.0	12.0
130.	*	12.7	13.1	13.5	13.4	13.3	12.7	12.6	12.4	12.3	13.6	13.8	13.8	13.8	12.7	12.9	12.9	12.8	12.8	12.0	12.0
140.	*	12.7	13.0	13.3	13.2	13.2	12.6	12.5	12.4	12.2	13.8	13.8	13.8	13.6	12.6	12.9	12.9	12.8	12.8	12.0	12.0
150.	*	12.6	13.1	13.2	13.2	13.1	12.7	12.6	12.5	12.5	14.0	13.7	13.8	13.3	12.5	12.8	12.8	12.7	12.8	12.0	12.0
160.	*	12.6	13.1	13.2	13.2	13.0	12.6	12.6	12.5	12.7	13.3	13.1	13.1	12.8	12.5	12.8	12.8	12.7	12.7	12.0	12.0
170.	*	12.6	13.1	13.1	13.1	12.9	12.6	12.7	12.8	12.9	12.6	12.6	12.6	12.6	12.6	12.8	12.8	12.8	12.7	12.0	12.0
180.	*	12.6	13.2	13.2	13.2	12.7	12.7	13.0	13.1	13.2	12.4	12.4	12.5	12.5	12.7	12.8	12.7	12.7	12.7	12.0	12.0
190.	*	12.6	13.1	13.1	13.1	12.5	12.7	13.0	13.3	13.4	12.3										

```
12.3  12.4  12.5  12.8  12.8  12.7  12.7  12.7  12.0  12.0
 200.  *  12.6  13.2  13.1  13.1  12.5  13.0  13.3  13.3  13.3  12.3
12.2  12.3  12.5  12.9  12.9  12.9  12.8  12.8  12.0  12.0
 210.  *  12.6  13.2  13.2  13.2  12.5  13.2  13.2  13.2  13.2  12.3
12.3  12.3  12.5  12.9  12.9  12.8  12.8  12.8  12.0  12.0
 220.  *  12.8  13.2  13.2  13.2  12.7  13.2  13.2  13.1  13.1  12.3
12.3  12.3  12.5  12.9  12.8  12.8  12.8  12.9  12.0  12.0
 230.  *  13.1  13.5  13.4  13.3  13.0  13.4  13.2  13.1  13.0  12.3
12.3  12.4  12.5  13.1  13.0  13.0  13.1  13.0  12.1  12.0
 240.  *  13.2  13.6  13.5  13.6  13.2  13.4  13.2  13.1  12.9  12.1
12.2  12.5  12.5  13.0  13.3  13.2  13.2  13.2  12.1  12.0
 250.  *  13.8  13.9  14.1  13.8  13.4  13.5  12.9  12.9  12.9  12.1
12.1  12.2  12.6  13.5  13.5  13.5  13.4  13.2  12.5  12.4
 260.  *  14.3  14.0  13.8  13.3  13.0  12.9  12.8  12.8  12.8  12.0
12.0  12.0  12.1  12.9  13.0  12.8  12.8  12.7  13.2  13.2
 270.  *  13.3  13.0  12.8  12.6  12.8  12.8  12.8  12.8  12.8  12.0
12.0  12.0  12.0  12.2  12.3  12.3  12.2  12.2  13.5  13.4
 280.  *  12.4  12.5  12.5  12.5  12.6  12.8  12.8  12.8  12.8  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  13.2  13.1
 290.  *  12.3  12.4  12.4  12.4  12.8  12.9  12.9  12.9  12.9  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  13.1  13.1
 300.  *  12.4  12.4  12.4  12.5  12.8  12.9  12.9  12.9  12.9  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.8  12.9
 310.  *  12.4  12.4  12.4  12.5  12.9  13.0  13.0  13.0  13.0  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.8  12.8
 320.  *  12.4  12.4  12.5  12.6  13.0  13.2  13.1  13.1  13.1  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.7  12.8
 330.  *  12.2  12.3  12.5  12.7  13.3  13.4  13.4  13.4  13.4  12.1
12.1  12.2  12.2  12.1  12.0  12.0  12.0  12.0  12.7  12.7
 340.  *  12.1  12.1  12.2  12.5  13.2  13.3  13.3  13.3  13.3  12.9
13.0  13.0  13.1  13.0  12.1  12.0  12.0  12.0  12.7  12.7
 350.  *  12.0  12.0  12.0  12.1  12.5  12.6  12.6  12.6  12.6  13.8
13.9  14.0  14.1  13.9  12.6  12.2  12.1  12.1  12.8  12.9
 360.  *  12.0  12.0  12.0  12.0  12.0  12.1  12.1  12.1  12.1  13.8
13.8  13.9  14.0  13.8  12.7  12.5  12.2  12.2  12.9  13.2
 ------
*-------------------------------------------------------------------------
-------------------------------------------------
 MAX   *  14.3  14.0  14.1  13.8  13.8  13.5  13.4  13.4  13.4  14.0
13.9  14.0  14.2  14.0  13.6  13.6  13.6  13.5  13.5  13.6
 DEGR. *  260   260   250   110   110   250   330   330   190   150
350   350   110   100   100    90    90    90    70    70
```

JOB: Main&750South RUN: Main and 750 South

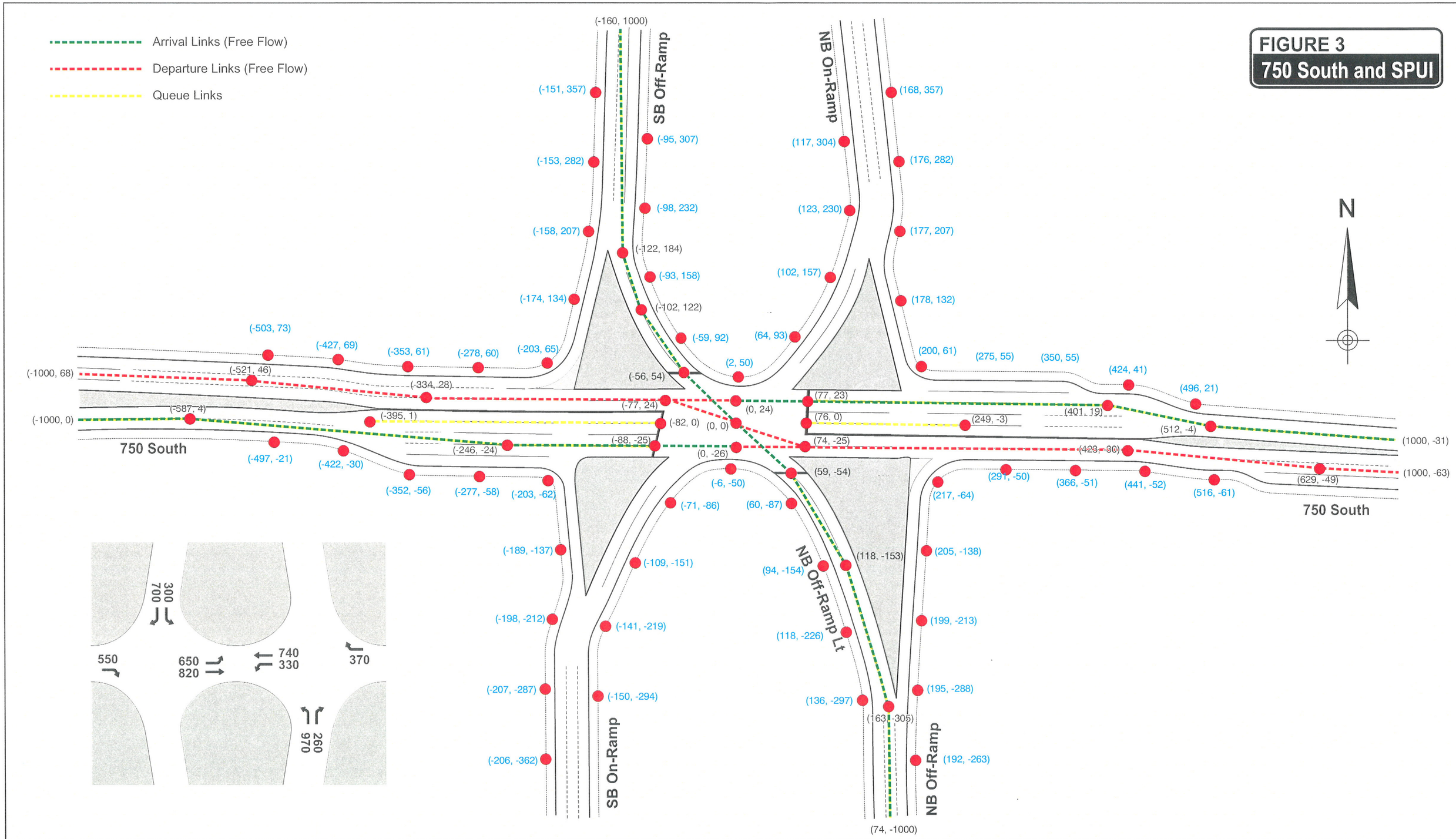
MODEL RESULTS

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

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27
0.	13.6	13.9	13.0	13.1	13.1	13.1	12.7
10.	13.5	13.5	12.7	13.1	13.1	13.1	12.7
20.	13.5	13.3	12.7	13.1	13.1	13.1	12.7
30.	13.5	13.2	12.8	13.1	13.1	13.1	12.7
40.	13.5	12.8	13.0	13.1	13.1	13.0	12.7
50.	13.6	13.1	13.2	13.3	13.3	13.1	12.8
60.	13.5	13.3	13.3	13.5	13.3	13.1	12.9
70.	13.7	13.5	13.5	13.5	13.3	13.0	13.0
80.	13.4	13.5	13.6	13.5	13.5	13.3	13.2
90.	12.9	12.9	13.1	13.1	13.1	13.2	13.2
100.	12.1	12.2	12.5	12.5	12.5	12.6	12.8
110.	12.1	12.0	12.1	12.1	12.1	12.1	12.2
120.	12.0	12.0	12.0	12.1	12.1	12.0	12.1
130.	12.0	12.0	12.0	12.1	12.1	12.0	12.1
140.	12.0	12.0	12.0	12.0	12.0	12.0	12.1
150.	12.0	12.0	12.0	12.0	12.0	12.0	12.0
160.	12.0	12.0	12.0	12.0	12.0	12.0	12.0
170.	12.0	12.0	12.0	12.0	12.0	12.0	12.0
180.	12.0	12.0	12.0	12.0	12.0	12.0	12.0
190.	12.0	12.0	12.0	12.0	12.0	12.0	12.0
200.	12.0	12.0	12.0	12.0	12.0	12.0	12.0
210.	12.0	12.0	12.0	12.0	12.0	12.0	12.0
220.	12.0	12.0	12.0	12.0	12.0	12.0	12.0
230.	12.0	12.0	12.0	12.1	12.1	12.0	12.1
240.	12.1	12.1	12.1	12.1	12.1	12.1	12.1
250.	12.5	12.5	12.4	12.1	12.1	12.1	12.1
260.	13.4	13.4	13.2	13.0	12.7	12.7	12.5
270.	13.7	13.7	13.5	13.4	13.4	13.3	13.3
280.	13.4	13.7	13.4	13.2	13.1	13.3	13.4
290.	13.4	13.3	13.1	12.9	13.1	13.4	13.7
300.	13.1	13.1	12.9	12.9	13.5	13.8	13.9
310.	13.1	13.1	12.7	13.1	13.6	13.8	13.8
320.	13.0	13.0	12.7	13.4	13.6	13.6	13.5
330.	13.0	12.9	13.1	13.8	13.7	13.6	13.4
340.	13.1	13.1	13.9	13.9	13.6	13.3	13.1
350.	13.4	13.8	13.7	13.5	13.2	13.1	12.9
360.	13.6	13.9	13.0	13.1	13.1	13.1	12.7
MAX	13.7	13.9	13.9	13.9	13.7	13.8	13.9
DEGR.	70	0	340	340	330	300	300

THE HIGHEST CONCENTRATION OF 14.30 PPM OCCURRED AT RECEPTOR REC1 .



HORROCKS ENGINEERS

Layton Interchange EIS

PROJECT #: 0601-085
DATE: September 18, 2007

```
'SPUI&750S' 60. 108. 0. 0. 54 .3048 1 1
'REC 1' 496. 21. 6.
'REC 2' 424. 41. 6.
'REC 3' 350. 55. 6.
'REC 4' 275. 55. 6.
'REC 5' 200. 61. 6.
'REC 6' 178. 132. 6.
'REC 7' 177. 207. 6.
'REC 8' 176. 282. 6.
'REC 9' 168. 357. 6.
'REC 10' 117. 304. 6.
'REC 11' 123. 230. 6.
'REC 12' 102. 157. 6.
'REC 13' 64. 93. 6.
'REC 14' 2. 50. 6.
'REC 15' -59. 92. 6.
'REC 16' -93. 158. 6.
'REC 17' -98. 232. 6.
'REC 18' -95. 307. 6.
'REC 19' -151. 357. 6.
'REC 20' -153. 282. 6.
'REC 21' -158. 207. 6.
'REC 22' -174. 134. 6.
'REC 23' -203. 65. 6.
'REC 24' -278. 60. 6.
'REC 25' -353. 61. 6.
'REC 26' -427. 69. 6.
'REC 27' -503. 73. 6.
'REC 28' -497. -21. 6.
'REC 29' -422. -30. 6.
'REC 30' -352. -56. 6.
'REC 31' -277. -58. 6.
'REC 32' -203. -62. 6.
'REC 33' -189. -137. 6.
'REC 34' -198. -212. 6.
'REC 35' -207. -287. 6.
'REC 36' -206. -362. 6.
'REC 37' -150. -294. 6.
'REC 38' -141. -219. 6.
'REC 39' -109. -151. 6.
'REC 40' -71. -86. 6.
'REC 41' -6. 50. 6.
'REC 42' 60. -87. 6.
'REC 43' 94. -154. 6.
'REC 44' 118. -226. 6.
'REC 45' 136. -297. 6.
'REC 46' 192. -263. 6.
'REC 47' 195. -288. 6.
'REC 48' 199. -213. 6.
'REC 49' 205. -138. 6.
'REC 50' 217. -64. 6.
'REC 51' 291. -50. 6.
'REC 52' 366. -51. 6.
'REC 53' 441. -52. 6.
'REC 54' 516. -61. 6.
'SPUI and 750 South' 34 1 0 'C'
1
'750S WB Appr1.'   'AG'    1000. -31.  512.  -4.  1440.  5.5   1.  44.
1
'750S WB Appr2.'   'AG'    512. -4.  401. 19.  1440.  5.5   1.  68.
1
'750S WB Appr3.'   'AG'    401. 19.  0. 24.  1070.  5.5   1.  68
2
```

```
'750S WB QUEUE'   'AG'    0. 24.  1000. -31.   1. 24. 2
        100 68 2. 1440  54.9  1800  1   3
1
'750S WB Dep1.'    'AG'   0. 24.  -344. 28.  1710.  5.5  1.  44.
1
'750S WB Dep2.'    'AG'   -344. 28.  -521. 46.  2410.  5.5  1.  56.
1
'750S WB Dep3.'    'AG'   -521. 46.  -1000. 68.  2410.  5.5  1.  56.
2
'750S WB L. QUEUE' 'AG'  76. 0.  249. -3.  1. 24. 2
        100 80  2. 330  54.9  1800  1  3
1
'750Se EB Appr1.'    'AG'    -1000. 0.  -587. 4.  2020. 5.5  1.  44.
1
'750Se EB Appr2.'    'AG'    -587. 4.  -246. 24.  2020. 5.5  1.  80.
1
'750Se EB Appr1.'    'AG'    -246. 24.  0. -26.  1470. 5.5  1.  68.
2
'750S EB QUEUE'    'AG'  -88. -25. -1000. 0.   1. 24.  2
        100 59 2. 2020  54.9  1800  1  3
1
'750S EB Dep1.'     'AG'  0. -26.  423. -30.  1380.  5.5   1.  44.
1
'750S EB Dep2.'     'AG'  423. -30.  629. -49.  1380.  5.5  1.  44.
1
'750S EB Dep3.'     'AG'  629. -49.  1000. -63.  1380.  5.5  1.  56.
2
'750S EB L QUEUE'  'AG'  -82. 0.  -395. 1.  1. 24. 2
        100 71 2. 650  54.9  1800  1  3
1
'NB Off-Ramp Appr1.'  'AG'  74. -1000.  163. -305.  1230.   5.5    1.  56.
1
'NB Off-Ramp Appr2.'  'AG'  163. -305.  118. -153.  970.   5.5    1.  44.
1
'NB Off-Ramp Appr3.'  'AG'  118. -153.  59. -54.  970.   5.5    1.  44.
1
'NB Off-Ramp Appr4.'  'AG'  59. -54.  0. 0.  970.   5.5    1.  44.
2
'NB Off-Ramp Queue'  'AG'  59. -54.  74. -1000.  1.   24.  2
        100 61 2. 1160 54.9  1800  1  3
1
'NB Off-Ramp Dep1.'  'AG'  0. 0.  -77. 24.  970.   5.5    1.  44.
1
'NB Off-Ramp Dep2.'  'AG'  -77. 24.  -334. 28.  1710.   5.5    1.  44.
1
'NB Off-Ramp Dep3.'  'AG'  -334. 28.  -521. 46.  2410.   5.5    1.  56.
1
'NB Off-Ramp Dep4.'  'AG'  -521. 46.  -1000. 68.  2410.   5.5    1.  56.
1
'SB Off-Ramp Appr1.'  'AG'  -160. 1000.  -122. 184.  1000.   5.5    1.  56.
1
'SB Off-Ramp Appr2.'  'AG'  -122. 184.  -102. 122.  300.   5.5    1.  44.
1
'SB Off-Ramp Appr3.'  'AG'  -102. 122.  -56. 54.  300.   5.5    1.  44.
1
'SB Off-Ramp Appr4.'  'AG'  -56. 54.  0. 0.  300.   5.5    1.  44.
2
'SB Off-Ramp Queue'  'AG'  -56. 54.  -160. 1000.  1.   24.  2
        100 61 2. 1000  54.9  1800  1  3
1
'SB Off-Ramp Dep1.'  'AG'  0. 0.  74. -25.  300.   5.5    1.  44.
1
'SB Off-Ramp Dep2.'  'AG'  74. -25.  423. -30.  1380.   5.5    1.  44.
```

```
1
'SB Off-Ramp Dep3.'  'AG'  423. -30.  629. -49.  1380.   5.5    1.  56.
1
'SB Off-Ramp Dep4.'  'AG'  629. -49.  1000. -63.  1380.   5.5    1.  56.
1.0 0.  5  1000. 12. 'Y' 10  0 36
```

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: SPUI&750S RUN: SPUI and 750 South

DATE : 9/20/ 7
TIME : 15: 3:43

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

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES
MIXH = 1000. M AMB = 12.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)	LINK COORDINATES (FT) X1	Y1	X2	Y2
1. 750S WB Appr1.	489.	273.	AG	1440.	5.5	1.0	44.0			1000.0	-31.0	512.0	-4.0
2. 750S WB Appr2.	113.	282.	AG	1440.	5.5	1.0	68.0			512.0	-4.0	401.0	19.0
3. 750S WB Appr3.	401.	271.	AG	1070.	5.5	1.0	68.0			401.0	19.0	.0	24.0
4. 750S WB QUEUE	2550.	93.	AG	200.	100.0	1.0	24.0	1.43	129.5	.0	24.0	2546.0	-116.0
5. 750S WB Dep1.	344.	271.	AG	1710.	5.5	1.0	44.0			.0	24.0	-344.0	28.0
6. 750S WB Dep2.	178.	276.	AG	2410.	5.5	1.0	56.0			-344.0	28.0	-521.0	46.0
7. 750S WB Dep3.	480.	273.	AG	2410.	5.5	1.0	56.0			-521.0	46.0	-1000.0	68.0
8. 750S WB L. QUEUE	72.	91.	AG	236.	100.0	1.0	24.0	.57	3.7	76.0	.0	148.2	-1.3
9. 750Se EB Appr1.	413.	89.	AG	2020.	5.5	1.0	44.0			-1000.0	.0	-587.0	4.0
10. 750Se EB Appr2.	342.	87.	AG	2020.	5.5	1.0	80.0			-587.0	4.0	-246.0	24.0
11. 750Se EB Appr1.	251.	101.	AG	1470.	5.5	1.0	68.0			-246.0	24.0	.0	-26.0
12. 750S EB QUEUE	3902.	272.	AG	174.	100.0	1.0	24.0	1.52	198.2	-88.0	-25.0	-3988.8	81.9
13. 750S EB Dep1.	423.	91.	AG	1380.	5.5	1.0	44.0			.0	-26.0	423.0	-30.0
14. 750S EB Dep2.	207.	95.	AG	1380.	5.5	1.0	44.0			423.0	-30.0	629.0	-49.0
15. 750S EB Dep3.	371.	92.	AG	1380.	5.5	1.0	56.0			629.0	-49.0	1000.0	-63.0
16. 750S EB L QUEUE	128.	270.	AG	209.	100.0	1.0	24.0	.72	6.5	-82.0	.0	-210.0	.4
17. NB Off-Ramp Appr1.	701.	7.	AG	1230.	5.5	1.0	56.0			74.0	-1000.0	163.0	-305.0
18. NB Off-Ramp Appr2.	159.	344.	AG	970.	5.5	1.0	44.0			163.0	-305.0	118.0	-153.0

```
      19. NB Off-Ramp Appr3.  *    118.0    -153.0      59.0     -54.0 *
115.   329. AG    970.   5.5   1.0 44.0
      20. NB Off-Ramp Appr4.  *     59.0     -54.0       .0        .0 *
80.   312. AG    970.   5.5   1.0 44.0
      21. NB Off-Ramp Queue   *     59.0     -54.0      62.9    -297.8 *
244.   179. AG    180. 100.0   1.0 24.0  .92  12.4
      22. NB Off-Ramp Dep1.   *       .0        .0     -77.0      24.0 *
81.   287. AG    970.   5.5   1.0 44.0
      23. NB Off-Ramp Dep2.   *    -77.0      24.0    -334.0      28.0 *
257.   271. AG   1710.   5.5   1.0 44.0
      24. NB Off-Ramp Dep3.   *   -334.0      28.0    -521.0      46.0 *
188.   275. AG   2410.   5.5   1.0 56.0
      25. NB Off-Ramp Dep4.   *   -521.0      46.0   -1000.0      68.0 *
480.   273. AG   2410.   5.5   1.0 56.0
      26. SB Off-Ramp Appr1.  *   -160.0    1000.0    -122.0     184.0 *
817.   177. AG   1000.   5.5   1.0 56.0
      27. SB Off-Ramp Appr2.  *   -122.0     184.0    -102.0     122.0 *
65.   162. AG    300.   5.5   1.0 44.0
      28. SB Off-Ramp Appr3.  *   -102.0     122.0     -56.0      54.0 *
82.   146. AG    300.   5.5   1.0 44.0
      29. SB Off-Ramp Appr4.  *    -56.0      54.0       .0        .0 *
78.   134. AG    300.   5.5   1.0 44.0
      30. SB Off-Ramp Queue   *    -56.0      54.0     -74.9     226.2 *
173.   354. AG    180. 100.0   1.0 24.0  .79   8.8
      31. SB Off-Ramp Dep1.   *       .0        .0      74.0     -25.0 *
78.   109. AG    300.   5.5   1.0 44.0
      32. SB Off-Ramp Dep2.   *     74.0     -25.0     423.0     -30.0 *
349.    91. AG   1380.   5.5   1.0 44.0
      33. SB Off-Ramp Dep3.   *    423.0     -30.0     629.0     -49.0 *
207.    95. AG   1380.   5.5   1.0 56.0
      34. SB Off-Ramp Dep4.   *    629.0     -49.0    1000.0     -63.0 *
371.    92. AG   1380.   5.5   1.0 56.0
```

JOB: SPUI&750S RUN:
SPUI and 750 South

DATE : 9/20/ 7
TIME : 15: 3:43

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
4. 750S WB QUEUE	100	68	2.0	1440	1800	54.90	1	3
8. 750S WB L. QUEUE	100	80	2.0	330	1800	54.90	1	3
12. 750S EB QUEUE	100	59	2.0	2020	1800	54.90	1	3
16. 750S EB L QUEUE	100	71	2.0	650	1800	54.90	1	3
21. NB Off-Ramp Queue	100	61	2.0	1160	1800	54.90	1	3
30. SB Off-Ramp Queue	100	61	2.0	1000	1800	54.90	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1	496.0	21.0	6.0
2. REC 2	424.0	41.0	6.0
3. REC 3	350.0	55.0	6.0
4. REC 4	275.0	55.0	6.0
5. REC 5	200.0	61.0	6.0
6. REC 6	178.0	132.0	6.0
7. REC 7	177.0	207.0	6.0
8. REC 8	176.0	282.0	6.0
9. REC 9	168.0	357.0	6.0
10. REC 10	117.0	304.0	6.0
11. REC 11	123.0	230.0	6.0
12. REC 12	102.0	157.0	6.0
13. REC 13	64.0	93.0	6.0
14. REC 14	2.0	50.0	6.0
15. REC 15	-59.0	92.0	6.0
16. REC 16	-93.0	158.0	6.0
17. REC 17	-98.0	232.0	6.0
18. REC 18	-95.0	307.0	6.0
19. REC 19	-151.0	357.0	6.0
20. REC 20	-153.0	282.0	6.0
21. REC 21	-158.0	207.0	6.0
22. REC 22	-174.0	134.0	6.0
23. REC 23	-203.0	65.0	6.0
24. REC 24	-278.0	60.0	6.0

25. REC 25	*	-353.0	61.0	6.0	*
26. REC 26	*	-427.0	69.0	6.0	*
27. REC 27	*	-503.0	73.0	6.0	*
28. REC 28	*	-497.0	-21.0	6.0	*
29. REC 29	*	-422.0	-30.0	6.0	*
30. REC 30	*	-352.0	-56.0	6.0	*
31. REC 31	*	-277.0	-58.0	6.0	*
32. REC 32	*	-203.0	-62.0	6.0	*
33. REC 33	*	-189.0	-137.0	6.0	*
34. REC 34	*	-198.0	-212.0	6.0	*
35. REC 35	*	-207.0	-287.0	6.0	*
36. REC 36	*	-206.0	-362.0	6.0	*
37. REC 37	*	-150.0	-294.0	6.0	*
38. REC 38	*	-141.0	-219.0	6.0	*
39. REC 39	*	-109.0	-151.0	6.0	*

JOB: SPUI&750S RUN:
SPUI and 750 South

DATE : 9/20/ 7
TIME : 15: 3:43

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
40. REC 40	-71.0	-86.0	6.0
41. REC 41	-6.0	50.0	6.0
42. REC 42	60.0	-87.0	6.0
43. REC 43	94.0	-154.0	6.0
44. REC 44	118.0	-226.0	6.0
45. REC 45	136.0	-297.0	6.0
46. REC 46	192.0	-263.0	6.0
47. REC 47	195.0	-288.0	6.0
48. REC 48	199.0	-213.0	6.0
49. REC 49	205.0	-138.0	6.0
50. REC 50	217.0	-64.0	6.0
51. REC 51	291.0	-50.0	6.0
52. REC 52	366.0	-51.0	6.0
53. REC 53	441.0	-52.0	6.0
54. REC 54	516.0	-61.0	6.0

JOB: SPUI&750S RUN:
SPUI and 750 South

MODEL RESULTS

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

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)
(DEGR)* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

(DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.5	12.3	12.3	12.2	12.4	12.4
10.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	13.1	12.4	12.1	12.0	12.4	12.4
20.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.7	12.5	12.0	12.0	12.3	12.3
30.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.5	12.6	12.0	12.0	12.3	12.2
40.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.4	12.6	12.0	12.0	12.2	12.2
50.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.4	12.5	12.0	12.0	12.2	12.2
60.	*	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.3	12.5	12.0	12.0	12.2	12.2
70.	*	12.0	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.1	12.3	12.5	12.0	12.0	12.2	12.2
80.	*	12.3	12.2	12.1	12.2	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.3	12.3	12.5	12.0	12.0	12.2	12.2
90.	*	13.3	12.7	12.7	12.7	12.6	12.1	12.1	12.0	12.0	12.0	12.1	12.1	12.3	13.1	12.7	12.6	12.2	12.0	12.2	12.2
100.	*	14.2	13.5	13.3	13.6	13.6	12.5	12.2	12.2	12.1	12.2	12.2	12.4	12.8	13.9	13.3	13.0	12.4	12.2	12.3	12.4
110.	*	14.1	13.7	13.5	13.5	13.5	13.0	12.6	12.2	12.2	12.2	12.4	12.5	12.9	14.0	13.4	13.2	12.7	12.2	12.4	12.5
120.	*	13.7	13.6	13.3	13.3	13.0	12.7	12.5	12.3	12.3	12.3	12.3	12.6	12.9	13.8	13.4	13.3	13.0	12.2	12.4	12.6
130.	*	13.4	13.3	12.9	12.9	12.9	12.6	12.4	12.2	12.3	12.2	12.2	12.6	12.9	13.4	13.2	13.3	13.2	12.5	12.4	13.0
140.	*	13.4	13.2	13.2	12.9	12.9	12.6	12.5	12.2	12.1	12.2	12.5	12.6	12.9	13.4	13.3	13.2	13.3	12.6	12.7	13.0
150.	*	13.3	13.1	12.8	12.8	12.8	12.6	12.5	12.5	12.1	12.5	12.5	12.5	12.9	13.3	13.6	13.1	13.1	12.5	12.7	12.7
160.	*	13.3	13.1	12.8	12.8	12.8	12.6	12.5	12.5	12.3	12.5	12.5	12.6	12.9	13.5	13.5	13.0	13.2	12.5	12.7	12.7
170.	*	13.2	12.8	12.8	12.8	12.8	12.5	12.5	12.5	12.3	12.5	12.6	12.8	13.2	13.2	13.5	12.5	12.9	12.8	12.8	12.7
180.	*	13.2	13.0	12.8	12.8	12.9	12.6	12.6	12.6	12.4	12.6	12.8	13.0	13.1	13.0	13.4	12.6	12.8	12.9	12.7	12.6
190.	*	13.2	12.8	12.8	12.9	12.9	12.8	12.8	12.6	12.3	12.3										

```
12.7  12.7  12.8  12.7  13.7  12.6  12.7  12.8  12.5  12.6
 200.  *  13.2  13.0  12.9  12.9  12.9  12.9  12.7  12.5  12.2  12.1
12.5  12.5  12.7  12.6  13.5  12.7  12.6  12.7  12.5  12.4
 210.  *  13.3  13.3  12.8  12.9  13.2  13.0  12.6  12.1  12.0  12.5
12.1  12.3  12.6  12.6  13.7  12.8  12.7  12.6  12.3  12.4
 220.  *  13.3  13.2  12.9  13.0  13.2  12.6  12.2  12.4  12.5  12.6
12.5  12.3  12.6  12.7  13.6  12.7  12.6  12.6  12.4  12.4
 230.  *  13.4  13.2  13.2  13.2  13.3  12.4  12.5  12.6  12.4  12.6
12.6  12.5  12.8  13.0  13.6  12.7  12.9  12.6  12.6  12.4
 240.  *  13.6  13.4  13.2  13.2  13.2  12.6  12.7  12.6  12.3  12.5
12.8  12.7  12.9  13.4  13.6  12.9  12.7  13.0  12.4  12.8
 250.  *  13.8  13.5  13.5  13.5  13.4  12.8  12.6  12.7  12.4  12.7
12.9  13.0  13.2  13.9  13.8  13.0  13.0  12.7  12.4  12.5
 260.  *  14.2  13.7  13.7  13.8  13.5  13.3  12.7  12.5  12.2  12.5
12.5  13.2  13.8  14.7  13.8  13.0  12.6  12.4  12.2  12.4
 270.  *  14.4  14.0  13.6  13.5  13.5  12.5  12.2  12.1  12.1  12.2
12.2  12.6  13.2  14.0  13.4  12.5  12.3  12.3  12.1  12.1
 280.  *  12.9  12.6  12.4  12.3  12.2  12.1  12.0  12.0  12.0  12.1
12.1  12.2  12.3  12.8  12.6  12.1  12.2  12.2  12.0  12.0
 290.  *  12.3  12.3  12.1  12.1  12.1  12.1  12.0  12.0  12.0  12.1
12.1  12.2  12.2  12.3  12.5  12.1  12.2  12.2  12.0  12.0
 300.  *  12.1  12.0  12.0  12.0  12.1  12.0  12.0  12.0  12.0  12.1
12.1  12.1  12.2  12.3  12.6  12.2  12.2  12.2  12.0  12.0
 310.  *  12.1  12.0  12.0  12.0  12.0  12.1  12.1  12.1  12.1  12.1
12.1  12.1  12.3  12.4  12.6  12.1  12.2  12.2  12.0  12.0
 320.  *  12.1  12.0  12.0  12.0  12.1  12.1  12.1  12.1  12.1  12.1
12.1  12.1  12.2  12.5  12.8  12.1  12.2  12.2  12.0  12.0
 330.  *  12.0  12.0  12.0  12.0  12.1  12.1  12.1  12.0  12.0  12.1
12.1  12.1  12.1  12.4  13.0  12.2  12.3  12.2  12.1  12.0
 340.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
12.0  12.1  12.1  12.3  13.5  12.3  12.4  12.3  12.1  12.1
 350.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
12.0  12.0  12.0  12.2  13.7  12.3  12.4  12.3  12.3  12.2
 360.  *  12.1  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
12.0  12.0  12.0  12.0  13.5  12.3  12.3  12.2  12.4  12.4
 ------
*-----------------------------------------------------------------------
-------------------------------------------------
 MAX   *  14.4  14.0  13.7  13.8  13.6  13.3  12.8  12.7  12.5  12.7
12.9  13.2  13.8  14.7  13.8  13.3  13.3  13.0  12.8  13.0
 DEGR. *  270   270   260   260   100   260   190   250   220   250
250   260   260   260   250   120   140   240   170   130
```

JOB: SPUI&750S RUN:
SPUI and 750 South

MODEL RESULTS

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

WIND ANGLE RANGE: 0.-360.

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

0.	*	12.3	12.1	12.1	12.0	12.0	12.0	12.0	13.4	13.5	13.1	13.0	13.4	12.8	12.7	12.6	12.5	12.6	12.8	12.9	13.0
10.	*	12.3	12.2	12.1	12.1	12.0	12.0	12.0	13.4	13.5	13.0	13.1	13.4	12.9	12.9	12.7	12.7	12.5	12.6	12.7	12.6
20.	*	12.3	12.2	12.1	12.1	12.1	12.0	12.0	13.5	13.6	13.0	13.1	13.6	12.8	12.7	12.5	12.5	12.3	12.5	12.3	12.5
30.	*	12.2	12.1	12.1	12.1	12.1	12.1	12.0	13.5	13.6	13.2	13.1	13.6	12.8	12.5	12.2	12.1	12.1	12.2	12.3	12.5
40.	*	12.2	12.2	12.1	12.1	12.1	12.1	12.0	13.7	13.6	13.0	13.1	13.6	12.5	12.2	12.1	12.3	12.4	12.4	12.5	12.4
50.	*	12.2	12.3	12.2	12.1	12.0	12.0	12.0	13.8	13.8	13.3	13.4	13.4	12.4	12.5	12.6	12.4	12.6	12.7	12.5	12.8
60.	*	12.2	12.2	12.2	12.1	12.1	12.0	12.0	14.2	14.1	13.3	13.6	13.3	12.6	12.7	12.5	12.3	12.6	12.6	12.7	13.0
70.	*	12.3	12.2	12.2	12.1	12.1	12.1	12.1	14.6	14.4	13.6	13.6	13.3	12.8	12.5	12.3	12.3	12.4	12.6	12.8	13.1
80.	*	12.4	12.2	12.3	12.3	12.4	12.2	12.4	15.2	14.6	13.5	13.6	13.1	12.6	12.4	12.3	12.2	12.3	12.5	12.8	13.2
90.	*	12.5	12.4	12.8	13.1	13.4	13.3	13.4	14.9	14.1	13.1	12.9	12.8	12.3	12.2	12.2	12.1	12.2	12.3	12.4	12.8
100.	*	12.8	12.8	13.5	14.0	14.3	14.0	14.4	13.6	12.8	12.2	12.2	12.2	12.1	12.1	12.0	12.1	12.0	12.1	12.2	12.4
110.	*	12.8	13.0	13.5	14.0	14.0	14.3	14.3	12.8	12.2	12.1	12.1	12.1	12.1	12.1	12.0	12.1	12.1	12.1	12.2	12.2
120.	*	13.1	12.9	13.4	14.1	13.8	13.8	13.9	12.4	12.0	12.1	12.1	12.1	12.1	12.1	12.0	12.1	12.1	12.1	12.1	12.2
130.	*	13.0	12.7	13.6	13.6	13.6	13.6	13.6	12.3	12.0	12.0	12.0	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.2	12.2
140.	*	12.7	12.6	13.6	13.3	13.4	13.6	13.6	12.2	12.0	12.0	12.0	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.3
150.	*	12.4	12.7	13.6	13.3	13.2	13.4	13.4	12.1	12.0	12.0	12.0	12.1	12.1	12.1	12.1	12.0	12.1	12.1	12.1	12.2
160.	*	12.7	12.7	13.3	13.2	13.4	13.4	13.3	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.1	12.1	12.1
170.	*	12.6	12.7	13.1	13.2	13.4	13.4	13.3	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.1
180.	*	12.6	12.7	13.1	13.2	13.4	13.4	13.4	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
190.	*	12.5	12.7	13.0	13.2	13.4	13.4	13.3	12.1	12.0	12.0										

```
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
 200.  *  12.5  12.6  12.8  13.2  13.4  13.3  13.2  12.1  12.0  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
 210.  *  12.5  12.6  13.2  13.2  13.4  13.4  13.6  12.1  12.0  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
 220.  *  12.5  12.6  13.1  13.3  13.5  13.4  13.5  12.2  12.0  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
 230.  *  12.6  12.7  13.2  13.5  13.7  13.6  13.8  12.3  12.0  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
 240.  *  12.7  12.8  13.4  13.7  13.8  13.9  13.6  12.3  12.0  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
 250.  *  12.8  13.2  13.6  14.1  14.4  14.3  14.2  12.5  12.1  12.0
12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.0
 260.  *  12.5  13.1  14.0  14.5  14.7  14.4  14.5  13.4  12.6  12.1
12.1  12.1  12.0  12.0  12.0  12.0  12.0  12.0  12.0  12.1
 270.  *  12.1  12.4  13.7  13.8  14.2  13.9  14.1  14.8  13.9  13.0
13.0  12.9  12.2  12.1  12.1  12.0  12.1  12.1  12.2  12.5
 280.  *  12.0  12.0  12.6  12.6  13.0  12.7  12.7  15.2  14.8  13.6
13.5  13.7  12.7  12.3  12.2  12.2  12.2  12.3  12.7  13.2
 290.  *  12.0  12.0  12.0  12.1  12.2  12.0  12.2  14.8  14.5  13.9
13.9  13.6  13.0  12.6  12.3  12.2  12.5  12.6  12.9  13.4
 300.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  14.3  14.1  13.7
13.7  13.4  12.9  12.6  12.5  12.5  12.5  12.7  12.8  13.2
 310.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  13.7  13.8  13.4
13.3  13.1  12.7  12.7  12.5  12.4  12.7  12.5  12.7  13.4
 320.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  13.6  13.6  13.3
13.3  13.0  12.7  12.5  12.4  12.4  12.4  12.5  12.7  13.2
 330.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  13.5  13.5  13.2
13.0  13.0  12.5  12.6  12.4  12.4  12.4  12.5  12.7  13.0
 340.  *  12.0  12.0  12.0  12.0  12.0  12.0  12.0  13.3  13.5  13.2
12.9  13.0  12.6  12.5  12.2  12.3  12.4  12.6  12.7  12.9
 350.  *  12.1  12.0  12.0  12.0  12.0  12.0  12.0  13.4  13.5  13.0
13.0  13.1  12.6  12.5  12.4  12.4  12.5  12.6  12.8  12.9
 360.  *  12.3  12.1  12.1  12.0  12.0  12.0  12.0  13.4  13.5  13.1
13.0  13.4  12.8  12.7  12.6  12.5  12.6  12.8  12.9  13.0
 ------
*-----------------------------------------------------------------------
-------------------------------------------------
 MAX   *  13.1  13.2  14.0  14.5  14.7  14.4  14.5  15.2  14.8  13.9
13.9  13.7  13.0  12.9  12.7  12.7  12.7  12.8  12.9  13.4
 DEGR. *  120   250   260   260   260   260   260    80   280   290
290   280   290    10    10    10   310     0     0   290
```

JOB: SPUI&750S RUN:
SPUI and 750 South

MODEL RESULTS

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

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54
0.	12.0	13.8	12.9	12.9	12.7	12.4	12.4	12.5	12.5	12.8	13.1	13.1	13.0	13.0
10.	12.0	14.0	12.9	12.8	12.6	12.5	12.4	12.5	12.5	12.8	12.9	12.9	13.1	12.9
20.	12.0	13.9	12.8	12.7	12.5	12.5	12.3	12.5	12.5	12.8	12.9	12.9	13.0	13.0
30.	12.0	13.8	12.7	12.7	12.5	12.4	12.3	12.5	12.5	12.8	13.1	13.0	13.0	13.0
40.	12.0	13.8	12.7	12.7	12.6	12.4	12.2	12.4	12.5	12.8	13.1	13.1	13.2	13.2
50.	12.0	13.5	12.7	12.6	12.4	12.4	12.4	12.4	12.5	13.1	13.1	13.2	13.3	13.2
60.	12.0	13.4	12.7	12.4	12.5	12.5	12.3	12.5	12.6	13.1	13.5	13.5	13.4	13.3
70.	12.1	13.5	12.9	12.5	12.7	12.5	12.5	12.5	12.6	13.3	13.7	13.8	13.7	13.8
80.	12.3	13.6	12.8	12.4	12.4	12.2	12.2	12.5	12.9	13.4	13.9	14.1	14.1	14.0
90.	13.1	13.2	12.4	12.3	12.2	12.1	12.1	12.1	12.2	13.2	13.7	13.8	14.0	13.7
100.	14.0	12.6	12.2	12.2	12.2	12.0	12.0	12.0	12.0	12.1	12.8	12.8	13.0	12.8
110.	14.0	12.6	12.3	12.2	12.2	12.0	12.0	12.0	12.0	12.0	12.1	12.0	12.3	12.2
120.	13.7	12.7	12.3	12.2	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.2	12.1
130.	13.3	12.7	12.3	12.2	12.3	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.1	12.0
140.	13.4	12.9	12.3	12.2	12.3	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
150.	13.3	13.0	12.3	12.3	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
160.	13.2	13.3	12.3	12.4	12.3	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
170.	13.2	13.7	12.3	12.3	12.4	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
180.	12.7	13.8	12.2	12.2	12.5	12.2	12.2	12.1	12.1	12.1	12.0	12.0	12.0	12.0
190.	12.6	13.4	12.3	12.1	12.3	12.3	12.4	12.3	12.2	12.1				

```
12.1  12.0  12.0  12.0
 200.  *  12.6  13.0  12.5  12.0  12.1  12.3  12.4  12.3  12.2  12.2
12.1  12.1  12.0  12.0
 210.  *  12.6  12.7  12.6  12.1  12.0  12.3  12.3  12.2  12.1  12.2
12.1  12.1  12.1  12.1
 220.  *  12.7  12.6  12.5  12.2  12.0  12.2  12.2  12.1  12.2  12.3
12.2  12.0  12.1  12.1
 230.  *  13.0  12.4  12.5  12.3  12.0  12.2  12.2  12.1  12.3  12.2
12.1  12.1  12.0  12.0
 240.  *  13.4  12.4  12.5  12.3  12.0  12.1  12.2  12.2  12.3  12.3
12.2  12.1  12.1  12.0
 250.  *  13.9  12.4  12.5  12.3  12.0  12.2  12.2  12.3  12.3  12.3
12.2  12.3  12.1  12.2
 260.  *  14.6  12.5  12.4  12.3  12.1  12.2  12.2  12.3  12.2  12.4
12.5  12.5  12.5  12.5
 270.  *  14.0  13.0  12.6  12.4  12.2  12.4  12.3  12.4  12.5  13.1
14.0  13.8  13.6  13.2
 280.  *  12.8  14.0  13.2  12.6  12.4  12.5  12.5  12.8  13.1  13.7
14.5  14.4  14.1  14.0
 290.  *  12.3  13.8  13.6  12.9  12.8  12.9  12.9  13.0  13.0  13.6
13.8  13.9  13.9  13.9
 300.  *  12.4  13.2  13.2  13.0  12.7  13.0  12.7  13.0  12.9  13.4
13.7  13.6  13.5  13.5
 310.  *  12.4  13.4  13.0  12.9  12.8  12.9  12.9  12.8  12.7  13.5
13.4  13.3  13.3  13.3
 320.  *  12.5  13.3  12.9  12.9  12.8  12.8  12.8  12.5  12.8  13.1
13.1  13.1  13.2  13.2
 330.  *  12.5  13.6  13.2  13.0  12.6  12.6  12.7  12.7  12.8  12.9
13.1  13.1  13.2  13.2
 340.  *  12.4  13.8  13.3  12.9  12.9  12.5  12.4  12.6  12.6  12.8
12.9  12.9  12.9  13.0
 350.  *  12.2  13.6  13.0  12.9  12.7  12.5  12.5  12.6  12.5  12.8
12.9  12.9  13.0  13.0
 360.  *  12.0  13.8  12.9  12.9  12.7  12.4  12.4  12.5  12.5  12.8
13.1  13.1  13.0  13.0
 ------
*-------------------------------------------------------------------------
-------------
 MAX   *  14.6  14.0  13.6  13.0  12.9  13.0  12.9  13.0  13.1  13.7
14.5  14.4  14.1  14.0
 DEGR. *  260    10   290   300   340   300   290   290   280   280
280   280    80    80

 THE HIGHEST CONCENTRATION OF   15.20 PPM OCCURRED AT RECEPTOR REC28.
```