

**DIESEL TRUCK HEALTH RISK ASSESSMENT**  
**WAL-MART SUPERCENTER**  
**CITY OF ONTARIO, CALIFORNIA**

Prepared for:

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Date:

April 19, 2007

Project No.: P06-024HRA

## Introduction

Increased diesel exhaust emissions from on-site construction equipment operations and from increased delivery truck traffic may expose area-wide residents to elevated levels of diesel exhaust. In 1998, the California Scientific Review Panel (SRP) released its findings culminating four years of studies describing public exposure and health effects of diesel exhaust. Diesel exhaust includes over 40 substances listed by the U. S. Environmental Protection Agency (EPA) as hazardous air pollutants. Fifteen of these substances are listed by the International Agency for Research on Cancer (IARC) as known or probable carcinogens.

Diesel exhaust is a complex mixture of small carbon particles, microscopic droplets of semi-volatile liquids, and gases. Short-term exposures at high concentrations have been observed in many studies to cause increased cough, labored breathing, chest tightness, and wheezing. These levels of exposures more typically occur in occupational settings such as bus garages rather than in the ambient environment. Short-term ambient exposures to diesel exhaust may induce inflammatory immunological reactions such as asthma, and may exacerbate human reactions to nasal allergens.

Chronic effects of diesel exposure have been observed in all populations, but children with still-developing respiratory systems appear more vulnerable. A direct correlation between the level of diesel exposure and children's adverse health reactions has been documented in many studies, including a recently released report by the USC School of Medicine. Although the carcinogenicity of diesel exhaust is most often stated as the primary exposure issue, chronic non-cancer effects are also an important consideration.

Based upon the available evidence, the SRP adopted an individual cancer risk level that is correlated to the amount of diesel particulate matter (DPM) exposure. DPM is used as a surrogate for all solid, liquid and gaseous components in diesel exhaust. The adopted risk level is a lifetime probability of 300 in a million of developing a serious form of cancer per microgram per cubic meter ( $\mu\text{g}/\text{m}^3$ ) of DPM exposure. The lifetime risk for all Californians is around 270,000 in a million (27% of people will develop life-threatening cancer in their lifetime). The ambient level of DPM in Southern California is 2-3  $\mu\text{g}/\text{m}^3$  such that the typical cancer risk is 600-900 in a million for a 70-year lifetime. For purposes of health risk assessment from a specified source of DPM, the South Coast AQMD has adopted a DPM exposure threshold of significance for CEQA reviews. An excess cancer risk exceeding ten in a million (the Proposition 65 Alert Level) is considered significant. A risk of less than one in a million is insignificant. A risk between one and ten in a million is considered adverse, but generally less than significant. A number of health and air toxics agencies have adopted standardized protocols to perform public exposure analyses.

The analysis protocols for toxic air contaminants (TAC) such as DPM is to initially assume that any receptor will be exposed to 70 years of emissions while remaining in one single outdoor spot for 24 hours per day, 365 days per year for the entire 70-year period. If the 70-year exposure assumption is not appropriate because the receptor either does not remain in one location or the project does not last 70 years, the calculation may be adjusted. Because the construction duration is much less than 70 years, and because daytime dispersion is generally good in Ontario, only the operational impacts were considered for detailed analysis.

The analysis procedure typically is carried out for worst-case exposure assumptions using screening level atmospheric dispersion estimates that are over-predictive. If the worst-case screening analysis approach predicts a less-than-significant impact, then more comprehensive approaches are generally not considered necessary. DPM screening level health risk assessment was therefore conducted for delivery truck exhaust in order to determine if a more detailed analysis is necessary.

The results of the screening level analysis using the SCREEN3 computer model showed no adverse impact. That analysis, however, focused only on the Wal-Mart trucks, and assumed that truck movement and turbulence will disperse emissions throughout the project site. In reality, there will be non-Wal-Mart diesel trucks from contract vendors, and emissions will be heavily concentrated within the two loading dock areas.

A more detailed risk assessment was therefore conducted at forty residential sites closest to the project site at the apartments to the west, the single family homes south of 5<sup>th</sup> Street, and the single-family homes east on Mountain Avenue. The ISCST3 computer model was combined with Ontario Airport surface meteorological data and applied to the source emissions data from loading dock operations. Input data were derived from truck exhaust emissions projections in the recently released EMFAC2007 computer model between 2008 and 2077. Input assumptions are shown in the appendix. The highest DPM exposure locations are predicted to experience the following individual excess cancer risks (risk in a million), compared to the SCAQMD *de minimis* impact risk of one in a million, were as follows:

Receptor	70-Year Risk (per million)
West	0.41
South	0.39
East	0.14

The excess cancer risk for a 70-year life-time exposure is less than the one in a million minimal significance level.

# **A P P E N D I X**

## **Model Input Parameters**

## **ISCST3 Risk Analysis Output**

## Ontario Super Wal-Mart HRA Input Parameters

Ten diesel trucks per day, 5 minute idle at delivery, 5 minute idle at departure, 3 minute maneuver through lot to reach/depart from loading docks. 70-year EMFAC averages, One TRU at one loading dock per day, one hour of operation.

The site is a rectangular parcel; the SW corner is at 137m (X), and 70 m (Y)

The N-S dimension is 274 meters from the SW corner, E-W extends 244 meters from the SW corner

Receptors are located along the western property line (no set-back), across the street south of the site, and across the street east of the site.

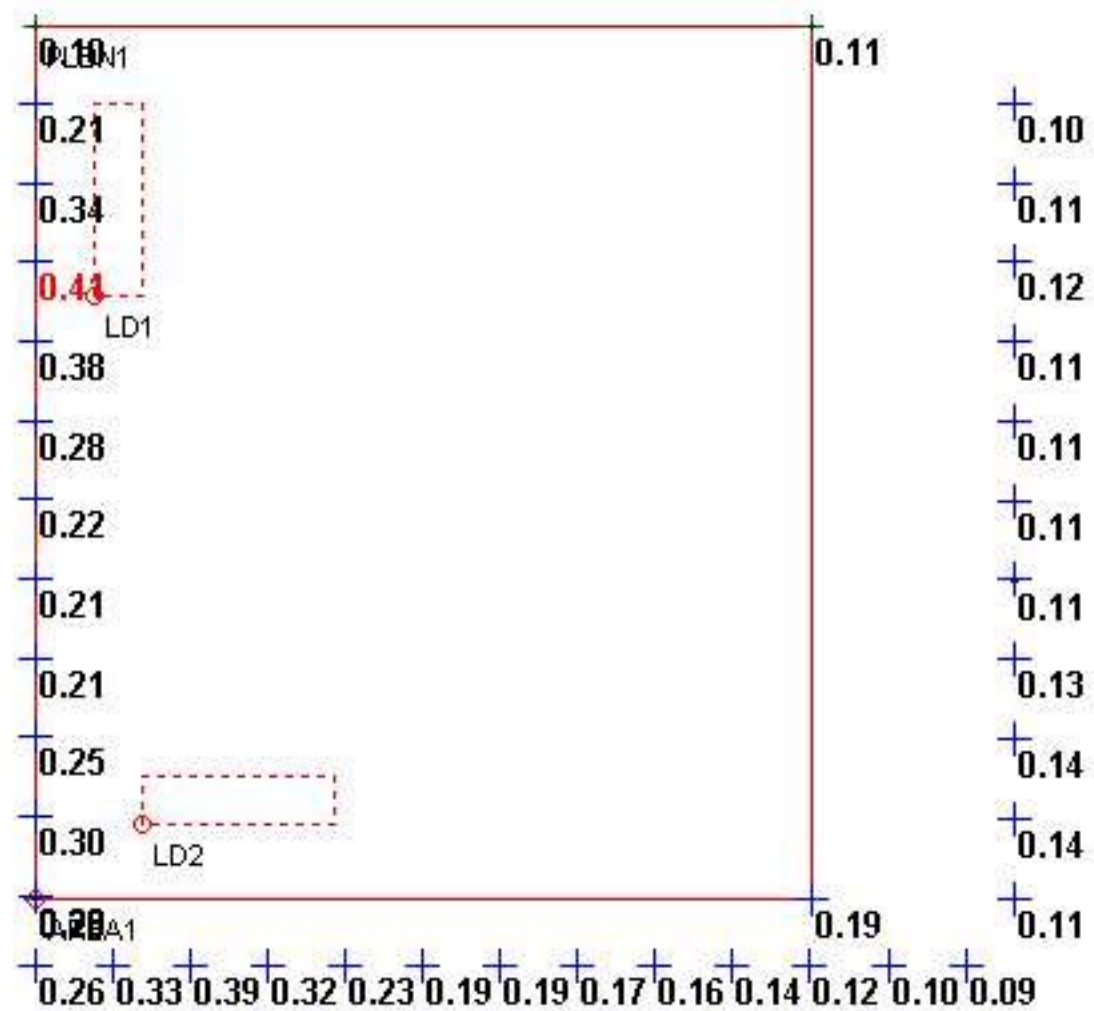
The receptor end points are: West (137,70) to (137,314)  
South (137,49) to (411,49)  
East (445,70) to (445,314)

Diesel particulate emissions:

Idling/maneuvering at the Loading Dock - Area Source (155,259) at SW corner  
15 meter east, 61 m north  
0.0033 microgram/m<sup>3</sup>m/second

Loading Dock 2 Area Source (170,93) at SW corner 61 m east, 15 m north  
0.0035 microgram/m<sup>3</sup>m/second

Trucks in/out in entire site: Area Source (137,70) at SW corner 274 meter north,  
244 meter east Rate = 0.00004 microgram/m<sup>3</sup>m/second





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*****
**
** ISCST3 Input Produced by:
** ISC-AERMOD View Ver. 5.6.0
** Lakes Environmental Software Inc.
** Date: 4/5/2007
** File: C:\Giroux\ONTWM2.INP
**
*****
**
**
*****
** ISCST3 Control Pathway
*****
**
**
CO STARTING
  TITLEONE Ontario Walmart Cancer Risk
  MODELOPT CONC  URBAN NOCALM
  AVERTIME PERIOD
  POLLUTID CNCRSK
  TERRHGT5 FLAT
  RUNORNOT RUN
CO FINISHED
**
*****
** ISCST3 Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION AREA1 AREA 437886.860 3771405.540
  LOCATION LD1 AREA 437904.860 3771594.540
** DESCRSRC Loading Dock 1
  LOCATION LD2 AREA 437919.860 3771428.540
** DESCRSRC Loading Dock 2
** Source Parameters **
  SRCPARAM AREA1 4.0E-11 1.829 244.000 274.000 0.000
  SRCPARAM LD1 3.3E-09 3.658 15.000 61.000 0.000
  SRCPARAM LD2 3.5E-09 3.658 61.000 15.000 0.000
  CONCUNIT 3.19E8 GRAMS/M2-SEC/ RISK/PER/MILLION
  SRCGROUP ALL
SO FINISHED
**
*****
** ISCST3 Receptor Pathway
*****
**
**
RE STARTING
** DESCRREC "FENCEGRD" "Receptors generated from Fenceline Grid"
  DISCCART 438130.86 3771405.53
  DISCCART 438130.30 3771384.54
  DISCCART 438105.90 3771384.54
  DISCCART 438081.50 3771384.54
  DISCCART 438057.10 3771384.54

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DISCCART      438032.70      3771384.54
DISCCART      438008.30      3771384.54
DISCCART      437983.90      3771384.54
DISCCART      437959.50      3771384.54
DISCCART      437935.10      3771384.54
DISCCART      437910.70      3771384.54
DISCCART      437886.86      3771384.54
DISCCART      437886.86      3771406.30
DISCCART      437886.86      3771431.21
DISCCART      437886.86      3771456.12
DISCCART      437886.86      3771481.03
DISCCART      437886.86      3771505.94
DISCCART      437886.86      3771530.85
DISCCART      437886.86      3771555.76
DISCCART      437886.86      3771580.67
DISCCART      437886.86      3771605.57
DISCCART      437886.86      3771630.48
DISCCART      437886.86      3771655.39
DISCCART      438130.87      3771405.54
DISCCART      438194.86      3771655.54
DISCCART      438194.86      3771630.54
DISCCART      438194.86      3771605.54
DISCCART      438194.86      3771580.54
DISCCART      438194.86      3771555.54
DISCCART      438194.86      3771530.54
DISCCART      438194.86      3771505.54
DISCCART      438194.86      3771480.54
DISCCART      438194.86      3771455.54
DISCCART      438194.86      3771430.54
DISCCART      438194.86      3771405.54
** DESCRREC " " " "
DISCCART      438155.01      3771384.54
DISCCART      438180.10      3771384.54
** BEGIN OF NESTED GRID RECEPTORS
** END OF NESTED GRID RECEPTORS
** Discrete Cartesian Plant Boundary - Primary Receptors
** Plant Boundary Name PLBN1
** DESCRREC "FENCEPRI" "Cartesian plant boundary Primary Receptors"
DISCCART      437886.86      3771679.54
DISCCART      437886.86      3771405.54
DISCCART      438130.86      3771405.54
DISCCART      438130.86      3771679.54
RE FINISHED
**
*****
** ISCST3 Meteorology Pathway
*****
**
**
ME STARTING
  INPUTFIL C:\MBA\ONTARI~1\POMONA.ASC
  ANEMHGHT 10 METERS
  SURFDATA 54109 1981
  UAIRDATA 99999 1981
ME FINISHED
**
*****
** ISCST3 Output Pathway
*****
**

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\*\*

OU STARTING

PLOTFILE PERIOD ALL ONTWM2.IS\ONTWMCAN.PLT

OU FINISHED

\*\*\*\*\*

\*\*\* SETUP Finishes Successfully \*\*\*

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*** ISCST3 - VERSION 02035 ***      *** Ontario Walmart Cancer Risk
***      04/05/07
***
***      20:44:11
**MODELOPTs:
PAGE      1
CONC              URBAN FLAT
NOCALM

***      MODEL SETUP OPTIONS
SUMMARY      ***
- - - - -
- - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

-- SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses URBAN Dispersion.

**Model Uses User-Specified Options:
    1. Final Plume Rise.
    2. Stack-tip Downwash.
    3. Buoyancy-induced Dispersion.
    4. Not Use Calms Processing Routine.
    5. Not Use Missing Data Processing Routine.
    6. Default Wind Profile Exponents.
    7. Default Vertical Potential Temperature Gradients.

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes:      3 Source(s);      1 Source Group(s); and
41 Receptor(s)

**The Model Assumes A Pollutant Type of:  CNCRSK

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
    Model Outputs Tables of PERIOD Averages by Receptor
    Model Outputs External File(s) of High Values for Plotting
(PLOTFILE Keyword)

**Misc. Inputs:  Anem. Hgt. (m) =    10.00 ;    Decay Coef. =    0.000
;    Rot. Angle =    0.0
            Emission Units = GRAMS/M2-SEC/
;    Emission Rate Unit Factor =    0.31900E+09
            Output Units   = RISK/PER/MILLION

```

\*\*Approximate Storage Requirements of Model = 1.2 MB of RAM.

\*\*Input Runstream File: ONTWM2.INP

\*\*Output Print File: ONTWM2.OUT

\*\*\* ISCST3 - VERSION 02035 \*\*\*      \*\*\* Ontario Walmart Cancer Risk  
 \*\*\*                    04/05/07

\*\*\*                    20:44:11

\*\*MODELOPTs:

PAGE     2

CONC                                    URBAN FLAT

NOCALM

\*\*\* AREA SOURCE DATA

\*\*\*

X-DIM	Y-DIM	NUMBER	EMISSION	RATE	COORD (SW CORNER)	BASE	RELEASE
SOURCE	PART.	ORIENT.	INIT.	EMISSION	RATE		
OF AREA	OF AREA	OF AREA	SZ	SCALAR	VARY	ELEV.	HEIGHT
ID	CATS.	/METER**2)	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)	(METERS)	(DEG.)	(METERS)	BY			
AREA1	0	0.40000E-10	437886.9	3771405.5	0.0	1.83	
244.00	274.00	0.00	0.00				
LD1	0	0.33000E-08	437904.9	3771594.5	0.0	3.66	
15.00	61.00	0.00	0.00				
LD2	0	0.35000E-08	437919.9	3771428.5	0.0	3.66	
61.00	15.00	0.00	0.00				

\*\*\* ISCST3 - VERSION 02035 \*\*\*      \*\*\* Ontario Walmart Cancer Risk  
\*\*\*                    04/05/07                    \*\*\*

\*\*\*                    20:44:11

\*\*MODELOPTs:

PAGE     3

CONC                                    URBAN FLAT

NOCALM

\*\*\* SOURCE IDs DEFINING SOURCE

GROUPS \*\*\*

GROUP ID

SOURCE IDs

ALL            AREA1     , LD1            , LD2            ,

\*\*\* ISCST3 - VERSION 02035 \*\*\*  
\*\*\* 04/05/07

\*\*\* Ontario Walmart Cancer Risk

\*\*\*

\*\*\* 20:44:11

\*\*MODELOPTs:

PAGE 4

CONC

URBAN FLAT

NOCALM

\*\*\* DISCRETE CARTESIAN

RECEPTORS \*\*\*

(X-COORD, Y-COORD, ZELEV,

ZFLAG)

(METERS)

( 438130.9, 3771405.5,	0.0,	0.0);	( 438130.3,
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( 437959.5, 3771384.5,	0.0,	0.0);	( 437935.1,
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( 437910.7, 3771384.5,	0.0,	0.0);	( 437886.9,
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3771481.0,	0.0,	0.0);	0.0);
( 437886.9, 3771506.0,	0.0,	0.0);	( 437886.9,
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3771580.8,	0.0,	0.0);	0.0);
( 437886.9, 3771605.5,	0.0,	0.0);	( 437886.9,
3771630.5,	0.0,	0.0);	0.0);
( 437886.9, 3771655.5,	0.0,	0.0);	( 438130.9,
3771405.5,	0.0,	0.0);	0.0);
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3771630.5,	0.0,	0.0);	0.0);
( 438194.9, 3771605.5,	0.0,	0.0);	( 438194.9,
3771580.5,	0.0,	0.0);	0.0);
( 438194.9, 3771555.5,	0.0,	0.0);	( 438194.9,
3771530.5,	0.0,	0.0);	0.0);
( 438194.9, 3771505.5,	0.0,	0.0);	( 438194.9,
3771480.5,	0.0,	0.0);	0.0);
( 438194.9, 3771455.5,	0.0,	0.0);	( 438194.9,
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( 438194.9, 3771405.5,	0.0,	0.0);	( 438155.0,
3771384.5,	0.0,	0.0);	0.0);
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3771679.5,	0.0,	0.0);	0.0);
( 437886.9, 3771405.5,	0.0,	0.0);	( 438130.9,
3771405.5,	0.0,	0.0);	0.0);
( 438130.9, 3771679.5,	0.0,	0.0);	0.0);

\*\*\* Ontario Walmart Cancer Risk

\* \* \*

NOCALM

( 1=YES; 0

[illegible]

\*\*\* UPPER BOUND OF FIRST THROUGH FIFTH

(METERS/SEC)

1.54,      3.09,      5.14,

\*\*\* WIND PROFILE

STABILITY CATEGORY		WIND SPEED CATEGORY			
4	5	6	1	2	3
	A	.15000E+00	.15000E+00	.15000E+00	
.15000E+00	.15000E+00	.15000E+00			
	B	.15000E+00	.15000E+00	.15000E+00	
.15000E+00	.15000E+00	.15000E+00			
	C	.20000E+00	.20000E+00	.20000E+00	
.20000E+00	.20000E+00	.20000E+00			
	D	.25000E+00	.25000E+00	.25000E+00	
.25000E+00	.25000E+00	.25000E+00			
	E	.30000E+00	.30000E+00	.30000E+00	



.30000E+00	.30000E+00	.30000E+00		
	F	.30000E+00	.30000E+00	.30000E+00
.30000E+00	.30000E+00	.30000E+00		

TEMPERATURE GRADIENTS \*\*\*  
(DEGREES KELVIN PER  
METER)

\*\*\* VERTICAL POTENTIAL

(DEGREES KELVIN PER

	STABILITY CATEGORY	1	2	WIND SPEED CATEGORY 3
4	5	6		
	A	.00000E+00	.00000E+00	.00000E+00
.00000E+00	.00000E+00	.00000E+00		
	B	.00000E+00	.00000E+00	.00000E+00
.00000E+00	.00000E+00	.00000E+00		
	C	.00000E+00	.00000E+00	.00000E+00
.00000E+00	.00000E+00	.00000E+00		
	D	.00000E+00	.00000E+00	.00000E+00
.00000E+00	.00000E+00	.00000E+00		
	E	.20000E-01	.20000E-01	.20000E-01
.20000E-01	.20000E-01	.20000E-01		
	F	.35000E-01	.35000E-01	.35000E-01
.35000E-01	.35000E-01	.35000E-01		

\*\*\* ISCST3 - VERSION 02035 \*\*\*  
\*\*\* 04/05/07

\*\*\* Ontario Walmart Cancer Risk

\*\*\*

\*\*\* 20:44:11

\*\*MODELOPTs:

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CONC

URBAN FLAT

NOCALM

\*\*\* THE FIRST 24 HOURS OF METEOROLOGICAL DATA \*\*\*

FILE: C:\MBA\ONTARI~1\POMONA.ASC

FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)

SURFACE STATION NO.: 54109

UPPER AIR STATION

NO.: 99999

NAME: UNKNOWN

NAME: UNKNOWN

YEAR: 1981

YEAR: 1981

LENGTH				FLOW	SPEED	TEMP	STAB	MIXING HEIGHT (M)		USTAR	M-O
YR	MN	DY	HR	Z-0	IPCODE	PRATE					
(M)				VECTOR	(M/S)	(K)	CLASS	RURAL	URBAN	(M/S)	(M)
				(mm/HR)							
81	01	01	01	292.3	1.00	284.3	7	522.6	170.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	02	282.4	0.00	284.3	7	507.0	170.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	03	242.5	1.00	283.1	7	491.4	170.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	04	233.5	1.00	283.1	7	475.8	170.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	05	219.0	0.00	282.6	7	460.3	170.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	06	184.5	1.00	283.1	7	444.7	170.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	07	229.5	1.00	285.4	6	1.4	170.7	0.0000	
0.0	0.0000			0	0.00						
81	01	01	08	224.6	0.00	287.6	5	47.0	192.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	09	276.5	1.00	289.8	4	92.5	213.3	0.0000	
0.0	0.0000			0	0.00						
81	01	01	10	324.1	1.00	291.5	3	138.0	234.7	0.0000	
0.0	0.0000			0	0.00						
81	01	01	11	291.6	1.34	294.3	2	183.5	256.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	12	350.6	1.00	297.6	2	229.0	277.3	0.0000	
0.0	0.0000			0	0.00						
81	01	01	13	312.2	1.00	298.7	2	274.5	298.7	0.0000	
0.0	0.0000			0	0.00						
81	01	01	14	56.7	2.24	299.8	3	320.0	320.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	15	67.3	2.24	299.3	3	320.0	320.0	0.0000	
0.0	0.0000			0	0.00						
81	01	01	16	98.2	1.79	298.7	4	320.0	320.0	0.0000	
0.0	0.0000			0	0.00						

81 01 01 17	87.6	1.34	295.4	5	325.6	318.5	0.0000
0.0 0.0000	0	0.00					
81 01 01 18	120.1	1.34	291.5	6	357.2	310.3	0.0000
0.0 0.0000	0	0.00					
81 01 01 19	88.0	1.00	289.8	7	388.8	302.1	0.0000
0.0 0.0000	0	0.00					
81 01 01 20	168.2	1.00	287.0	7	420.4	293.9	0.0000
0.0 0.0000	0	0.00					
81 01 01 21	291.1	1.00	286.5	7	452.0	285.7	0.0000
0.0 0.0000	0	0.00					
81 01 01 22	227.0	1.00	287.0	7	483.5	277.4	0.0000
0.0 0.0000	0	0.00					
81 01 01 23	203.2	1.00	285.9	7	515.1	269.2	0.0000
0.0 0.0000	0	0.00					
81 01 01 24	224.7	1.00	285.4	7	546.7	261.0	0.0000
0.0 0.0000	0	0.00					

\*\*\* NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.  
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

\*\*\* ISCST3 - VERSION 02035 \*\*\*  
\*\*\* 04/05/07

\*\*\* Ontario Walmart Cancer Risk

\*\*\*

\*\*\* 20:44:11

\*\*MODELOPTs:

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CONC

URBAN FLAT

NOCALM

\*\*\* THE PERIOD ( 8760 HRS) AVERAGE  
CONCENTRATION VALUES FOR SOURCE GROUP: ALL \*\*\*  
INCLUDING SOURCE(S): AREA1 , LD1  
, LD2 ,

\*\*\* DISCRETE CARTESIAN

RECEPTOR POINTS \*\*\*

RISK/PER/MILLION			** CONC OF CNCRSK IN
			**
X-COORD (M)	Y-COORD (M)	CONC	X-
COORD (M)	Y-COORD (M)	CONC	
438130.88	3771405.50	0.19273	
438130.31	3771384.50	0.11685	
438105.91	3771384.50	0.13712	
438081.50	3771384.50	0.15519	
438057.09	3771384.50	0.17341	
438032.69	3771384.50	0.18786	
438008.31	3771384.50	0.19213	
437983.91	3771384.50	0.22547	
437959.50	3771384.50	0.32287	
437935.09	3771384.50	0.38577	
437910.69	3771384.50	0.33257	
437886.88	3771384.50	0.25548	
437886.88	3771406.25	0.27832	
437886.88	3771431.25	0.29691	
437886.88	3771456.00	0.24580	
437886.88	3771481.00	0.21496	
437886.88	3771506.00	0.20520	
437886.88	3771530.75	0.22126	
437886.88	3771555.75	0.27544	
437886.88	3771580.75	0.37974	
437886.88	3771605.50	0.40933	
437886.88	3771630.50	0.33986	
437886.88	3771655.50	0.21337	
438130.88	3771405.50	0.19273	
438194.88	3771655.50	0.09626	
438194.88	3771630.50	0.11147	
438194.88	3771605.50	0.11693	
438194.88	3771580.50	0.11494	
438194.88	3771555.50	0.10920	
438194.88	3771530.50	0.10546	
438194.88	3771505.50	0.11066	
438194.88	3771480.50	0.12635	
438194.88	3771455.50	0.13915	
438194.88	3771430.50	0.13603	
438194.88	3771405.50	0.11301	
438155.00	3771384.50	0.10066	

	438180.09	3771384.50	0.08998
437886.88	3771679.50	0.10217	
	437886.88	3771405.50	0.27892
438130.88	3771405.50	0.19273	
	438130.88	3771679.50	0.11274

\*\*\* ISCST3 - VERSION 02035 \*\*\*  
\*\*\* 04/05/07

\*\*\* Ontario Walmart Cancer Risk

\*\*\*

\*\*\* 20:44:11

\*\*MODELOPTs:

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CONC

URBAN FLAT

NOCALM

\*\*\* THE SUMMARY OF MAXIMUM

PERIOD ( 8760 HRS) RESULTS \*\*\*

\*\* CONC OF CNCRSK IN  
\*\*

RISK/PER/MILLION

NETWORK

GROUP ID AVERAGE CONC RECEPTOR (XR,  
YR, ZELEV, ZFLAG) OF TYPE GRID-ID

-----  
-----

ALL	1ST HIGHEST VALUE IS	0.40933 AT (	437886.88,
3771605.50,	0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.38577 AT (	437935.09,
3771384.50,	0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.37974 AT (	437886.88,
3771580.75,	0.00, 0.00)	DC	NA
	4TH HIGHEST VALUE IS	0.33986 AT (	437886.88,
3771630.50,	0.00, 0.00)	DC	NA
	5TH HIGHEST VALUE IS	0.33257 AT (	437910.69,
3771384.50,	0.00, 0.00)	DC	NA
	6TH HIGHEST VALUE IS	0.32287 AT (	437959.50,
3771384.50,	0.00, 0.00)	DC	NA
	7TH HIGHEST VALUE IS	0.29691 AT (	437886.88,
3771431.25,	0.00, 0.00)	DC	NA
	8TH HIGHEST VALUE IS	0.27892 AT (	437886.88,
3771405.50,	0.00, 0.00)	DC	NA
	9TH HIGHEST VALUE IS	0.27832 AT (	437886.88,
3771406.25,	0.00, 0.00)	DC	NA
	10TH HIGHEST VALUE IS	0.27544 AT (	437886.88,
3771555.75,	0.00, 0.00)	DC	NA

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
GP = GRIDPOLR  
DC = DISCCART  
DP = DISCPOLR  
BD = BOUNDARY

\*\*\* ISCST3 - VERSION 02035 \*\*\*      \*\*\* Ontario Walmart Cancer Risk  
\*\*\*                    04/05/07                    \*\*\*

\*\*\*                    20:44:11

\*\*MODELOPTs:

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CONC                                    URBAN FLAT

NOCALM

\*\*\* Message Summary : ISCST3 Model Execution \*\*\*

----- Summary of Total Messages -----

A Total of                    0 Fatal Error Message(s)  
A Total of                    0 Warning Message(s)  
A Total of                    2114 Informational Message(s)  
  
A Total of                    2114 Calm Hours Identified

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

\*\*\*\*\* WARNING MESSAGES        \*\*\*\*\*  
          \*\*\*    NONE    \*\*\*

\*\*\*\*\*  
\*\*\* ISCST3 Finishes Successfully \*\*\*  
\*\*\*\*\*