RESULTS FOR DISPERSION MODEL CASES

HEATER TREATER STACK DISPERSION (FUEL GAS)

$V_{Emulsion}$ (m3)	$V_{Emulsion}$ (bbl)	Vo (m3)	Vo (bbl)	Vg (m3)	Vg (SCF)	Vg (m3/s)	% Total		**Screen 3 RESULTS** Max SO_2 1 hr ($\mu g/m^3$)	**Screen 3 RESULTS** 900 ($\mu g/m^3$) % Max Allow
159	1000	80	500	158	5580	0.0018	4.3	**Case 1**	**10.68**	**1.19**
397.5	2500	199	1250	368	12996	0.0043	4.0	**Case 2**	**20.32**	**2.26**
795	5000	398	2500	613	21648	0.0071	3.3	**Case 3**	**28.66**	**3.18**
1033.4	6500	517	3250	963	34008	0.0111	4.0	**Case 4**	**38.53**	**4.28**
Max Duty	(2.5 MMBTU/HR Burner)			1460	51559	0.0169		**Case 5**	**49.29**	**5.48**
FUTURE CASES (WHEN 2ND TREATER IS ADDED EMISSIONS ARE CUMULATIVELY THE VALUE ON THE 1ST TREATER x 2)										
1589.8	10000	795	5000	1226	43296	0.0142	3.3	**Case 6**	**57.32**	**6.37**
2066.8	13000	1033	6500	1927	68051	0.0223	4.0	**Case 7**	**77.06**	**8.56**
Max Duty				2919	103084	0.0338		**Case 8**	**98.58**	**10.95**

HP FLARE STACK DISPERSION

$V_{Emulsion}$ (m3)	$V_{Emulsion}$ (bbl)	Vo (m3)	Vo (bbl)	Vg (m3)	Vg (SCF)	Vg (m3/s)	% Total		**Screen 3 RESULTS** Max SO_2 1 hr ($\mu g/m^3$)	**Screen 3 RESULTS** 900 ($\mu g/m^3$) % Max Allow
159	1000	80	500	3465	122353	0.0401	93.3	**Case 10**	**0.2616**	**0.03**
397.5	2500	199	1250	8690	306871	0.1006	93.6	**Case 11**	**0.2485**	**0.03**
795	5000	398	2500	17502	618086	0.2026	94.3	**Case 12**	**0.2413**	**0.03**
1033.4	6500	517	3250	22585	797578	0.2614	93.6	**Case 13**	**0.2387**	**0.03**
FUTURE CASES										
1589.8	10000	795	5000	35001	1236043	0.4051	94.3	**Case 14**	**0.2783**	**0.03**
2066.8	13000	1033	6500	45169	1595120	0.5228	93.6	**Case 15**	**0.2825**	**0.03**

LP FLARE STACK DISPERSION (TANKS)

$V_{Emulsion}$ (m3)	$V_{Emulsion}$ (bbl)	Vo (m3)	Vo (bbl)	Vg (m3)	Vg (SCF)	Vg (m3/s)	% Total		Screen 3 RESULTS Max SO_2 1 hr ($\mu g/m^3$)	Screen 3 RESULTS 900 ($\mu g/m^3$) % Max Allow
159	1000	80	500	90	3178	0.0010	2.4	**Case 20**	**0.1979**	**0.02**
397.5	2500	199	1250	224	7910	0.0026	2.4	**Case 21**	**0.2301**	**0.03**
795	5000	398	2500	448	15821	0.0052	2.4	**Case 22**	**0.251**	**0.03**
1033.4	6500	517	3250	582	20553	0.0067	2.4	**Case 23**	**0.2671**	**0.03**
FUTURE CASES										
1589.8	10000	795	5000	895	31607	0.0104	2.4	**Case 24**	**0.2897**	**0.03**
2066.8	13000	1033	6500	1164	41106	0.0135	2.4	**Case 25**	**0.2974**	**0.03**

CUMULATIVE DISPERSION FOR HP & LP FLARES COMBINDED

$V_{Emulsion}$ (m3)	$V_{Emulsion}$ (bbl)		Screen 3 RESULTS Max SO_2 1 hr ($\mu g/m^3$)	Screen 3 RESULTS 900 ($\mu g/m^3$) % Max Allow
159	1000	**Case 10 + 20**	**0.4595**	**0.05**
397.5	2500	**Case 11 + 21**	**0.4786**	**0.05**
795	5000	**Case 12 + 22**	**0.4923**	**0.05**
1033.4	6500	**Case 13 + 23**	**0.5058**	**0.06**
FUTURE CASES				
1589.8	10000	**Case 14 + 24**	**0.568**	**0.06**
2066.8	13000	**Case 15 + 25**	**0.5799**	**0.06**

Molopo Energy Canada
Date: July 14, 2010
H2S Concentration in Gas

Assumptions: Assuming GOR of all wells are the same, highest GOR for field used at 46.7

Well	Oil Flowrate (bopd)	H2S conc. of Gas (ppm)
12-28-01-28	30	0
9-27-01-28	94	0
5-28-01-28	34	0
8-27-01-28	97	100
1-7-02-28	126	0
13-27-01-28	120	150
3-19-01-27	118	500
3-30-01-28	13	0

Prorated H2S Concentration for battery based upon these results is

137 ppm
0.000137 Mole Fraction
0.0137 %

For dispersion model use Spearfish 03-19-001-27 W1M,
correcting H2S to average and compensating with C1

EXTENDED GAS ANALYSIS

CONTAINER IDENTITY	METER ID	WELL LICENSE NUMBER	LABORATORY FILE NUMBER
V0002272 - 1		7204	52136-2010-0419

OPERATOR	PAGE
Molopo Canada	1

LOCATION (UWI)	WELL NAME	KB ELEV (m)	GR ELEV (m)
100/03-19-001-27W1/02	Molopo Pierson HZ 3-19-1-27	458.99	453.64

FIELD OR AREA	POOL OR ZONE	SAMPLER
Pierson	Spearfish	Select Production

TEST TYPE AND NO.	TEST RECOVERY
Meter Run	

POINT OF SAMPLE: PUMPING | FLOWING | GAS LIFT | SWAB

SAMPLE POINT ID:

WATER 18 m³/d | OIL 27 m³/d | GAS 630 m³/d

TEST INTERVAL or PERFS (meters): 70

Pressures, kPa (gauge) — at 08:00 hrs

SEPARATOR	RESERVOIR	OTHER	CONTAINER WHEN SAMPLED	CONTAINER WHEN RECEIVED
70			@ °C	87 @ 22 °C

Temperatures, °C

SEPARATOR	OTHER
-1	

DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	AMT. AND TYPE CUSHION	MUD RESISTIVITY
2010 02 05	2010 03 22	2010 03 22	MF		@ °C

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m³ AIR FREE AS RECEIVED
H_2	Trace	Trace	
He	Trace	Trace	
N_2	0.0604	0.0606	
CO_2	0.0024	0.0000	
H_2S	0.000137	0.0000	
C_1	0.443363	0.4444	
C_2	0.1893	0.1898	672.7
C_3	0.1888	0.1893	693.8
iC_4	0.0246	0.0247	107.4
C_4	0.0580	0.0582	244.0
iC_5	0.0106	0.0106	51.7
C_5	0.0108	0.0108	52.3
C_6	0.0066	0.0066	34.9
C_{7+}	0.0050	0.0050	27.6
Total	1.0000	1.0000	1,884.4

CALCULATED GROSS HEATING VALUE MJ/m³ @ 15°C & 101.325 kPa (abs.)		CALCULATED VAPOR PRESSURE kPa (abs.) @ 40 °C
62.70	62.86	97.8
MOISTURE FREE	MOISTURE & ACID GAS FREE	PENTANES PLUS

CALCULATED TOTAL SAMPLE PROPERTIES (AIR=1) @ 15°C & 101.325 kPa MOISTURE FREE AS SAMPLED

DENSITY	RELATIVE DENSITY	RELATIVE MOLECULAR MASS
1.282 kg/m³	1.047	30.3

CALCULATED PSEUDOCRITICAL PROPERTIES

AS SAMPLED pPc	AS SAMPLED pTc	ACID GAS FREE pPc	ACID GAS FREE pTc
4408.7 kPa (abs)	271.3 K	4399.3 kPa (abs)	271.2 K

C_{7+} PROPERTIES @ 15°C & 101.325 kPa DENSITY	C_{7+} PROPERTIES @ 15°C & 101.325 kPa MOLECULAR WEIGHT	HYDROGEN SULPHIDE MOLE FRACTION	HYDROGEN SULPHIDE LOCATION	HYDROGEN SULPHIDE METHOD
731.4 kg/m³	94.8	0.0005000	Field	Gastec

REMARKS:

H2S determined in the field by Gastec = 0.05%

CORRECTED TO 0.0137% TO MATCH FIELD AVERAGE. CHANGED C1 TO COMPENSATE FOR H_2S.

NOTE: THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO AGA REPORT #5 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING GPA 2145 - 09 PHYSICAL CONSTANTS AND BOILING POINT GROUPING.

Molopo Energy Canada
Date: July 14, 2010

Manitoba Battery Class
Per Informational Notice 02-1

Radius of Exposure Calculation

R = 0.3048*(56.11*(H2S)*Q)^0.625

Where,

R= Radius of Exposure for a 100 ppm concentration of H2S, (m)
H2S= Concentration of H2S in the produced gas, (mole fraction)
Q= Battery daily gas production volume, (m3/d)

INPUTS

For Maximum Current Battery Capacity: 6,500 bbl/d Emulsion, GOR=46.7, H2S=0137 ppm

H2S=	0.000137	mole fraction
Q=	24130	m3/d

OUTPUT

R=	7.97	m

RESULTS

Battery Class = **CLASS 1**

Class 1 Sour - Radius of exposure is less than 10 m, localized hazard.
Class 2 Sour - Radius of exposure in between 10 - 20 m, limited means of safe egress.
Class 3 Sour - Radius of exposure is more than 20 m, hazards extend over the entire battery.

Molopo Energy Canada
Date: July 14, 2010

EMISSION SOURCE INFORMATION FOR FLARE MODEL

HEATER TREATER

Stack Height	6.7	m	(From grade)
Stack Diameter	0.591	m	(NPS 24 Sch STD)
Stack Gas Exit Velocity	See Individual Model Input Sheets for Each Case Run		
Stack Gas Exit Temperature	573	K	
SO2 Emission Rate	See Individual Model Input Sheets for Each Case Run		
Building/Structure Height (Note 1)	3.66	m	
Building/Structure Length (Note 1)	4.57	m	
Building/Structure Width (Note 1)	12.8	m	

HP FLARE STACK

Stack Height	12.2	m	
Stack Diameter	0.102	m	(NPS 4 Sch STD)
Volume Gas to Flare	See Individual Model Input Sheets for Each Case Run		
Heat Content of Gas to Flare	56.94	MJ/m3	
SO2 Emission Rate	See Individual Model Input Sheets for Each Case Run		

LP FLARE STACK (TANK VENTS)

Stack Height	12.2	m	
Stack Diameter	0.154	m	(NPS 6 Sch STD)
Volume Gas to Flare	See Individual Model Input Sheets for Each Case Run		
Heat Content of Gas to Flare	56.94	MJ/m3	
SO2 Emission Rate	See Individual Model Input Sheets for Each Case Run		

Notes:

1. Require if Stack Height is less than 2.5 x Building Height.

Calculation Sheet for Dispersion Model Inputs - Heater Treater - CASE 1 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0018
Actual Stack Diameter (m)	0.591
Stack Height (m):	6.7
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00010872	0.0	0
CO2	0.0024	0.00000432	0.0	0
C1	0.443363	0.000798053	33.9	0.02705401
C2	0.1893	0.00034074	60.3	0.020546622
C3	0.1888	0.00033984	86.1	0.029260224
iC4	0.0246	0.00004428	111.7	0.004946076
nC4	0.0580	0.0001044	112.1	0.01170324
iC5	0.0106	0.00001908	137.8	0.002629224
nC5	0.0108	0.00001944	138.1	0.002684664
C6	0.0066	0.00001188	164.0	0.00194832
C7+	0.0050	0.000009	189.9	0.0017091
H2S	0.000137	2.466E-07	21.9	5.40054E-06
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.102486881

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	24518.39254
Buoyancy Flux (m^4/s^3)	0.680385393

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**573**
Actual Exit Velocity (m/s):	**0.0064**
Effective Stack Height (m)	**N/A**
Equivalent Stack Diameter (m):	**N/A**
Emission Rate of SO_2 (g/s):	**0.0007**
Emission Rate of H_2S (g/s):	**0.0000**

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.700000E-03
STACK HEIGHT (M)	=	6.7000
STK INSIDE DIAM (M)	=	0.5910
STK EXIT VELOCITY (M/S)	=	0.0064
STK GAS EXIT TEMP (K)	=	573.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	3.6600
MIN HORIZ BLDG DIM (M)	=	4.5700
MAX HORIZ BLDG DIM (M)	=	12.8000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.003 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	0	0.0	0.0	0.0	0.00	0.00	0.00	NA
100.	3.013	6	1.0	1.0	10000.0	8.36	4.19	5.45	HS
200.	1.986	6	1.0	1.0	10000.0	8.36	7.79	6.87	HS
300.	1.433	6	1.0	1.0	10000.0	8.36	11.28	8.22	HS
400.	1.085	6	1.0	1.0	10000.0	8.36	14.67	9.51	HS
500.	0.8512	6	1.0	1.0	10000.0	8.36	17.99	10.76	HS
600.	0.7003	6	1.0	1.0	10000.0	8.36	21.26	11.48	HS
700.	0.5822	6	1.0	1.0	10000.0	8.36	24.48	12.50	HS
800.	0.4930	6	1.0	1.0	10000.0	8.36	27.65	13.49	HS
900.	0.4286	6	1.0	1.0	10000.0	8.36	30.79	14.20	HS
1000.	0.3742	6	1.0	1.0	10000.0	8.36	33.90	15.06	HS
1100.	0.3303	6	1.0	1.0	10000.0	8.36	36.98	15.89	HS
1200.	0.2942	6	1.0	1.0	10000.0	8.36	40.03	16.69	HS
1300.	0.2641	6	1.0	1.0	10000.0	8.36	43.05	17.48	HS
1400.	0.2388	6	1.0	1.0	10000.0	8.36	46.06	18.24	HS
1500.	0.2172	6	1.0	1.0	10000.0	8.36	49.04	18.98	HS
1600.	0.1987	6	1.0	1.0	10000.0	8.36	52.00	19.71	HS
1700.	0.1826	6	1.0	1.0	10000.0	8.36	54.95	20.43	HS
1800.	0.1685	6	1.0	1.0	10000.0	8.36	57.88	21.13	HS

1900.	0.1584	6	1.0	1.0	10000.0	8.36	60.79	21.45	HS
2000.	0.1476	6	1.0	1.0	10000.0	8.36	63.68	22.06	HS
2100.	0.1381	6	1.0	1.0	10000.0	8.36	66.56	22.64	HS
2200.	0.1296	6	1.0	1.0	10000.0	8.36	69.43	23.20	HS
2300.	0.1220	6	1.0	1.0	10000.0	8.36	72.28	23.75	HS
2400.	0.1151	6	1.0	1.0	10000.0	8.36	75.13	24.29	HS
2500.	0.1088	6	1.0	1.0	10000.0	8.36	77.95	24.82	HS
2600.	0.1031	6	1.0	1.0	10000.0	8.36	80.77	25.34	HS
2700.	0.9788E-01	6	1.0	1.0	10000.0	8.36	83.58	25.85	HS
2800.	0.9308E-01	6	1.0	1.0	10000.0	8.36	86.37	26.35	HS
2900.	0.8868E-01	6	1.0	1.0	10000.0	8.36	89.15	26.85	HS
3000.	0.8530E-01	6	1.0	1.0	10000.0	8.36	91.93	27.09	HS
3500.	0.6957E-01	6	1.0	1.0	10000.0	8.36	105.66	29.09	HS
4000.	0.5827E-01	6	1.0	1.0	10000.0	8.36	119.17	30.94	HS
4500.	0.4982E-01	6	1.0	1.0	10000.0	8.36	132.51	32.67	HS
5000.	0.4329E-01	6	1.0	1.0	10000.0	8.36	145.67	34.30	HS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

11.	10.68	4	1.0	1.0	320.0	5.19	1.14	2.63	HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	0.000	CONC (UG/M**3)	=	0.000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	4.82	CAVITY HT (M)	=	3.72
CAVITY LENGTH (M)	=	12.54	CAVITY LENGTH (M)	=	6.09
ALONGWIND DIM (M)	=	4.57	ALONGWIND DIM (M)	=	12.80

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

****
END OF CAVITY CALCULATIONS
****

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

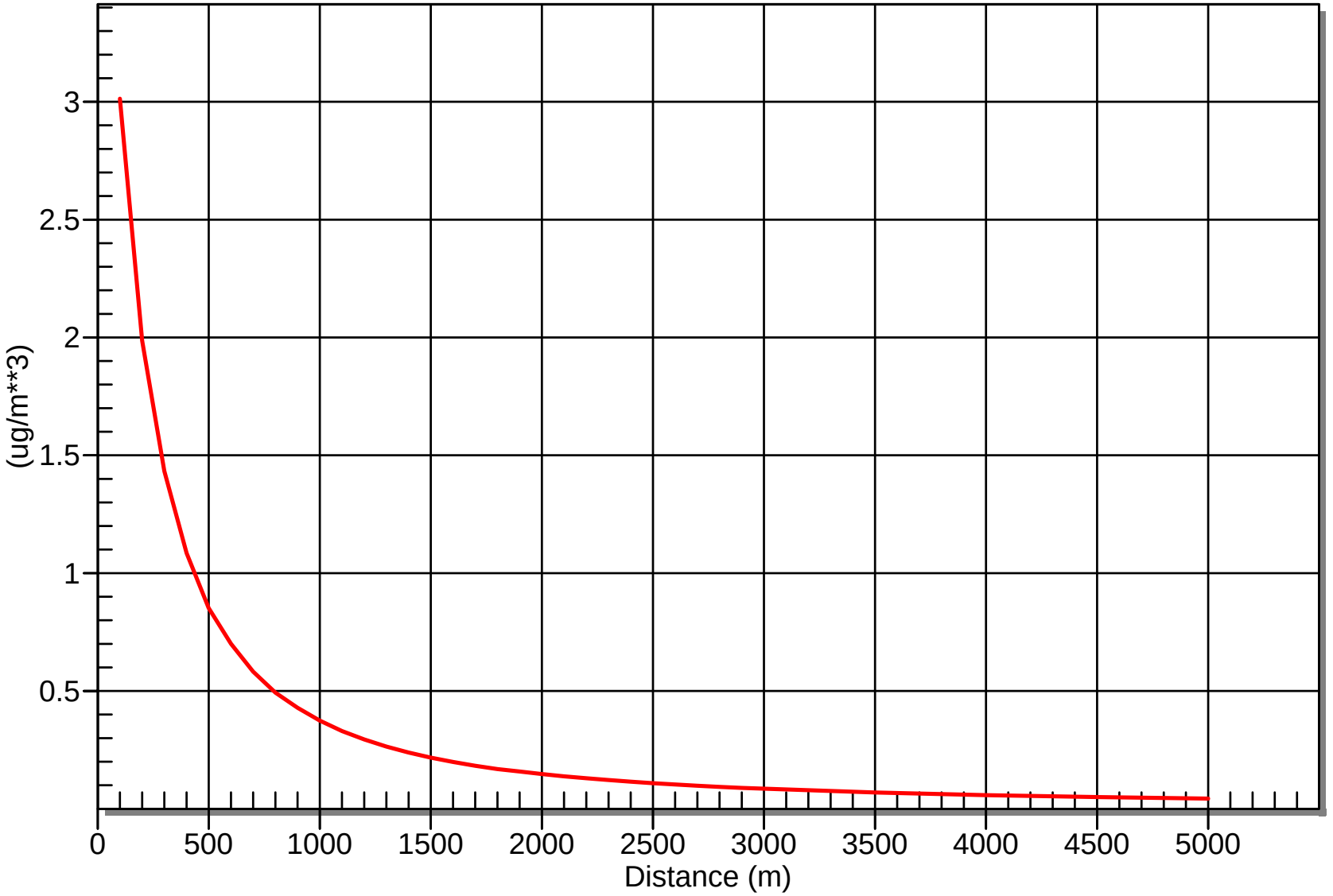
CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
---	---	---	---

SIMPLE TERRAIN 10.68 11. 0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - Heater Treater - CASE 2 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0043
Actual Stack Diameter (m)	0.591
Stack Height (m):	6.7
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00025972	0.0	0
CO2	0.0024	0.00001032	0.0	0
C1	0.443363	0.001906461	33.9	0.064629025
C2	0.1893	0.00081399	60.3	0.049083597
C3	0.1888	0.00081184	86.1	0.069899424
iC4	0.0246	0.00010578	111.7	0.011815626
nC4	0.0580	0.0002494	112.1	0.02795774
iC5	0.0106	0.00004558	137.8	0.006280924
nC5	0.0108	0.00004644	138.1	0.006413364
C6	0.0066	0.00002838	164.0	0.00465432
C7+	0.0050	0.0000215	189.9	0.00408285
H2S	0.000137	5.891E-07	21.9	1.29013E-05
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.244829771

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	58571.7155
Buoyancy Flux (m^4/s^3)	1.625365105

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**573**
Actual Exit Velocity (m/s):	**0.0154**
Effective Stack Height (m)	**N/A**
Equivalent Stack Diameter (m):	**N/A**
Emission Rate of SO_2 (g/s):	**0.0016**
Emission Rate of H_2S (g/s):	**0.0000**

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.160000E-02
STACK HEIGHT (M)	=	6.7000
STK INSIDE DIAM (M)	=	0.5910
STK EXIT VELOCITY (M/S)	=	0.0154
STK GAS EXIT TEMP (K)	=	573.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	3.6600
MIN HORIZ BLDG DIM (M)	=	4.5700
MAX HORIZ BLDG DIM (M)	=	12.8000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.006 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	0	0.0	0.0	0.0	0.00	0.00	0.00	NA
100.	6.605	4	1.0	1.0	320.0	5.43	8.20	6.89	HS
200.	3.637	6	1.0	1.0	10000.0	9.53	7.84	6.93	HS
300.	2.801	6	1.0	1.0	10000.0	9.53	11.31	8.27	HS
400.	2.205	6	1.0	1.0	10000.0	9.53	14.70	9.55	HS
500.	1.773	6	1.0	1.0	10000.0	9.53	18.01	10.79	HS
600.	1.475	6	1.0	1.0	10000.0	9.53	21.28	11.51	HS
700.	1.242	6	1.0	1.0	10000.0	9.53	24.49	12.53	HS
800.	1.062	6	1.0	1.0	10000.0	9.53	27.67	13.52	HS
900.	0.9284	6	1.0	1.0	10000.0	9.53	30.80	14.23	HS
1000.	0.8155	6	1.0	1.0	10000.0	9.53	33.91	15.08	HS
1100.	0.7232	6	1.0	1.0	10000.0	9.53	36.99	15.91	HS
1200.	0.6468	6	1.0	1.0	10000.0	9.53	40.04	16.71	HS
1300.	0.5827	6	1.0	1.0	10000.0	9.53	43.06	17.50	HS
1400.	0.5283	6	1.0	1.0	10000.0	9.53	46.07	18.26	HS
1500.	0.4818	6	1.0	1.0	10000.0	9.53	49.05	19.01	HS
1600.	0.4415	6	1.0	1.0	10000.0	9.53	52.01	19.73	HS
1700.	0.4066	6	1.0	1.0	10000.0	9.53	54.96	20.45	HS
1800.	0.3759	6	1.0	1.0	10000.0	9.53	57.88	21.15	HS

1900.	0.3536	6	1.0	1.0	10000.0	9.53	60.79	21.47	HS
2000.	0.3299	6	1.0	1.0	10000.0	9.53	63.69	22.08	HS
2100.	0.3091	6	1.0	1.0	10000.0	9.53	66.57	22.65	HS
2200.	0.2904	6	1.0	1.0	10000.0	9.53	69.44	23.21	HS
2300.	0.2735	6	1.0	1.0	10000.0	9.53	72.29	23.76	HS
2400.	0.2583	6	1.0	1.0	10000.0	9.53	75.13	24.30	HS
2500.	0.2444	6	1.0	1.0	10000.0	9.53	77.96	24.83	HS
2600.	0.2317	6	1.0	1.0	10000.0	9.53	80.78	25.35	HS
2700.	0.2201	6	1.0	1.0	10000.0	9.53	83.58	25.87	HS
2800.	0.2095	6	1.0	1.0	10000.0	9.53	86.37	26.37	HS
2900.	0.1997	6	1.0	1.0	10000.0	9.53	89.16	26.86	HS
3000.	0.1921	6	1.0	1.0	10000.0	9.53	91.93	27.11	HS
3500.	0.1570	6	1.0	1.0	10000.0	9.53	105.66	29.10	HS
4000.	0.1317	6	1.0	1.0	10000.0	9.53	119.18	30.95	HS
4500.	0.1127	6	1.0	1.0	10000.0	9.53	132.51	32.68	HS
5000.	0.9804E-01	6	1.0	1.0	10000.0	9.53	145.68	34.31	HS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

16.	20.32	4	1.0	1.0	320.0	5.43	1.58	2.97	HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	0.000	CONC (UG/M**3)	=	0.000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	4.82	CAVITY HT (M)	=	3.72
CAVITY LENGTH (M)	=	12.54	CAVITY LENGTH (M)	=	6.09
ALONGWIND DIM (M)	=	4.57	ALONGWIND DIM (M)	=	12.80

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

****
END OF CAVITY CALCULATIONS
****

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

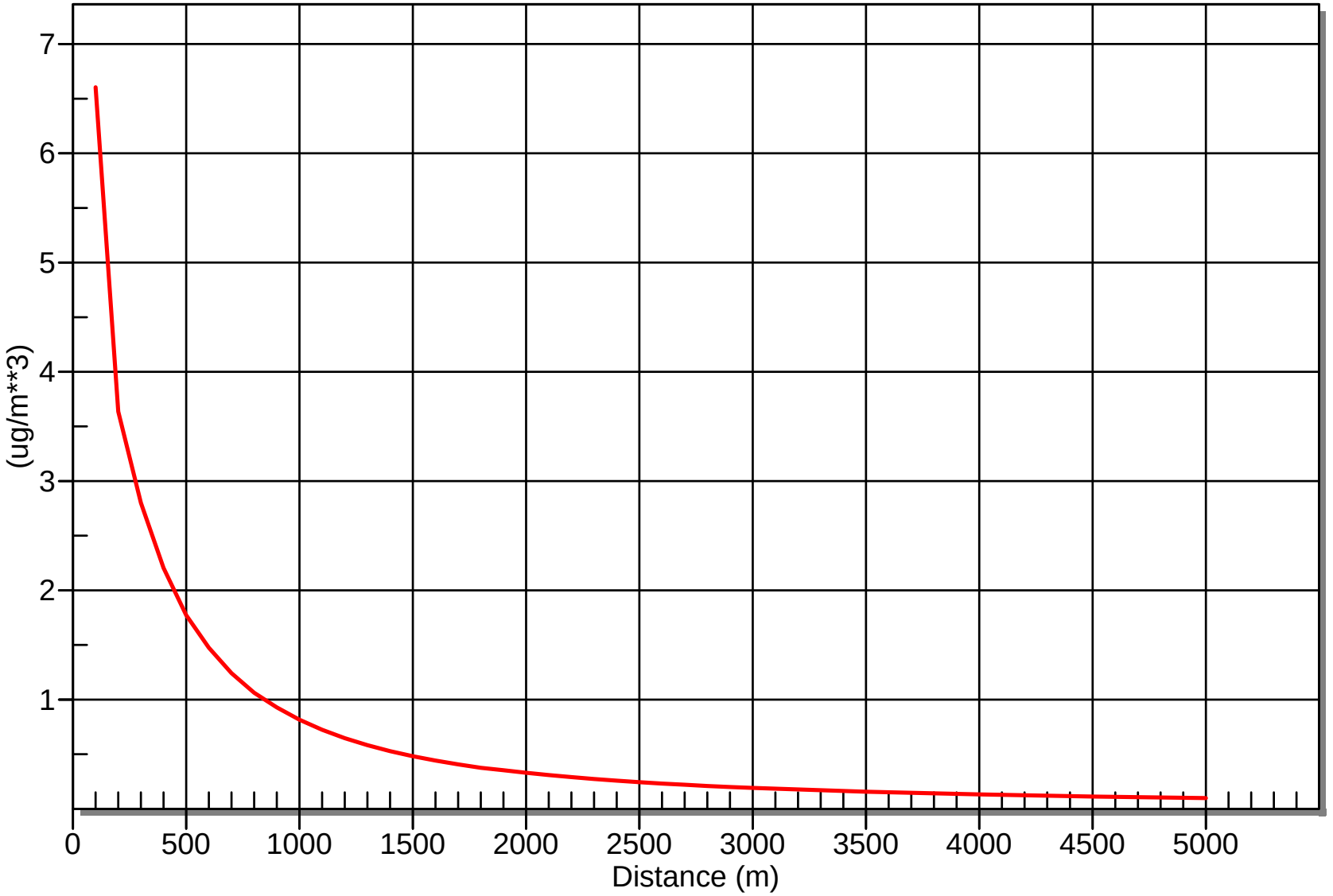
CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
---	---	---	---

SIMPLE TERRAIN 20.32 16. 0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - Heater Treater - CASE 3 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0071
Actual Stack Diameter (m)	0.591
Stack Height (m):	6.7
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00042884	0.0	0
CO2	0.0024	0.00001704	0.0	0
C1	0.443363	0.003147877	33.9	0.10671304
C2	0.1893	0.00134403	60.3	0.081045009
C3	0.1888	0.00134048	86.1	0.115415328
iC4	0.0246	0.00017466	111.7	0.019509522
nC4	0.0580	0.0004118	112.1	0.04616278
iC5	0.0106	0.00007526	137.8	0.010370828
nC5	0.0108	0.00007668	138.1	0.010589508
C6	0.0066	0.00004686	164.0	0.00768504
C7+	0.0050	0.0000355	189.9	0.00674145
H2S	0.000137	9.727E-07	21.9	2.13021E-05
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.404253808

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	96711.43722
Buoyancy Flux (m^4/s^3)	2.683742383

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**573**
Actual Exit Velocity (m/s):	**0.0254**
Effective Stack Height (m)	**N/A**
Equivalent Stack Diameter (m):	**N/A**
Emission Rate of SO_2 (g/s):	**0.0026**
Emission Rate of H_2S (g/s):	**0.0000**

07/16/10

09:07:39

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.260000E-02
STACK HEIGHT (M)	=	6.7000
STK INSIDE DIAM (M)	=	0.5910
STK EXIT VELOCITY (M/S)	=	0.0254
STK GAS EXIT TEMP (K)	=	573.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	3.6600
MIN HORIZ BLDG DIM (M)	=	4.5700
MAX HORIZ BLDG DIM (M)	=	12.8000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.011 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	0	0.0	0.0	0.0	0.00	0.00	0.00	NA
100.	10.44	4	1.0	1.0	320.0	5.67	8.20	6.89	HS
200.	4.975	6	1.0	1.0	10000.0	10.38	7.88	6.98	HS
300.	4.025	6	1.0	1.0	10000.0	10.38	11.34	8.31	HS
400.	3.264	6	1.0	1.0	10000.0	10.38	14.72	9.59	HS
500.	2.677	6	1.0	1.0	10000.0	10.38	18.03	10.82	HS
600.	2.247	6	1.0	1.0	10000.0	10.38	21.29	11.54	HS
700.	1.911	6	1.0	1.0	10000.0	10.38	24.51	12.56	HS
800.	1.646	6	1.0	1.0	10000.0	10.38	27.68	13.54	HS
900.	1.446	6	1.0	1.0	10000.0	10.38	30.81	14.25	HS
1000.	1.276	6	1.0	1.0	10000.0	10.38	33.92	15.10	HS
1100.	1.136	6	1.0	1.0	10000.0	10.38	37.00	15.93	HS
1200.	1.019	6	1.0	1.0	10000.0	10.38	40.04	16.73	HS
1300.	0.9203	6	1.0	1.0	10000.0	10.38	43.07	17.52	HS
1400.	0.8364	6	1.0	1.0	10000.0	10.38	46.07	18.28	HS
1500.	0.7642	6	1.0	1.0	10000.0	10.38	49.05	19.02	HS
1600.	0.7016	6	1.0	1.0	10000.0	10.38	52.02	19.75	HS
1700.	0.6470	6	1.0	1.0	10000.0	10.38	54.96	20.46	HS
1800.	0.5990	6	1.0	1.0	10000.0	10.38	57.89	21.16	HS

1900.	0.5638	6	1.0	1.0	10000.0	10.38	60.80	21.48	HS
2000.	0.5266	6	1.0	1.0	10000.0	10.38	63.69	22.10	HS
2100.	0.4938	6	1.0	1.0	10000.0	10.38	66.57	22.67	HS
2200.	0.4643	6	1.0	1.0	10000.0	10.38	69.44	23.23	HS
2300.	0.4377	6	1.0	1.0	10000.0	10.38	72.29	23.78	HS
2400.	0.4135	6	1.0	1.0	10000.0	10.38	75.13	24.32	HS
2500.	0.3915	6	1.0	1.0	10000.0	10.38	77.96	24.85	HS
2600.	0.3714	6	1.0	1.0	10000.0	10.38	80.78	25.37	HS
2700.	0.3530	6	1.0	1.0	10000.0	10.38	83.58	25.88	HS
2800.	0.3361	6	1.0	1.0	10000.0	10.38	86.38	26.38	HS
2900.	0.3205	6	1.0	1.0	10000.0	10.38	89.16	26.88	HS
3000.	0.3085	6	1.0	1.0	10000.0	10.38	91.94	27.12	HS
3500.	0.2525	6	1.0	1.0	10000.0	10.38	105.66	29.11	HS
4000.	0.2120	6	1.0	1.0	10000.0	10.38	119.18	30.96	HS
4500.	0.1817	6	1.0	1.0	10000.0	10.38	132.51	32.69	HS
5000.	0.1581	6	1.0	1.0	10000.0	10.38	145.68	34.32	HS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

20.	28.66	4	1.0	1.0	320.0	5.67	1.93	3.24	HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	0.000	CONC (UG/M**3)	=	0.000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	4.82	CAVITY HT (M)	=	3.72
CAVITY LENGTH (M)	=	12.54	CAVITY LENGTH (M)	=	6.09
ALONGWIND DIM (M)	=	4.57	ALONGWIND DIM (M)	=	12.80

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

****
END OF CAVITY CALCULATIONS
****

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

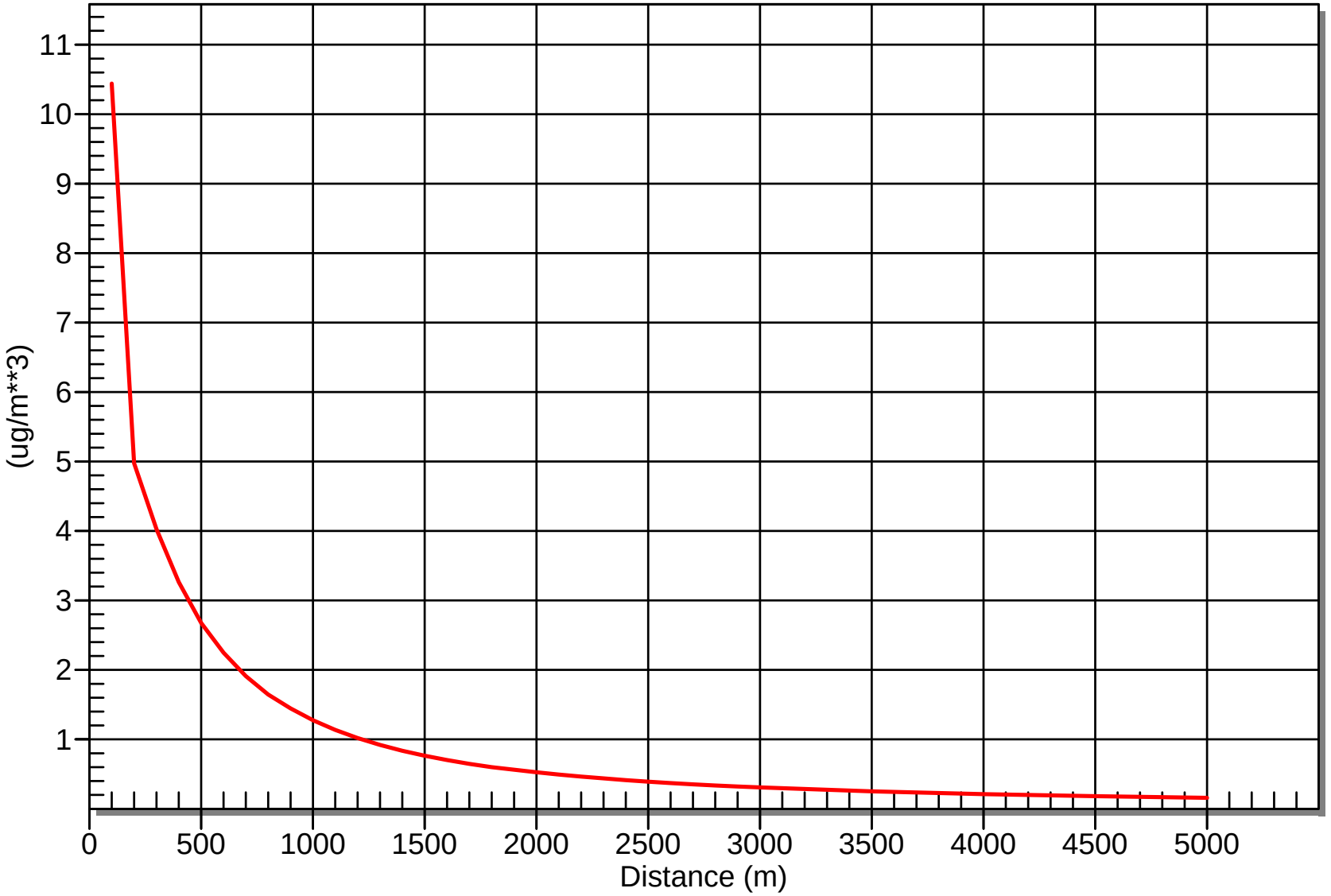
CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
---	---	---	---

SIMPLE TERRAIN 28.66 20. 0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - Heater Treater - CASE 4 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0111
Actual Stack Diameter (m)	0.591
Stack Height (m):	6.7
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00067044	0.0	0
CO2	0.0024	0.00002664	0.0	0
C1	0.443363	0.004921329	33.9	0.166833063
C2	0.1893	0.00210123	60.3	0.126704169
C3	0.1888	0.00209568	86.1	0.180438048
iC4	0.0246	0.00027306	111.7	0.030500802
nC4	0.0580	0.0006438	112.1	0.07216998
iC5	0.0106	0.00011766	137.8	0.016213548
nC5	0.0108	0.00011988	138.1	0.016555428
C6	0.0066	0.00007326	164.0	0.01201464
C7+	0.0050	0.0000555	189.9	0.01053945
H2S	0.000137	1.5207E-06	21.9	3.33033E-05
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.632002432

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	151196.754
Buoyancy Flux (m^4/s^3)	4.195709923

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**573**
Actual Exit Velocity (m/s):	**0.0398**
Effective Stack Height (m)	**N/A**
Equivalent Stack Diameter (m):	**N/A**
Emission Rate of SO_2 (g/s):	**0.0041**
Emission Rate of H_2S (g/s):	**0.0000**

07/16/10

09:17:11

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.410000E-02
STACK HEIGHT (M)	=	6.7000
STK INSIDE DIAM (M)	=	0.5910
STK EXIT VELOCITY (M/S)	=	0.0398
STK GAS EXIT TEMP (K)	=	573.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	3.6600
MIN HORIZ BLDG DIM (M)	=	4.5700
MAX HORIZ BLDG DIM (M)	=	12.8000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.017 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	0	0.0	0.0	0.0	0.00	0.00	0.00	NA
100.	15.86	4	1.0	1.0	320.0	5.97	8.21	6.89	HS
200.	6.761	4	1.0	1.0	320.0	5.97	15.57	10.58	HS
300.	5.527	6	1.0	1.0	10000.0	11.27	11.38	8.36	HS
400.	4.632	6	1.0	1.0	10000.0	11.27	14.75	9.63	HS
500.	3.884	6	1.0	1.0	10000.0	11.27	18.06	10.86	HS
600.	3.293	6	1.0	1.0	10000.0	11.27	21.31	11.58	HS
700.	2.831	6	1.0	1.0	10000.0	11.27	24.52	12.60	HS
800.	2.459	6	1.0	1.0	10000.0	11.27	27.69	13.57	HS
900.	2.171	6	1.0	1.0	10000.0	11.27	30.83	14.28	HS
1000.	1.926	6	1.0	1.0	10000.0	11.27	33.93	15.13	HS
1100.	1.722	6	1.0	1.0	10000.0	11.27	37.01	15.96	HS
1200.	1.550	6	1.0	1.0	10000.0	11.27	40.06	16.76	HS
1300.	1.405	6	1.0	1.0	10000.0	11.27	43.08	17.54	HS
1400.	1.280	6	1.0	1.0	10000.0	11.27	46.08	18.30	HS
1500.	1.172	6	1.0	1.0	10000.0	11.27	49.06	19.04	HS
1600.	1.078	6	1.0	1.0	10000.0	11.27	52.03	19.77	HS
1700.	0.9962	6	1.0	1.0	10000.0	11.27	54.97	20.48	HS
1800.	0.9237	6	1.0	1.0	10000.0	11.27	57.90	21.18	HS

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  1900.  0.8700        6     1.0    1.0 10000.0   11.27   60.81   21.50    HS
  2000.  0.8136        6     1.0    1.0 10000.0   11.27   63.70   22.11    HS
  2100.  0.7637        6     1.0    1.0 10000.0   11.27   66.58   22.69    HS
  2200.  0.7187        6     1.0    1.0 10000.0   11.27   69.45   23.25    HS
  2300.  0.6780        6     1.0    1.0 10000.0   11.27   72.30   23.80    HS
  2400.  0.6411        6     1.0    1.0 10000.0   11.27   75.14   24.33    HS
  2500.  0.6075        6     1.0    1.0 10000.0   11.27   77.97   24.86    HS
  2600.  0.5767        6     1.0    1.0 10000.0   11.27   80.78   25.38    HS
  2700.  0.5484        6     1.0    1.0 10000.0   11.27   83.59   25.89    HS
  2800.  0.5224        6     1.0    1.0 10000.0   11.27   86.38   26.40    HS
  2900.  0.4985        6     1.0    1.0 10000.0   11.27   89.17   26.89    HS
  3000.  0.4799        6     1.0    1.0 10000.0   11.27   91.94   27.14    HS
  3500.  0.3934        6     1.0    1.0 10000.0   11.27  105.67   29.13    HS
  4000.  0.3309        6     1.0    1.0 10000.0   11.27  119.18   30.97    HS
  4500.  0.2838        6     1.0    1.0 10000.0   11.27  132.51   32.70    HS
  5000.  0.2473        6     1.0    1.0 10000.0   11.27  145.68   34.33    HS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
    24.   38.53        4     1.0    1.0   320.0    5.97    2.28    3.51    HS

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

**************************************
     *** REGULATORY (Default) ***
    PERFORMING CAVITY CALCULATIONS
  WITH ORIGINAL SCREEN CAVITY MODEL
          (BRODE, 1988)
**************************************


 *** CAVITY CALCULATION - 1 ***       *** CAVITY CALCULATION - 2 ***
  CONC (UG/M**3)     =    0.000        CONC (UG/M**3)     =    0.000
  CRIT WS @10M (M/S) =   99.99        CRIT WS @10M (M/S) =   99.99
  CRIT WS @ HS (M/S) =   99.99        CRIT WS @ HS (M/S) =   99.99
  DILUTION WS (M/S)  =   99.99        DILUTION WS (M/S)  =   99.99
  CAVITY HT (M)      =    4.82        CAVITY HT (M)      =    3.72
  CAVITY LENGTH (M)  =   12.54        CAVITY LENGTH (M)  =    6.09
  ALONGWIND DIM (M)  =    4.57        ALONGWIND DIM (M)  =   12.80

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S.  CONC SET = 0.0

**************************************
      END OF CAVITY CALCULATIONS
**************************************


     **************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     **************************************

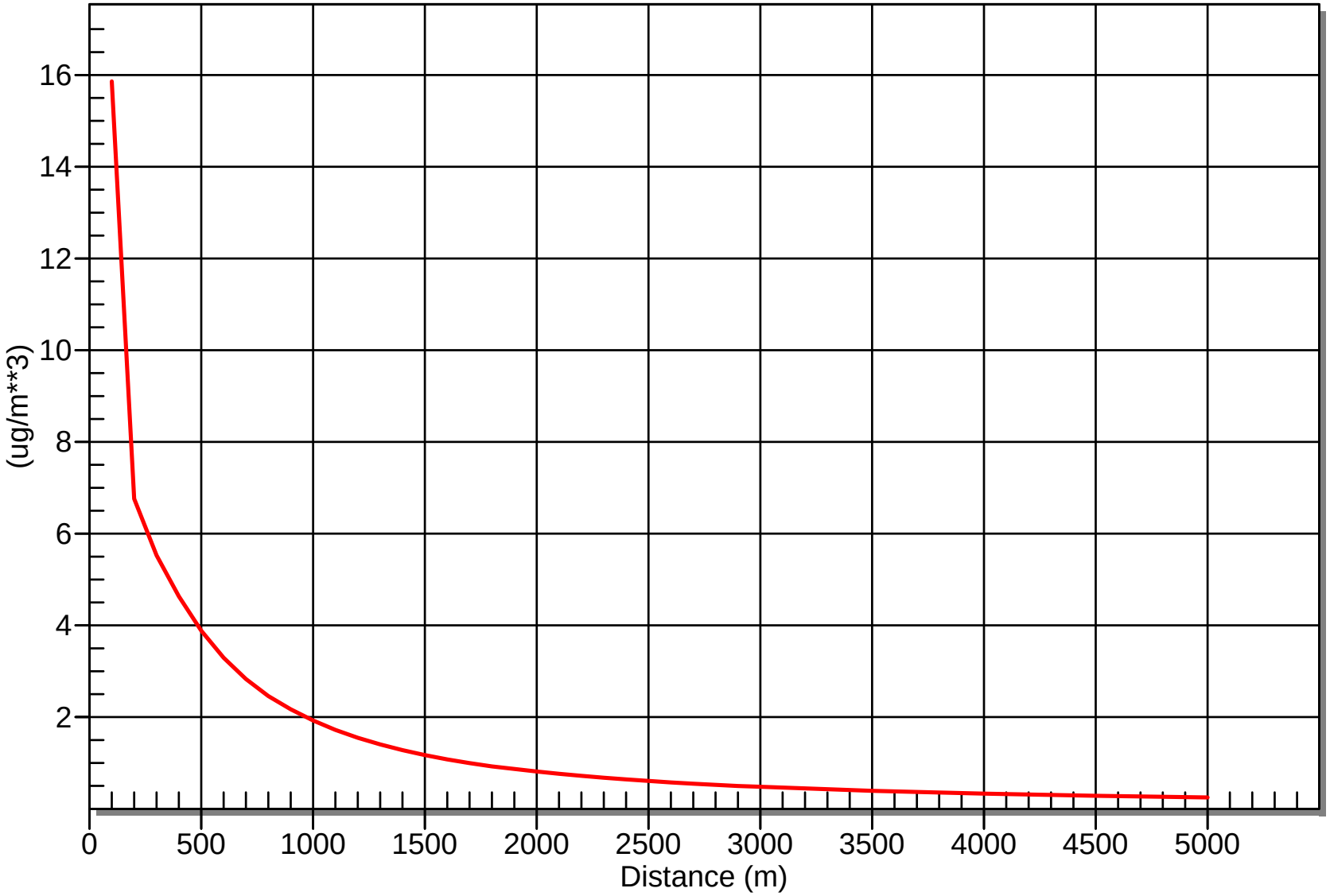
 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
```

SIMPLE TERRAIN 38.53 24. 0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - Heater Treater - CASE 5 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0169
Actual Stack Diameter (m)	0.591
Stack Height (m):	6.7
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00102076	0.0	0
CO2	0.0024	0.00004056	0.0	0
C1	0.443363	0.007492835	33.9	0.254007096
C2	0.1893	0.00319917	60.3	0.192909951
C3	0.1888	0.00319072	86.1	0.274720992
iC4	0.0246	0.00041574	111.7	0.046438158
nC4	0.0580	0.0009802	112.1	0.10988042
iC5	0.0106	0.00017914	137.8	0.024685492
nC5	0.0108	0.00018252	138.1	0.025206012
C6	0.0066	0.00011154	164.0	0.01829256
C7+	0.0050	0.0000845	189.9	0.01604655
H2S	0.000137	2.3153E-06	21.9	5.07051E-05
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.962237936

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	230200.4633
Buoyancy Flux (m^4/s^3)	6.388062855

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**573**
Actual Exit Velocity (m/s):	**0.0606**
Effective Stack Height (m)	**N/A**
Equivalent Stack Diameter (m):	**N/A**
Emission Rate of SO_2 (g/s):	**0.0063**
Emission Rate of H_2S (g/s):	**0.0000**

07/16/10

09:21:25

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.630000E-02
STACK HEIGHT (M)	=	6.7000
STK INSIDE DIAM (M)	=	0.5910
STK EXIT VELOCITY (M/S)	=	0.0606
STK GAS EXIT TEMP (K)	=	573.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	3.6600
MIN HORIZ BLDG DIM (M)	=	4.5700
MAX HORIZ BLDG DIM (M)	=	12.8000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.025 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	0	0.0	0.0	0.0	0.00	0.00	0.00	NA
100.	23.15	4	1.0	1.0	320.0	6.36	8.21	6.90	HS
200.	10.16	4	1.0	1.0	320.0	6.36	15.57	10.58	HS
300.	7.242	6	1.0	1.0	10000.0	12.24	11.42	8.42	HS
400.	6.298	6	1.0	1.0	10000.0	12.24	14.78	9.68	HS
500.	5.414	6	1.0	1.0	10000.0	12.24	18.08	10.91	HS
600.	4.643	6	1.0	1.0	10000.0	12.24	21.34	11.63	HS
700.	4.043	6	1.0	1.0	10000.0	12.24	24.54	12.64	HS
800.	3.547	6	1.0	1.0	10000.0	12.24	27.71	13.61	HS
900.	3.150	6	1.0	1.0	10000.0	12.24	30.85	14.32	HS
1000.	2.812	6	1.0	1.0	10000.0	12.24	33.95	15.17	HS
1100.	2.527	6	1.0	1.0	10000.0	12.24	37.02	15.99	HS
1200.	2.285	6	1.0	1.0	10000.0	12.24	40.07	16.79	HS
1300.	2.078	6	1.0	1.0	10000.0	12.24	43.09	17.57	HS
1400.	1.899	6	1.0	1.0	10000.0	12.24	46.09	18.33	HS
1500.	1.744	6	1.0	1.0	10000.0	12.24	49.07	19.07	HS
1600.	1.608	6	1.0	1.0	10000.0	12.24	52.04	19.80	HS
1700.	1.488	6	1.0	1.0	10000.0	12.24	54.98	20.51	HS
1800.	1.382	6	1.0	1.0	10000.0	12.24	57.90	21.21	HS

1900.	1.303	6	1.0	1.0	10000.0	12.24	60.81	21.53	HS
2000.	1.220	6	1.0	1.0	10000.0	12.24	63.71	22.14	HS
2100.	1.147	6	1.0	1.0	10000.0	12.24	66.59	22.71	HS
2200.	1.080	6	1.0	1.0	10000.0	12.24	69.45	23.27	HS
2300.	1.020	6	1.0	1.0	10000.0	12.24	72.31	23.82	HS
2400.	0.9656	6	1.0	1.0	10000.0	12.24	75.15	24.36	HS
2500.	0.9156	6	1.0	1.0	10000.0	12.24	77.98	24.89	HS
2600.	0.8699	6	1.0	1.0	10000.0	12.24	80.79	25.40	HS
2700.	0.8279	6	1.0	1.0	10000.0	12.24	83.60	25.92	HS
2800.	0.7892	6	1.0	1.0	10000.0	12.24	86.39	26.42	HS
2900.	0.7534	6	1.0	1.0	10000.0	12.24	89.17	26.91	HS
3000.	0.7255	6	1.0	1.0	10000.0	12.24	91.95	27.15	HS
3500.	0.5961	6	1.0	1.0	10000.0	12.24	105.67	29.15	HS
4000.	0.5021	6	1.0	1.0	10000.0	12.24	119.19	30.99	HS
4500.	0.4312	6	1.0	1.0	10000.0	12.24	132.52	32.72	HS
5000.	0.3761	6	1.0	1.0	10000.0	12.24	145.69	34.35	HS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

29.	49.29	4	1.0	1.0	320.0	6.36	2.71	3.86	HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	0.000	CONC (UG/M**3)	=	0.000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	4.82	CAVITY HT (M)	=	3.72
CAVITY LENGTH (M)	=	12.54	CAVITY LENGTH (M)	=	6.09
ALONGWIND DIM (M)	=	4.57	ALONGWIND DIM (M)	=	12.80

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

****
END OF CAVITY CALCULATIONS
****

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

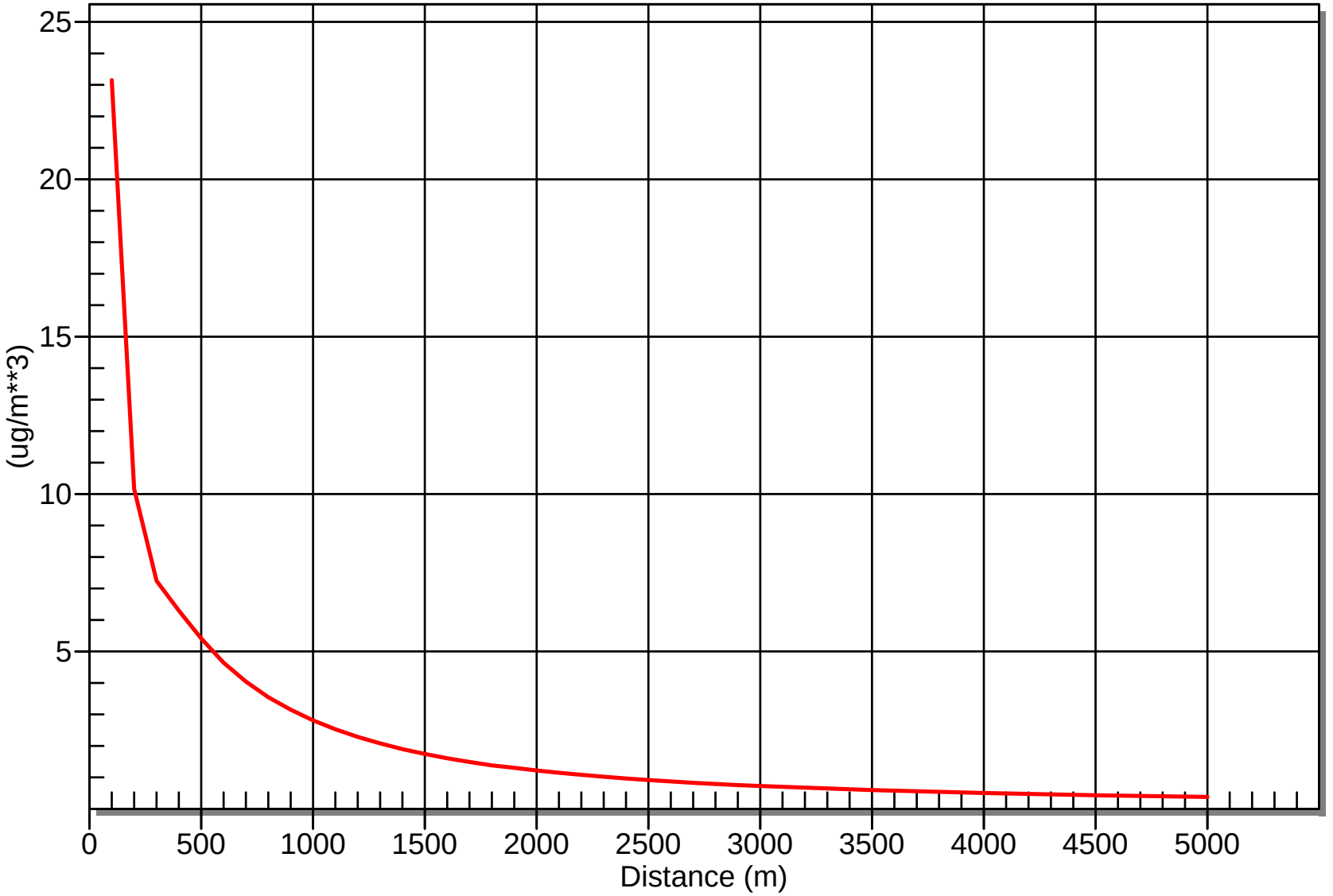
CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
----------	----------	-------	-------

SIMPLE TERRAIN 49.29 29. 0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - HP Flare Stack - CASE 10 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0401
Actual Stack Diameter (m)	0.102
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00242204	0.0	0
CO2	0.0024	0.00009624	0.0	0
C1	0.443363	0.017778856	33.9	0.602703229
C2	0.1893	0.00759093	60.3	0.457733079
C3	0.1888	0.00757088	86.1	0.651852768
iC4	0.0246	0.00098646	111.7	0.110187582
nC4	0.0580	0.0023258	112.1	0.26072218
iC5	0.0106	0.00042506	137.8	0.058573268
nC5	0.0108	0.00043308	138.1	0.059808348
C6	0.0066	0.00026466	164.0	0.04340424
C7+	0.0050	0.0002005	189.9	0.03807495
H2S	0.000137	5.4937E-06	21.9	0.000120312
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	2.283179956

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	546215.3004
Buoyancy Flux (m^4/s^3)	15.15747459

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**4.8237**
Effective Stack Height (m)	**14.7201**
Equivalent Stack Diameter (m):	**1.2871**
Emission Rate of SO_2 (g/s):	**0.0149**
Emission Rate of H_2S (g/s):	**0.0000**

07/15/10

20:54:58

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.149000E-01
STACK HEIGHT (M)	=	14.7201
STK INSIDE DIAM (M)	=	1.2871
STK EXIT VELOCITY (M/S)	=	4.8237
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 15.081 M**4/S**3; MOM. FLUX = 2.218 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	320.0	174.31	6.11	5.34	NO
100.	0.7961E-02	3	10.0	10.4	3200.0	27.83	12.68	7.80	NO
200.	0.2092	3	10.0	10.4	3200.0	27.83	23.91	14.51	NO
300.	0.2594	3	10.0	10.4	3200.0	27.83	34.59	20.82	NO
400.	0.2393	4	15.0	15.9	4800.0	21.96	29.60	15.55	NO
500.	0.2245	4	10.0	10.6	3200.0	27.50	36.42	18.82	NO
600.	0.2149	4	10.0	10.6	3200.0	27.50	42.95	21.67	NO
700.	0.2010	4	8.0	8.5	2560.0	31.66	49.50	24.66	NO
800.	0.1874	4	8.0	8.5	2560.0	31.66	55.85	27.35	NO
900.	0.1719	4	8.0	8.5	2560.0	31.66	62.13	29.98	NO
1000.	0.1624	4	5.0	5.3	1600.0	44.15	68.70	33.29	NO
1100.	0.1549	4	5.0	5.3	1600.0	44.15	74.83	35.25	NO
1200.	0.1470	4	5.0	5.3	1600.0	44.15	80.92	37.16	NO
1300.	0.1391	4	5.0	5.3	1600.0	44.15	86.97	39.02	NO
1400.	0.1320	4	4.5	4.8	1440.0	47.85	93.07	41.05	NO
1500.	0.1256	4	4.5	4.8	1440.0	47.85	99.03	42.81	NO
1600.	0.1197	4	4.0	4.2	1280.0	52.47	105.08	44.82	NO
1700.	0.1147	4	4.0	4.2	1280.0	52.47	110.96	46.50	NO
1800.	0.1099	4	4.0	4.2	1280.0	52.47	116.81	48.15	NO

1900.	0.1054	4	3.5	3.7	1120.0	58.41	122.78	50.14	NO
2000.	0.1019	5	1.0	1.1	10000.0	84.92	97.78	39.03	NO
2100.	0.1052	5	1.0	1.1	10000.0	84.92	102.02	39.85	NO
2200.	0.1083	5	1.0	1.1	10000.0	84.92	106.25	40.65	NO
2300.	0.1110	5	1.0	1.1	10000.0	84.92	110.46	41.45	NO
2400.	0.1133	5	1.0	1.1	10000.0	84.92	114.66	42.23	NO
2500.	0.1154	5	1.0	1.1	10000.0	84.92	118.84	43.01	NO
2600.	0.1172	5	1.0	1.1	10000.0	84.92	123.02	43.77	NO
2700.	0.1187	5	1.0	1.1	10000.0	84.92	127.18	44.53	NO
2800.	0.1200	5	1.0	1.1	10000.0	84.92	131.32	45.27	NO
2900.	0.1211	5	1.0	1.1	10000.0	84.92	135.46	46.01	NO
3000.	0.1219	5	1.0	1.1	10000.0	84.92	139.58	46.74	NO
3500.	0.1237	5	1.0	1.1	10000.0	84.92	160.02	50.28	NO
4000.	0.1225	5	1.0	1.1	10000.0	84.92	180.18	53.66	NO
4500.	0.1184	5	1.0	1.1	10000.0	84.92	200.09	56.50	NO
5000.	0.1162	6	1.0	1.2	10000.0	71.49	146.57	37.86	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

278.	0.2616	3	10.0	10.4	3200.0	27.83	32.40	19.55	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

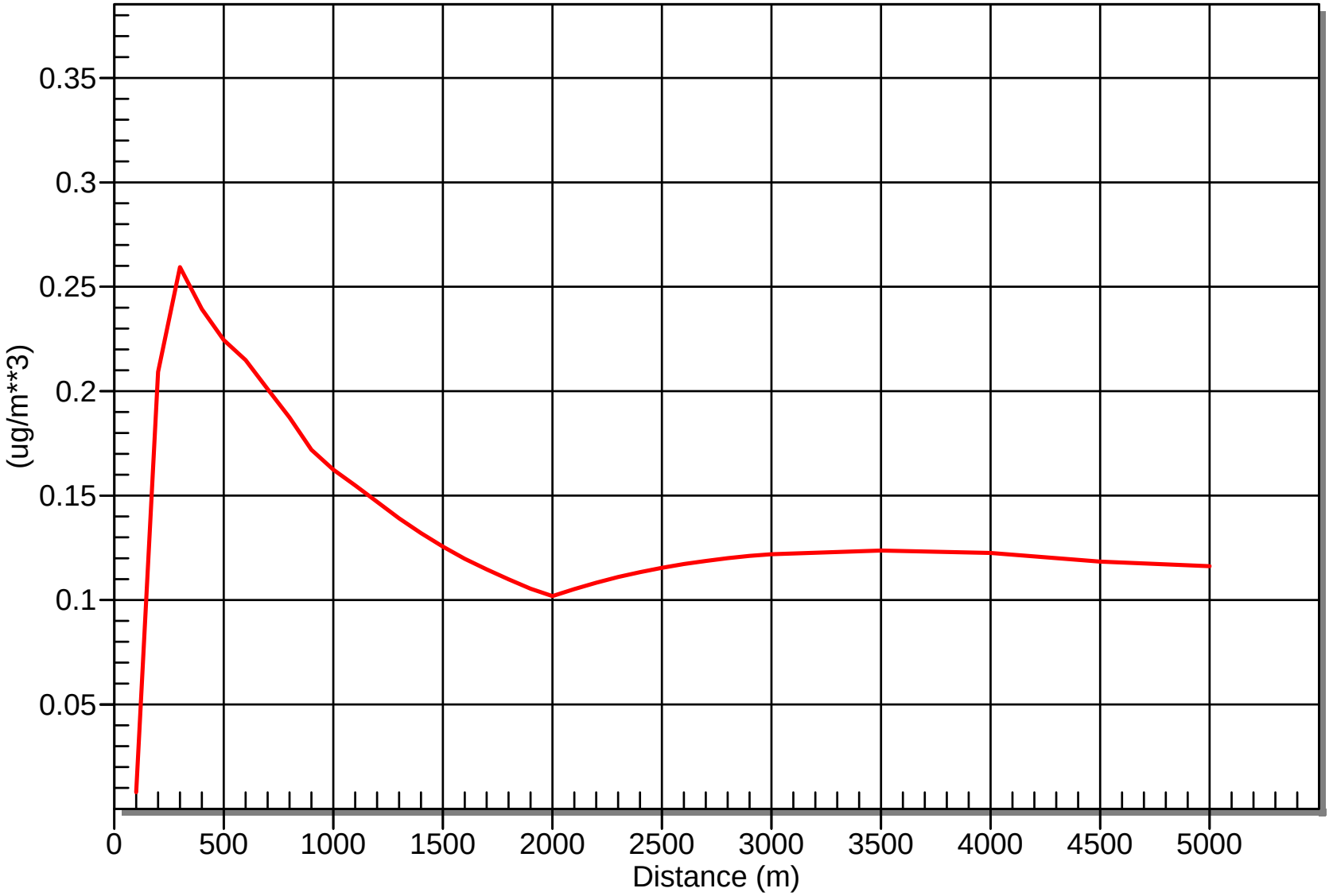
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2616	278.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - HP Flare Stack - CASE 11 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.1006
Actual Stack Diameter (m)	0.102
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00607624	0.0	0
CO2	0.0024	0.00024144	0.0	0
C1	0.443363	0.044602318	33.9	1.512018573
C2	0.1893	0.01904358	60.3	1.148327874
C3	0.1888	0.01899328	86.1	1.635321408
iC4	0.0246	0.00247476	111.7	0.276430692
nC4	0.0580	0.0058348	112.1	0.65408108
iC5	0.0106	0.00106636	137.8	0.146944408
nC5	0.0108	0.00108648	138.1	0.150042888
C6	0.0066	0.00066396	164.0	0.10888944
C7+	0.0050	0.000503	189.9	0.0955197
H2S	0.000137	1.37822E-05	21.9	0.00030183
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	5.727877894

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	1370305.716
Buoyancy Flux (m^4/s^3)	38.02598362

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**12.1013**
Effective Stack Height (m)	**16.1117**
Equivalent Stack Diameter (m):	**1.2871**
Emission Rate of SO_2 (g/s):	**0.0373**
Emission Rate of H_2S (g/s):	**0.0000**

07/15/10

20:59:20

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.373000E-01
STACK HEIGHT (M)	=	16.1117
STK INSIDE DIAM (M)	=	1.2871
STK EXIT VELOCITY (M/S)	=	12.1013
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 37.835 M**4/S**3; MOM. FLUX = 13.959 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	333.2	332.22	7.66	7.07	NO
100.	0.3480E-02	5	1.0	1.2	10000.0	110.49	27.65	27.20	NO
200.	0.2467E-01	3	10.0	10.5	3200.0	46.38	24.14	14.89	NO
300.	0.1436	3	10.0	10.5	3200.0	46.38	34.91	21.36	NO
400.	0.2205	3	10.0	10.5	3200.0	46.38	45.35	27.61	NO
500.	0.2476	4	20.0	21.5	6400.0	28.91	36.41	18.81	NO
600.	0.2437	4	20.0	21.5	6400.0	28.91	42.94	21.65	NO
700.	0.2277	4	15.0	16.1	4800.0	34.47	49.53	24.72	NO
800.	0.2182	4	15.0	16.1	4800.0	34.47	55.87	27.40	NO
900.	0.2043	1	1.0	1.0	333.2	332.22	210.54	374.19	NO
1000.	0.1899	1	1.0	1.0	333.2	332.22	227.41	462.75	NO
1100.	0.1816	4	10.0	10.7	3200.0	45.58	74.82	35.21	NO
1200.	0.1732	4	10.0	10.7	3200.0	45.58	80.91	37.12	NO
1300.	0.1646	4	10.0	10.7	3200.0	45.58	86.95	38.98	NO
1400.	0.1561	4	10.0	10.7	3200.0	45.58	92.96	40.80	NO
1500.	0.1480	4	10.0	10.7	3200.0	45.58	98.93	42.57	NO
1600.	0.1423	4	8.0	8.6	2560.0	53.91	105.06	44.78	NO
1700.	0.1367	4	8.0	8.6	2560.0	53.91	110.94	46.46	NO
1800.	0.1312	4	8.0	8.6	2560.0	53.91	116.79	48.10	NO

1900.	0.1263	2	1.0	1.0	333.2	332.22	287.62	238.77	NO
2000.	0.1264	2	1.0	1.0	333.2	332.22	299.73	250.66	NO
2100.	0.1256	2	1.0	1.0	333.2	332.22	311.81	262.69	NO
2200.	0.1241	2	1.0	1.0	333.2	332.22	323.86	274.86	NO
2300.	0.1220	2	1.0	1.0	333.2	332.22	335.88	287.14	NO
2400.	0.1196	2	1.0	1.0	333.2	332.22	347.86	299.54	NO
2500.	0.1169	2	1.0	1.0	333.2	332.22	359.82	312.03	NO
2600.	0.1140	2	1.0	1.0	333.2	332.22	371.74	324.63	NO
2700.	0.1167	5	1.5	1.8	10000.0	98.56	127.78	46.21	NO
2800.	0.1193	5	1.5	1.8	10000.0	98.56	131.90	46.93	NO
2900.	0.1222	5	1.0	1.2	10000.0	110.49	136.65	49.42	NO
3000.	0.1252	5	1.0	1.2	10000.0	110.49	140.74	50.10	NO
3500.	0.1375	5	1.0	1.2	10000.0	110.49	161.03	53.42	NO
4000.	0.1459	5	1.0	1.2	10000.0	110.49	181.08	56.60	NO
4500.	0.1487	5	1.0	1.2	10000.0	110.49	200.90	59.31	NO
5000.	0.1496	5	1.0	1.2	10000.0	110.49	220.52	61.89	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

528.	0.2485	4	20.0	21.5	6400.0	28.91	38.31	19.64	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

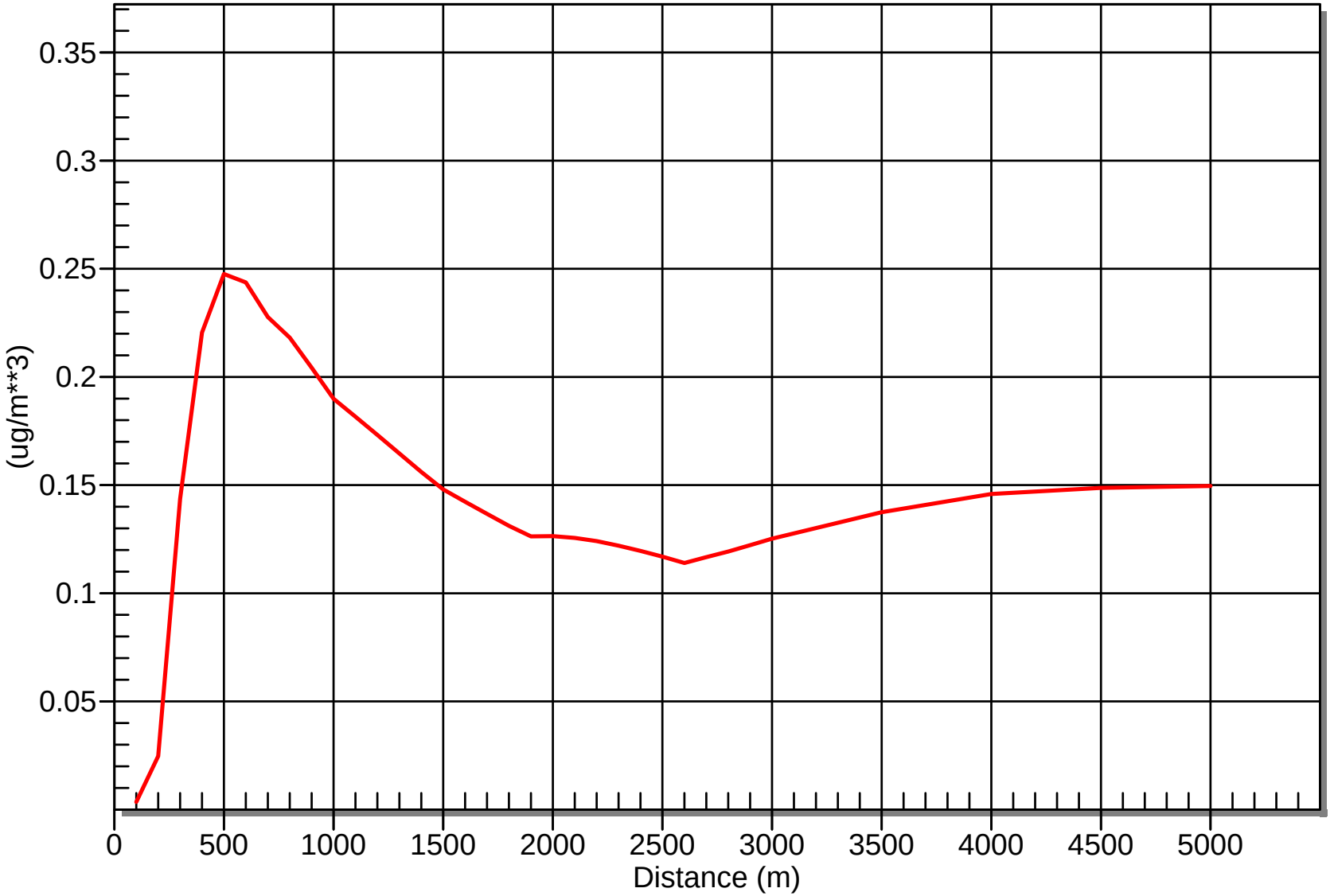
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2485	528.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - HP Flare Stack - CASE 12 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.2026
Actual Stack Diameter (m)	0.102
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.01223704	0.0	0
CO2	0.0024	0.00048624	0.0	0
C1	0.443363	0.089825344	33.9	3.045079155
C2	0.1893	0.03835218	60.3	2.312636454
C3	0.1888	0.03825088	86.1	3.293400768
iC4	0.0246	0.00498396	111.7	0.556708332
nC4	0.0580	0.0117508	112.1	1.31726468
iC5	0.0106	0.00214756	137.8	0.295933768
nC5	0.0108	0.00218808	138.1	0.302173848
C6	0.0066	0.00133716	164.0	0.21929424
C7+	0.0050	0.001013	189.9	0.1923687
H2S	0.000137	2.77562E-05	21.9	0.000607861
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	11.53546781

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	2759681.293
Buoyancy Flux (m^4/s^3)	76.58115589

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**24.3710**
Effective Stack Height (m)	**17.6663**
Equivalent Stack Diameter (m):	**1.2871**
Emission Rate of SO_2 (g/s):	**0.0752**
Emission Rate of H_2S (g/s):	**0.0000**

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.752000E-01
STACK HEIGHT (M)	=	17.6663
STK INSIDE DIAM (M)	=	1.2871
STK EXIT VELOCITY (M/S)	=	24.3710
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 76.196 M**4/S**3; MOM. FLUX = 56.617 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	519.5	518.49	9.27	8.79	NO
100.	0.5618E-02	5	1.0	1.2	10000.0	135.58	34.24	33.87	NO
200.	0.6391E-02	5	1.0	1.2	10000.0	135.58	35.64	34.26	NO
300.	0.2777E-01	3	10.0	10.6	3200.0	66.90	35.26	21.92	NO
400.	0.1060	3	10.0	10.6	3200.0	66.90	45.74	28.25	NO
500.	0.1776	3	10.0	10.6	3200.0	66.90	55.97	34.42	NO
600.	0.2159	3	10.0	10.6	3200.0	66.90	66.01	40.47	NO
700.	0.2364	4	20.0	21.8	6400.0	40.61	49.66	24.99	NO
800.	0.2413	4	20.0	21.8	6400.0	40.61	55.99	27.64	NO
900.	0.2369	4	20.0	21.8	6400.0	40.61	62.26	30.25	NO
1000.	0.2274	4	20.0	21.8	6400.0	40.61	68.47	32.81	NO
1100.	0.2142	4	20.0	21.8	6400.0	40.61	74.62	34.80	NO
1200.	0.2011	4	20.0	21.8	6400.0	40.61	80.73	36.73	NO
1300.	0.1929	4	15.0	16.3	4800.0	49.55	87.00	39.08	NO
1400.	0.1849	4	15.0	16.3	4800.0	49.55	93.00	40.89	NO
1500.	0.1768	4	15.0	16.3	4800.0	49.55	98.96	42.65	NO
1600.	0.1688	4	15.0	16.3	4800.0	49.55	104.89	44.38	NO
1700.	0.1610	4	15.0	16.3	4800.0	49.55	110.78	46.08	NO
1800.	0.1562	4	10.0	10.9	3200.0	65.52	117.09	48.82	NO

1900.	0.1525	4	10.0	10.9	3200.0	65.52	122.89	50.41	NO
2000.	0.1485	4	10.0	10.9	3200.0	65.52	128.67	51.98	NO
2100.	0.1444	4	10.0	10.9	3200.0	65.52	134.42	53.53	NO
2200.	0.1403	4	10.0	10.9	3200.0	65.52	140.15	55.05	NO
2300.	0.1362	4	10.0	10.9	3200.0	65.52	145.85	56.55	NO
2400.	0.1321	4	10.0	10.9	3200.0	65.52	151.53	58.03	NO
2500.	0.1282	4	10.0	10.9	3200.0	65.52	157.19	59.49	NO
2600.	0.1243	4	10.0	10.9	3200.0	65.52	162.82	60.94	NO
2700.	0.1215	4	8.0	8.7	2560.0	77.48	168.74	63.20	NO
2800.	0.1188	4	8.0	8.7	2560.0	77.48	174.32	64.59	NO
2900.	0.1161	4	8.0	8.7	2560.0	77.48	179.88	65.96	NO
3000.	0.1171	5	2.0	2.4	10000.0	111.25	140.70	49.98	NO
3500.	0.1299	5	1.5	1.8	10000.0	120.67	161.46	54.70	NO
4000.	0.1412	5	1.5	1.8	10000.0	120.67	181.46	57.82	NO
4500.	0.1491	5	1.0	1.2	10000.0	135.58	201.91	62.65	NO
5000.	0.1556	5	1.0	1.2	10000.0	135.58	221.44	65.10	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

794.	0.2413	4	20.0	21.8	6400.0	40.61	55.68	27.51	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

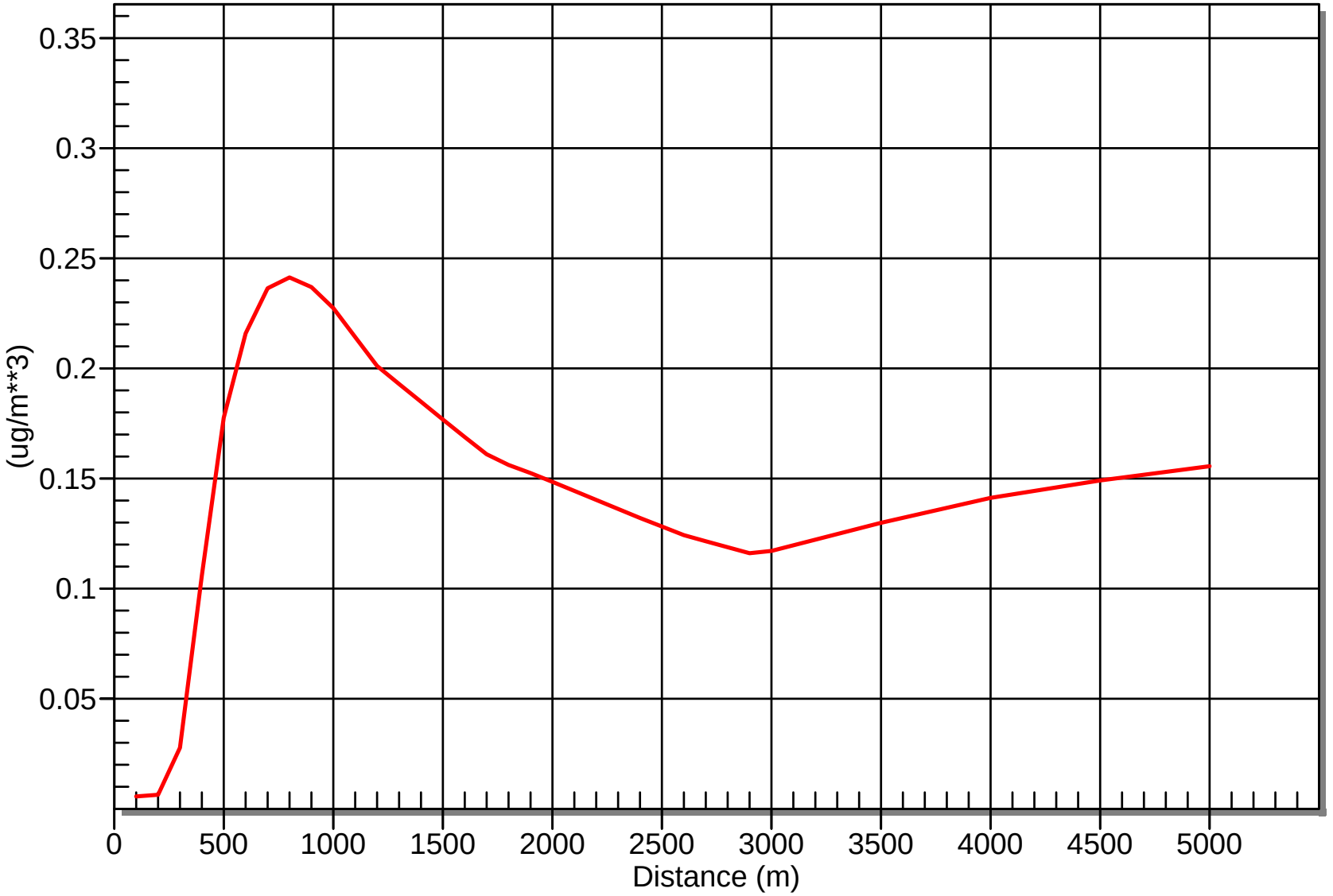
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2413	794.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - HP Flare Stack - CASE 13 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.2614
Actual Stack Diameter (m)	0.102
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.01578856	0.0	0
CO2	0.0024	0.00062736	0.0	0
C1	0.443363	0.115895088	33.9	3.92884349
C2	0.1893	0.04948302	60.3	2.983826106
C3	0.1888	0.04935232	86.1	4.249234752
iC4	0.0246	0.00643044	111.7	0.718280148
nC4	0.0580	0.0151612	112.1	1.69957052
iC5	0.0106	0.00277084	137.8	0.381821752
nC5	0.0108	0.00282312	138.1	0.389872872
C6	0.0066	0.00172524	164.0	0.28293936
C7+	0.0050	0.001307	189.9	0.2481993
H2S	0.000137	3.58118E-05	21.9	0.000784278
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	14.88337258

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	3560615.449
Buoyancy Flux (m^4/s^3)	98.80707872

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**31.4442**
Effective Stack Height (m)	**18.3744**
Equivalent Stack Diameter (m):	**1.2871**
Emission Rate of SO_2 (g/s):	**0.0970**
Emission Rate of H_2S (g/s):	**0.0000**

07/15/10

21:07:10

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.970000E-01
STACK HEIGHT (M)	=	18.3744
STK INSIDE DIAM (M)	=	1.2871
STK EXIT VELOCITY (M/S)	=	31.4442
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 98.311 M**4/S**3; MOM. FLUX = 94.251 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	601.3	600.33	9.97	9.52	NO
100.	0.6555E-02	5	1.0	1.2	10000.0	146.15	37.02	36.68	NO
200.	0.7308E-02	5	1.0	1.2	10000.0	146.15	38.31	37.04	NO
300.	0.1129E-01	3	10.0	10.6	3200.0	75.52	35.43	22.19	NO
400.	0.6713E-01	3	10.0	10.6	3200.0	75.52	45.93	28.56	NO
500.	0.1405	3	10.0	10.6	3200.0	75.52	56.18	34.76	NO
600.	0.1943	3	10.0	10.6	3200.0	75.52	66.23	40.84	NO
700.	0.2220	3	10.0	10.6	3200.0	75.52	76.12	46.82	NO
800.	0.2326	4	20.0	21.9	6400.0	45.92	56.13	27.93	NO
900.	0.2385	4	20.0	21.9	6400.0	45.92	62.39	30.51	NO
1000.	0.2368	4	20.0	21.9	6400.0	45.92	68.59	33.06	NO
1100.	0.2280	4	20.0	21.9	6400.0	45.92	74.73	35.03	NO
1200.	0.2180	4	20.0	21.9	6400.0	45.92	80.83	36.95	NO
1300.	0.2075	4	20.0	21.9	6400.0	45.92	86.88	38.82	NO
1400.	0.1988	4	15.0	16.4	4800.0	55.33	93.15	41.23	NO
1500.	0.1926	4	15.0	16.4	4800.0	55.33	99.11	42.99	NO
1600.	0.1860	4	15.0	16.4	4800.0	55.33	105.03	44.70	NO
1700.	0.1793	4	15.0	16.4	4800.0	55.33	110.91	46.39	NO
1800.	0.1726	4	15.0	16.4	4800.0	55.33	116.76	48.04	NO

1900.	0.1659	4	15.0	16.4	4800.0	55.33	122.59	49.66	NO
2000.	0.1595	4	15.0	16.4	4800.0	55.33	128.38	51.25	NO
2100.	0.1532	4	15.0	16.4	4800.0	55.33	134.14	52.82	NO
2200.	0.1497	4	10.0	11.0	3200.0	73.81	140.38	55.63	NO
2300.	0.1466	4	10.0	11.0	3200.0	73.81	146.07	57.11	NO
2400.	0.1434	4	10.0	11.0	3200.0	73.81	151.74	58.58	NO
2500.	0.1401	4	10.0	11.0	3200.0	73.81	157.39	60.03	NO
2600.	0.1368	4	10.0	11.0	3200.0	73.81	163.02	61.46	NO
2700.	0.1335	4	10.0	11.0	3200.0	73.81	168.62	62.87	NO
2800.	0.1302	4	10.0	11.0	3200.0	73.81	174.21	64.27	NO
2900.	0.1269	4	10.0	11.0	3200.0	73.81	179.77	65.65	NO
3000.	0.1237	4	10.0	11.0	3200.0	73.81	185.32	67.01	NO
3500.	0.1263	5	2.0	2.5	10000.0	119.79	161.38	54.46	NO
4000.	0.1378	5	1.5	1.9	10000.0	130.00	181.88	59.11	NO
4500.	0.1453	5	1.5	1.9	10000.0	130.00	201.62	61.70	NO
5000.	0.1520	5	1.0	1.2	10000.0	146.15	221.89	66.61	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

922.	0.2387	4	20.0	21.9	6400.0	45.92	63.82	31.10	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

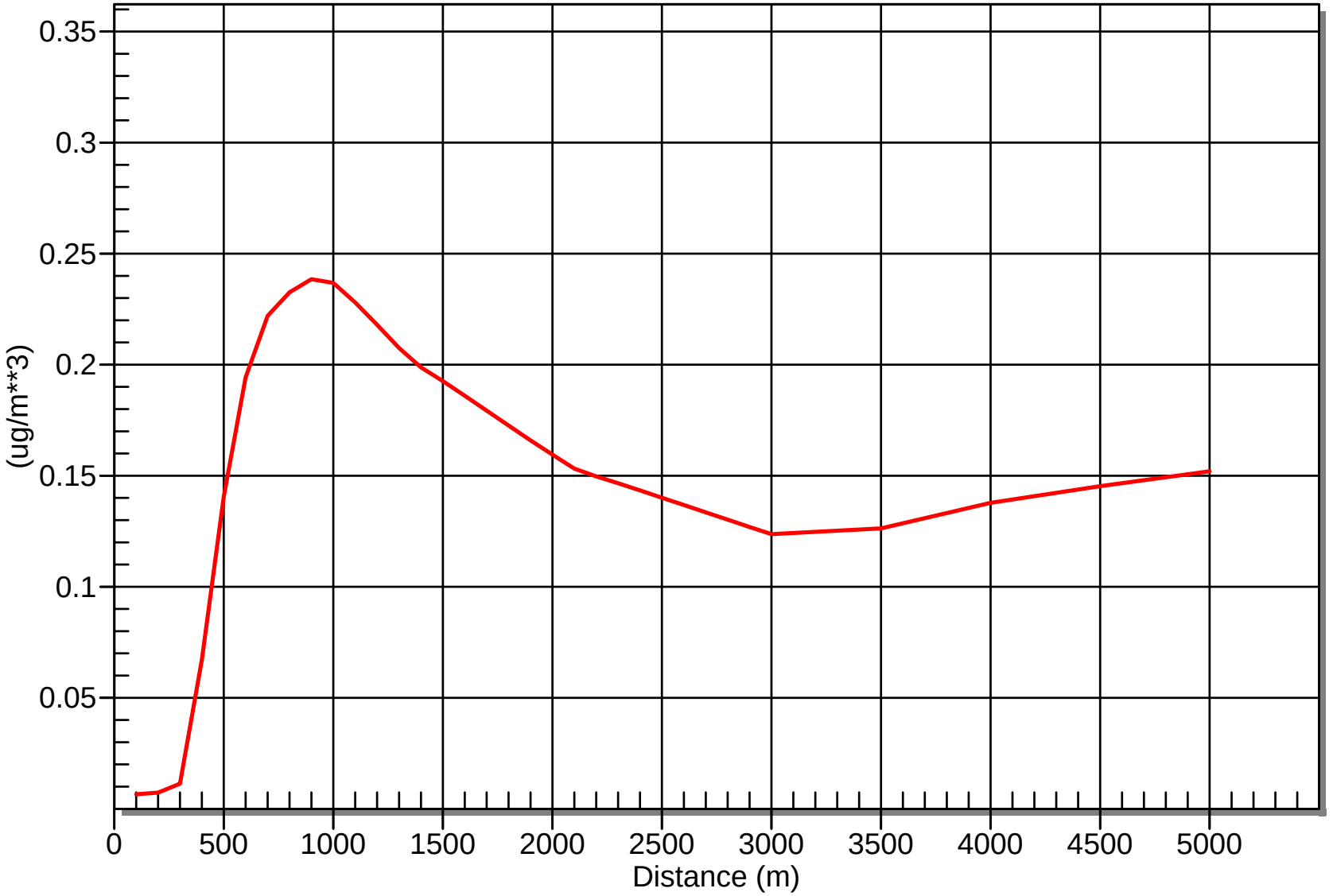
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2387	922.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - HP Flare Stack - CASE 14 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.4051
Actual Stack Diameter (m)	0.102
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.02446804	0.0	0
CO2	0.0024	0.00097224	0.0	0
C1	0.443363	0.179606351	33.9	6.088655309
C2	0.1893	0.07668543	60.3	4.624131429
C3	0.1888	0.07648288	86.1	6.585175968
iC4	0.0246	0.00996546	111.7	1.113141882
nC4	0.0580	0.0234958	112.1	2.63387918
iC5	0.0106	0.00429406	137.8	0.591721468
nC5	0.0108	0.00437508	138.1	0.604198548
C6	0.0066	0.00267366	164.0	0.43848024
C7+	0.0050	0.0020255	189.9	0.38464245
H2S	0.000137	5.54987E-05	21.9	0.001215422
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	23.0652419

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	5518000.453
Buoyancy Flux (m^4/s^3)	153.1245126

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**48.7301**
Effective Stack Height (m)	**19.8127**
Equivalent Stack Diameter (m):	**1.2871**
Emission Rate of SO_2 (g/s):	**0.1503**
Emission Rate of H_2S (g/s):	**0.0000**

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.150300
STACK HEIGHT (M)	=	19.8127
STK INSIDE DIAM (M)	=	1.2871
STK EXIT VELOCITY (M/S)	=	48.7301
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 152.356 M**4/S**3; MOM. FLUX = 226.359 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	773.7	772.74	11.31	10.92	NO
100.	0.7153E-02	5	1.0	1.3	10000.0	166.39	41.86	41.56	NO
200.	0.9071E-02	5	1.0	1.3	10000.0	166.39	43.46	42.34	NO
300.	0.1009E-01	5	1.0	1.3	10000.0	166.39	45.16	42.77	NO
400.	0.1944E-01	3	10.0	10.7	3200.0	93.58	46.33	29.20	NO
500.	0.6856E-01	3	10.0	10.7	3200.0	93.58	56.62	35.47	NO
600.	0.1640	1	3.0	3.1	960.0	270.79	143.88	163.53	NO
700.	0.1982	1	3.0	3.1	960.0	270.79	164.13	221.92	NO
800.	0.2216	1	1.5	1.6	522.8	521.76	217.39	313.00	NO
900.	0.2670	1	1.5	1.6	522.8	521.76	238.20	390.42	NO
1000.	0.2782	1	1.5	1.6	522.8	521.76	253.23	475.97	NO
1100.	0.2701	1	1.5	1.6	522.8	521.76	268.50	573.52	NO
1200.	0.2566	1	1.5	1.6	522.8	521.76	283.94	682.82	NO
1300.	0.2434	1	1.5	1.6	522.8	521.76	299.50	803.73	NO
1400.	0.2313	1	1.5	1.6	522.8	521.76	315.15	936.19	NO
1500.	0.2203	1	1.5	1.6	522.8	521.76	330.85	1080.16	NO
1600.	0.2129	4	20.0	22.2	6400.0	55.46	104.99	44.62	NO
1700.	0.2053	4	20.0	22.2	6400.0	55.46	110.88	46.30	NO
1800.	0.1976	4	20.0	22.2	6400.0	55.46	116.73	47.95	NO

1900.	0.1904	4	15.0	16.6	4800.0	67.34	122.88	50.39	NO
2000.	0.1859	4	15.0	16.6	4800.0	67.34	128.66	51.96	NO
2100.	0.1813	4	15.0	16.6	4800.0	67.34	134.41	53.50	NO
2200.	0.1766	4	15.0	16.6	4800.0	67.34	140.14	55.03	NO
2300.	0.1718	4	15.0	16.6	4800.0	67.34	145.84	56.53	NO
2400.	0.1670	4	15.0	16.6	4800.0	67.34	151.52	58.01	NO
2500.	0.1622	4	15.0	16.6	4800.0	67.34	157.18	59.47	NO
2600.	0.1576	4	15.0	16.6	4800.0	67.34	162.81	60.92	NO
2700.	0.1530	4	15.0	16.6	4800.0	67.34	168.42	62.34	NO
2800.	0.1485	4	15.0	16.6	4800.0	67.34	174.01	63.75	NO
2900.	0.1471	2	1.5	1.6	522.8	521.76	422.25	379.63	NO
3000.	0.1471	2	1.5	1.6	522.8	521.76	433.62	391.99	NO
3500.	0.1416	2	1.5	1.6	522.8	521.76	490.27	455.21	NO
4000.	0.1314	2	1.5	1.6	522.8	521.76	546.47	520.35	NO
4500.	0.1384	5	2.0	2.5	10000.0	136.15	201.84	62.41	NO
5000.	0.1449	5	2.0	2.5	10000.0	136.15	221.37	64.87	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

992.	0.2783	1	1.5	1.6	522.8	521.76	252.17	469.59	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

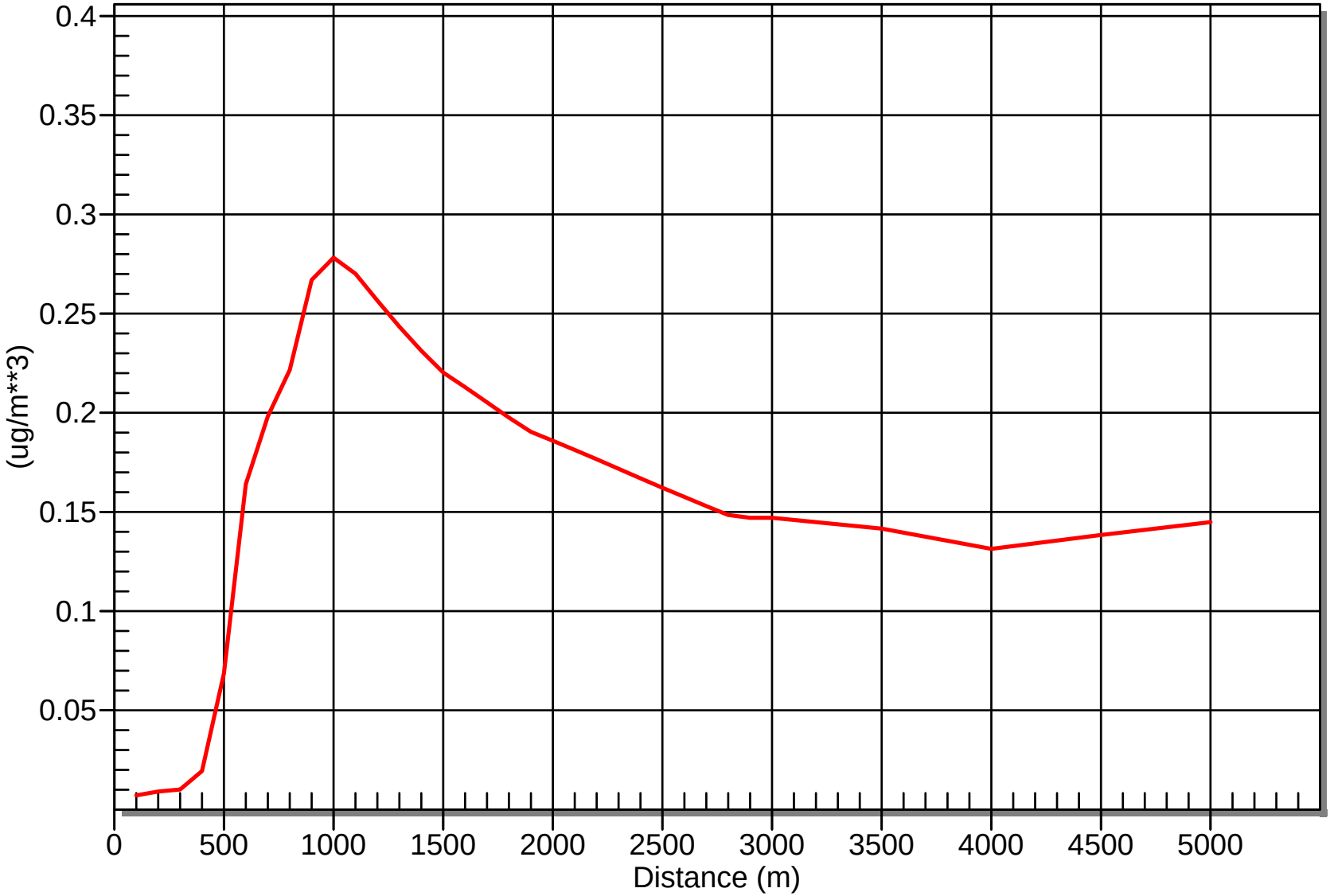
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2783	992.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - HP Flare Stack - CASE 15 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.5228
Actual Stack Diameter (m)	0.102
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.03157712	0.0	0
CO2	0.0024	0.00125472	0.0	0
C1	0.443363	0.231790176	33.9	7.85768698
C2	0.1893	0.09896604	60.3	5.967652212
C3	0.1888	0.09870464	86.1	8.498469504
iC4	0.0246	0.01286088	111.7	1.436560296
nC4	0.0580	0.0303224	112.1	3.39914104
iC5	0.0106	0.00554168	137.8	0.763643504
nC5	0.0108	0.00564624	138.1	0.779745744
C6	0.0066	0.00345048	164.0	0.56587872
C7+	0.0050	0.002614	189.9	0.4963986
H2S	0.000137	7.16236E-05	21.9	0.001568557
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	29.76674516

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	7121230.899
Buoyancy Flux (m^4/s^3)	197.6141574

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**62.8884**
Effective Stack Height (m)	**20.7998**
Equivalent Stack Diameter (m):	**1.2871**
Emission Rate of SO_2 (g/s):	**0.1940**
Emission Rate of H_2S (g/s):	**0.0000**

07/15/10

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.194000
STACK HEIGHT (M)	=	20.7998
STK INSIDE DIAM (M)	=	1.2871
STK EXIT VELOCITY (M/S)	=	62.8884
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 196.622 M**4/S**3; MOM. FLUX = 377.003 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.1	896.3	895.26	12.92	12.58	NO
100.	0.8000E-02	6	1.0	1.5	10000.0	146.20	36.06	35.90	NO
200.	0.1020E-01	5	1.0	1.3	10000.0	179.48	46.80	45.76	NO
300.	0.1117E-01	5	1.0	1.3	10000.0	179.48	48.38	46.16	NO
400.	0.1226E-01	5	1.0	1.3	10000.0	179.48	50.40	46.61	NO
500.	0.3863E-01	1	3.0	3.2	960.0	312.29	124.86	117.32	NO
600.	0.1360	1	3.0	3.2	960.0	312.29	145.75	165.18	NO
700.	0.1983	1	3.0	3.2	960.0	312.29	166.14	223.41	NO
800.	0.2031	1	3.0	3.2	960.0	312.29	186.12	292.15	NO
900.	0.2493	1	1.5	1.6	604.8	603.77	246.58	395.59	NO
1000.	0.2776	1	1.5	1.6	604.8	603.77	267.02	483.45	NO
1100.	0.2817	1	1.5	1.6	604.8	603.77	281.55	579.74	NO
1200.	0.2726	1	1.5	1.6	604.8	603.77	296.31	688.05	NO
1300.	0.2603	1	1.5	1.6	604.8	603.77	311.25	808.18	NO
1400.	0.2484	1	1.5	1.6	604.8	603.77	326.34	940.01	NO
1500.	0.2373	1	1.5	1.6	604.8	603.77	341.52	1083.48	NO
1600.	0.2272	1	1.5	1.6	604.8	603.77	356.79	1238.56	NO
1700.	0.2207	4	20.0	22.3	6400.0	62.03	111.03	46.68	NO
1800.	0.2149	4	20.0	22.3	6400.0	62.03	116.88	48.32	NO

1900.	0.2087	4	20.0	22.3	6400.0	62.03	122.70	49.93	NO
2000.	0.2024	4	20.0	22.3	6400.0	62.03	128.48	51.52	NO
2100.	0.1961	4	20.0	22.3	6400.0	62.03	134.25	53.08	NO
2200.	0.1898	4	20.0	22.3	6400.0	62.03	139.98	54.61	NO
2300.	0.1837	4	20.0	22.3	6400.0	62.03	145.69	56.13	NO
2400.	0.1797	4	15.0	16.7	4800.0	75.78	151.73	58.55	NO
2500.	0.1759	4	15.0	16.7	4800.0	75.78	157.38	60.00	NO
2600.	0.1721	4	15.0	16.7	4800.0	75.78	163.00	61.43	NO
2700.	0.1682	4	15.0	16.7	4800.0	75.78	168.61	62.84	NO
2800.	0.1644	4	15.0	16.7	4800.0	75.78	174.19	64.24	NO
2900.	0.1605	4	15.0	16.7	4800.0	75.78	179.76	65.62	NO
3000.	0.1567	4	15.0	16.7	4800.0	75.78	185.30	66.98	NO
3500.	0.1449	2	1.5	1.6	604.8	603.77	497.53	463.03	NO
4000.	0.1397	2	1.5	1.6	604.8	603.77	552.99	527.20	NO
4500.	0.1337	5	2.5	3.2	10000.0	137.72	201.87	62.50	NO
5000.	0.1405	5	2.0	2.6	10000.0	146.74	221.80	66.32	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

1068.	0.2825	1	1.5	1.6	604.8	603.77	276.72	546.62	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

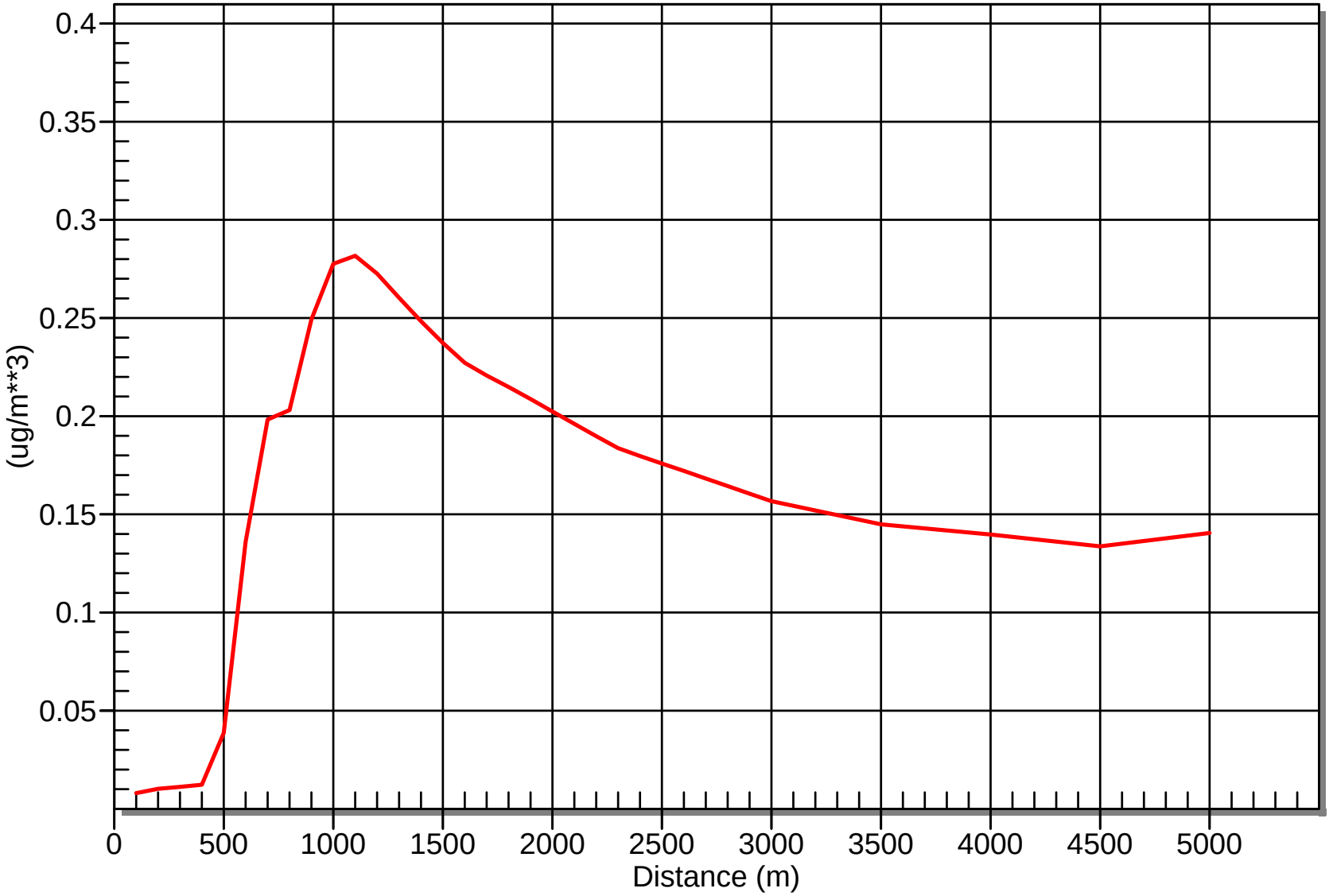
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2825	1068.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - LP Flare Stack - CASE 20 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.001
Actual Stack Diameter (m)	0.154
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.0000604	0.0	0
CO2	0.0024	0.0000024	0.0	0
C1	0.443363	0.000443363	33.9	0.015030006
C2	0.1893	0.0001893	60.3	0.01141479
C3	0.1888	0.0001888	86.1	0.01625568
iC4	0.0246	0.0000246	111.7	0.00274782
nC4	0.0580	0.000058	112.1	0.0065018
iC5	0.0106	0.0000106	137.8	0.00146068
nC5	0.0108	0.0000108	138.1	0.00149148
C6	0.0066	0.0000066	164.0	0.0010824
C7+	0.0050	0.000005	189.9	0.0009495
H2S	0.000137	0.000000137	21.9	3.0003E-06
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.056937156

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	13621.32919
Buoyancy Flux (m^4/s^3)	0.377991885

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**0.0528**
Effective Stack Height (m)	**12.6316**
Equivalent Stack Diameter (m):	**1.9432**
Emission Rate of SO_2 (g/s):	**0.0004**
Emission Rate of H_2S (g/s):	**0.0000**

07/15/10

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.400000E-03
STACK HEIGHT (M)	=	12.6316
STK INSIDE DIAM (M)	=	1.9432
STK EXIT VELOCITY (M/S)	=	0.0528
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.376 M**4/S**3; MOM. FLUX = 0.001 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.4144E-07	1	3.0	3.0	960.0	10.24	3.40	1.66	NO
100.	0.1895	3	2.0	2.0	640.0	11.93	12.55	7.58	NO
200.	0.1796	3	1.0	1.0	320.0	17.06	23.79	14.32	NO
300.	0.1714	4	1.0	1.0	320.0	16.94	22.79	12.42	NO
400.	0.1476	4	1.0	1.0	320.0	16.94	29.59	15.53	NO
500.	0.1205	4	1.0	1.0	320.0	16.94	36.26	18.52	NO
600.	0.9810E-01	4	1.0	1.0	320.0	16.94	42.81	21.40	NO
700.	0.8070E-01	4	1.0	1.0	320.0	16.94	49.27	24.20	NO
800.	0.6731E-01	4	1.0	1.0	320.0	16.94	55.65	26.93	NO
900.	0.5765E-01	6	1.0	1.1	10000.0	24.04	31.16	13.87	NO
1000.	0.5894E-01	6	1.0	1.1	10000.0	24.04	34.23	14.78	NO
1100.	0.5871E-01	6	1.0	1.1	10000.0	24.04	37.28	15.60	NO
1200.	0.5783E-01	6	1.0	1.1	10000.0	24.04	40.31	16.40	NO
1300.	0.5650E-01	6	1.0	1.1	10000.0	24.04	43.32	17.18	NO
1400.	0.5490E-01	6	1.0	1.1	10000.0	24.04	46.30	17.94	NO
1500.	0.5314E-01	6	1.0	1.1	10000.0	24.04	49.27	18.68	NO
1600.	0.5128E-01	6	1.0	1.1	10000.0	24.04	52.22	19.40	NO
1700.	0.4941E-01	6	1.0	1.1	10000.0	24.04	55.16	20.11	NO
1800.	0.4754E-01	6	1.0	1.1	10000.0	24.04	58.07	20.81	NO

1900.	0.4571E-01	6	1.0	1.1	10000.0	24.04	60.97	21.50	NO
2000.	0.4393E-01	6	1.0	1.1	10000.0	24.04	63.86	22.17	NO
2100.	0.4219E-01	6	1.0	1.1	10000.0	24.04	66.73	22.74	NO
2200.	0.4055E-01	6	1.0	1.1	10000.0	24.04	69.59	23.30	NO
2300.	0.3899E-01	6	1.0	1.1	10000.0	24.04	72.44	23.84	NO
2400.	0.3752E-01	6	1.0	1.1	10000.0	24.04	75.28	24.38	NO
2500.	0.3612E-01	6	1.0	1.1	10000.0	24.04	78.10	24.91	NO
2600.	0.3481E-01	6	1.0	1.1	10000.0	24.04	80.91	25.42	NO
2700.	0.3356E-01	6	1.0	1.1	10000.0	24.04	83.71	25.93	NO
2800.	0.3238E-01	6	1.0	1.1	10000.0	24.04	86.50	26.43	NO
2900.	0.3126E-01	6	1.0	1.1	10000.0	24.04	89.28	26.93	NO
3000.	0.3021E-01	6	1.0	1.1	10000.0	24.04	92.05	27.41	NO
3500.	0.2578E-01	6	1.0	1.1	10000.0	24.04	105.76	29.39	NO
4000.	0.2236E-01	6	1.0	1.1	10000.0	24.04	119.27	31.22	NO
4500.	0.1964E-01	6	1.0	1.1	10000.0	24.04	132.59	32.93	NO
5000.	0.1745E-01	6	1.0	1.1	10000.0	24.04	145.75	34.55	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

129.	0.1979	3	1.5	1.5	480.0	13.64	15.99	9.65	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

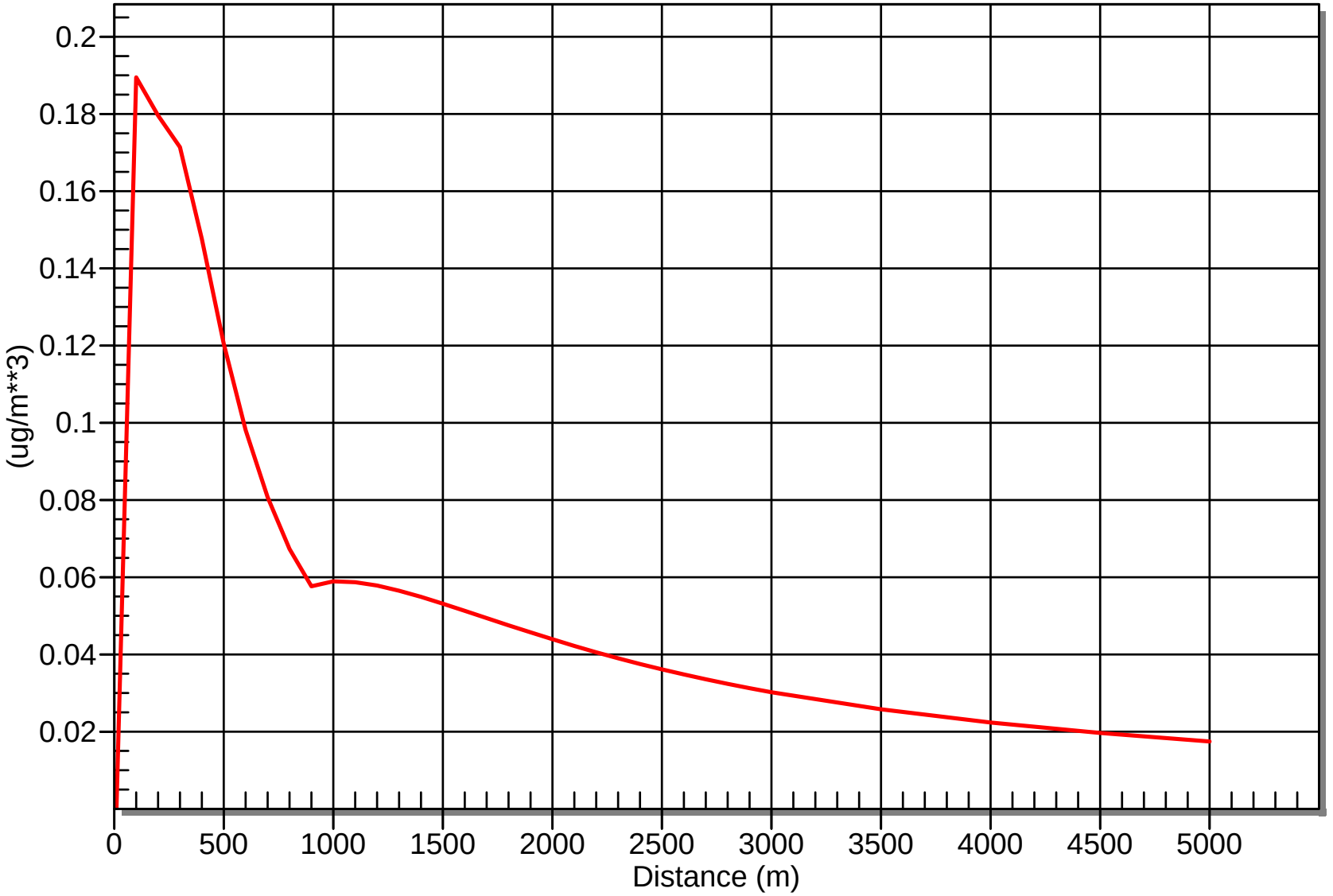
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.1979	129.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - LP Flare Stack - CASE 21 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0026
Actual Stack Diameter (m)	0.154
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00015704	0.0	0
CO2	0.0024	0.00000624	0.0	0
C1	0.443363	0.001152744	33.9	0.039078015
C2	0.1893	0.00049218	60.3	0.029678454
C3	0.1888	0.00049088	86.1	0.042264768
iC4	0.0246	0.00006396	111.7	0.007144332
nC4	0.0580	0.0001508	112.1	0.01690468
iC5	0.0106	0.00002756	137.8	0.003797768
nC5	0.0108	0.00002808	138.1	0.003877848
C6	0.0066	0.00001716	164.0	0.00281424
C7+	0.0050	0.000013	189.9	0.0024687
H2S	0.000137	3.562E-07	21.9	7.80078E-06
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.148036606

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	35415.45589
Buoyancy Flux (m^4/s^3)	0.982778901

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**0.1372**
Effective Stack Height (m)	**12.8815**
Equivalent Stack Diameter (m):	**1.9432**
Emission Rate of SO_2 (g/s):	**0.0010**
Emission Rate of H_2S (g/s):	**0.0000**

07/15/10

21:20:02

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.100000E-02
STACK HEIGHT (M)	=	12.8815
STK INSIDE DIAM (M)	=	1.9432
STK EXIT VELOCITY (M/S)	=	0.1372
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.978 M**4/S**3; MOM. FLUX = 0.004 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.5393E-13	1	3.0	3.1	960.0	14.13	3.43	1.73	NO
100.	0.2182	3	4.5	4.6	1440.0	11.73	12.53	7.56	NO
200.	0.2144	3	2.0	2.1	640.0	17.58	23.80	14.33	NO
300.	0.2020	4	2.0	2.1	640.0	17.45	22.80	12.44	NO
400.	0.1808	4	1.5	1.6	480.0	20.91	29.71	15.75	NO
500.	0.1608	4	1.5	1.6	480.0	20.91	36.35	18.70	NO
600.	0.1450	4	1.0	1.0	320.0	27.85	43.11	21.99	NO
700.	0.1327	4	1.0	1.0	320.0	27.85	49.53	24.72	NO
800.	0.1194	4	1.0	1.0	320.0	27.85	55.87	27.40	NO
900.	0.1068	4	1.0	1.0	320.0	27.85	62.15	30.03	NO
1000.	0.9545E-01	4	1.0	1.0	320.0	27.85	68.37	32.61	NO
1100.	0.8594E-01	4	1.0	1.0	320.0	27.85	74.54	34.61	NO
1200.	0.7777E-01	4	1.0	1.0	320.0	27.85	80.65	36.55	NO
1300.	0.7903E-01	6	1.0	1.1	10000.0	30.89	43.56	17.77	NO
1400.	0.7990E-01	6	1.0	1.1	10000.0	30.89	46.53	18.51	NO
1500.	0.8011E-01	6	1.0	1.1	10000.0	30.89	49.48	19.23	NO
1600.	0.7979E-01	6	1.0	1.1	10000.0	30.89	52.42	19.93	NO
1700.	0.7907E-01	6	1.0	1.1	10000.0	30.89	55.34	20.63	NO
1800.	0.7803E-01	6	1.0	1.1	10000.0	30.89	58.25	21.31	NO

1900.	0.7676E-01	6	1.0	1.1	10000.0	30.89	61.14	21.98	NO
2000.	0.7532E-01	6	1.0	1.1	10000.0	30.89	64.02	22.63	NO
2100.	0.7355E-01	6	1.0	1.1	10000.0	30.89	66.89	23.19	NO
2200.	0.7175E-01	6	1.0	1.1	10000.0	30.89	69.74	23.74	NO
2300.	0.6996E-01	6	1.0	1.1	10000.0	30.89	72.59	24.28	NO
2400.	0.6819E-01	6	1.0	1.1	10000.0	30.89	75.42	24.80	NO
2500.	0.6644E-01	6	1.0	1.1	10000.0	30.89	78.23	25.32	NO
2600.	0.6473E-01	6	1.0	1.1	10000.0	30.89	81.04	25.83	NO
2700.	0.6305E-01	6	1.0	1.1	10000.0	30.89	83.84	26.33	NO
2800.	0.6142E-01	6	1.0	1.1	10000.0	30.89	86.62	26.82	NO
2900.	0.5984E-01	6	1.0	1.1	10000.0	30.89	89.40	27.31	NO
3000.	0.5830E-01	6	1.0	1.1	10000.0	30.89	92.17	27.79	NO
3500.	0.5130E-01	6	1.0	1.1	10000.0	30.89	105.86	29.74	NO
4000.	0.4554E-01	6	1.0	1.1	10000.0	30.89	119.36	31.55	NO
4500.	0.4078E-01	6	1.0	1.1	10000.0	30.89	132.67	33.25	NO
5000.	0.3679E-01	6	1.0	1.1	10000.0	30.89	145.82	34.85	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

123.	0.2301	3	3.5	3.6	1120.0	13.07	15.29	9.21	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

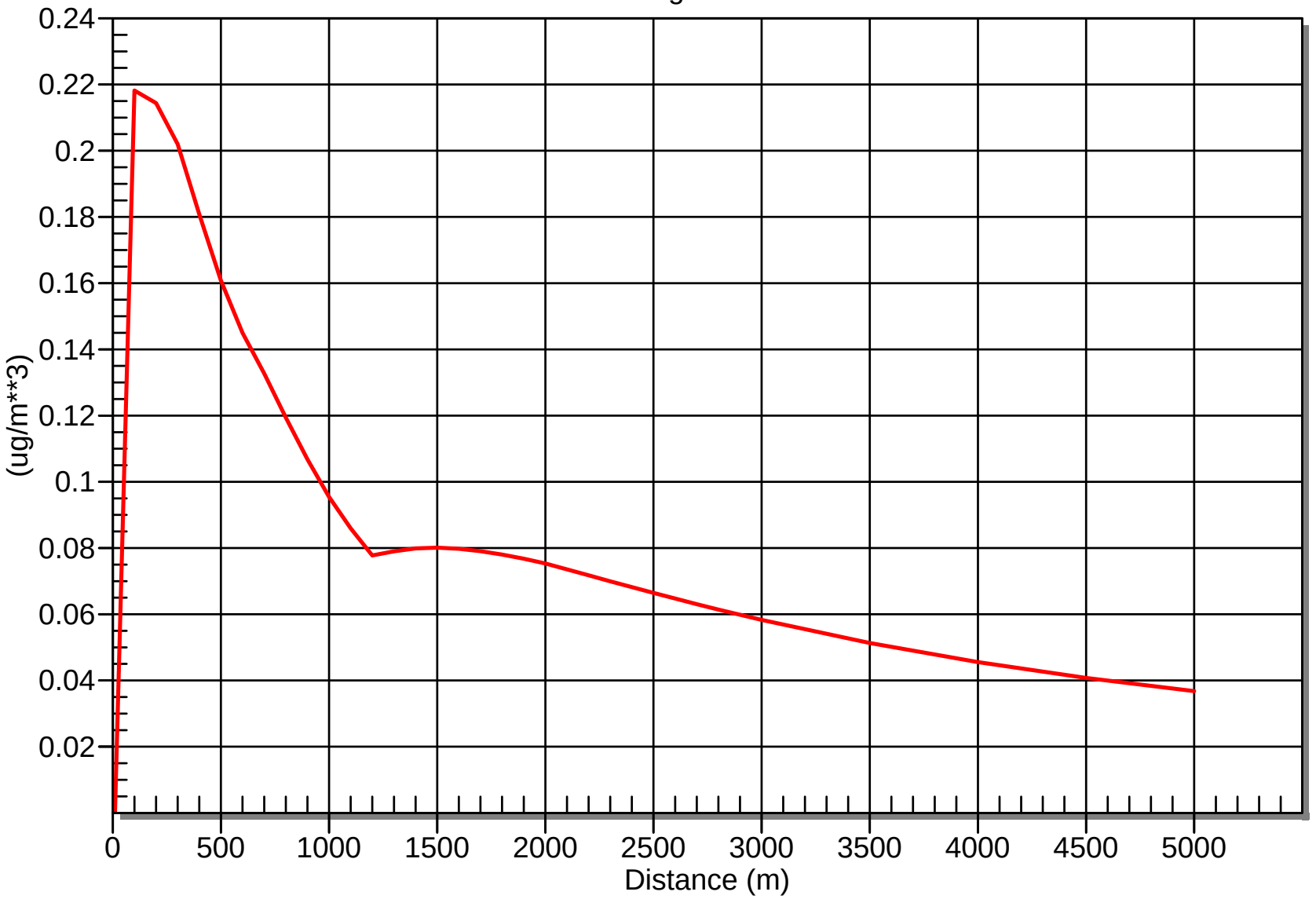
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2301	123.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - LP Flare Stack - CASE 22 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0052
Actual Stack Diameter (m)	0.154
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00031408	0.0	0
CO2	0.0024	0.00001248	0.0	0
C1	0.443363	0.002305488	33.9	0.07815603
C2	0.1893	0.00098436	60.3	0.059356908
C3	0.1888	0.00098176	86.1	0.084529536
iC4	0.0246	0.00012792	111.7	0.014288664
nC4	0.0580	0.0003016	112.1	0.03380936
iC5	0.0106	0.00005512	137.8	0.007595536
nC5	0.0108	0.00005616	138.1	0.007755696
C6	0.0066	0.00003432	164.0	0.00562848
C7+	0.0050	0.000026	189.9	0.0049374
H2S	0.000137	7.124E-07	21.9	1.56016E-05
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.296073211

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	70830.91177
Buoyancy Flux (m^4/s^3)	1.965557802

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**0.2744**
Effective Stack Height (m)	**13.1492**
Equivalent Stack Diameter (m):	**1.9432**
Emission Rate of SO_2 (g/s):	**0.0019**
Emission Rate of H_2S (g/s):	**0.0000**

07/15/10

21:22:43

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.190000E-02
STACK HEIGHT (M)	=	13.1492
STK INSIDE DIAM (M)	=	1.9432
STK EXIT VELOCITY (M/S)	=	0.2744
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 1.955 M**4/S**3; MOM. FLUX = 0.016 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	320.0	43.12	4.25	3.05	NO
100.	0.2322	2	4.5	4.6	1440.0	15.28	19.39	10.83	NO
200.	0.2359	3	3.0	3.1	960.0	19.16	23.85	14.41	NO
300.	0.2213	4	3.5	3.6	1120.0	17.33	22.78	12.41	NO
400.	0.1995	4	3.0	3.1	960.0	19.00	29.63	15.61	NO
500.	0.1782	4	2.5	2.6	800.0	21.33	36.35	18.71	NO
600.	0.1618	4	2.0	2.1	640.0	24.83	42.99	21.76	NO
700.	0.1467	4	1.5	1.6	480.0	30.67	49.61	24.89	NO
800.	0.1351	4	1.5	1.6	480.0	30.67	55.95	27.55	NO
900.	0.1230	4	1.5	1.6	480.0	30.67	62.22	30.17	NO
1000.	0.1133	4	1.0	1.0	320.0	42.35	68.82	33.53	NO
1100.	0.1071	4	1.0	1.0	320.0	42.35	74.94	35.48	NO
1200.	0.1009	4	1.0	1.0	320.0	42.35	81.02	37.38	NO
1300.	0.9490E-01	4	1.0	1.0	320.0	42.35	87.06	39.22	NO
1400.	0.8925E-01	4	1.0	1.0	320.0	42.35	93.06	41.03	NO
1500.	0.8825E-01	6	1.0	1.2	10000.0	37.57	49.74	19.88	NO
1600.	0.9055E-01	6	1.0	1.2	10000.0	37.57	52.67	20.57	NO
1700.	0.9220E-01	6	1.0	1.2	10000.0	37.57	55.58	21.24	NO
1800.	0.9327E-01	6	1.0	1.2	10000.0	37.57	58.47	21.90	NO

1900.	0.9387E-01	6	1.0	1.2	10000.0	37.57	61.35	22.55	NO
2000.	0.9406E-01	6	1.0	1.2	10000.0	37.57	64.22	23.19	NO
2100.	0.9338E-01	6	1.0	1.2	10000.0	37.57	67.08	23.74	NO
2200.	0.9252E-01	6	1.0	1.2	10000.0	37.57	69.93	24.27	NO
2300.	0.9151E-01	6	1.0	1.2	10000.0	37.57	72.76	24.80	NO
2400.	0.9039E-01	6	1.0	1.2	10000.0	37.57	75.58	25.31	NO
2500.	0.8917E-01	6	1.0	1.2	10000.0	37.57	78.40	25.82	NO
2600.	0.8789E-01	6	1.0	1.2	10000.0	37.57	81.20	26.32	NO
2700.	0.8656E-01	6	1.0	1.2	10000.0	37.57	83.99	26.81	NO
2800.	0.8519E-01	6	1.0	1.2	10000.0	37.57	86.77	27.30	NO
2900.	0.8380E-01	6	1.0	1.2	10000.0	37.57	89.54	27.78	NO
3000.	0.8239E-01	6	1.0	1.2	10000.0	37.57	92.30	28.25	NO
3500.	0.7493E-01	6	1.0	1.2	10000.0	37.57	105.98	30.17	NO
4000.	0.6828E-01	6	1.0	1.2	10000.0	37.57	119.46	31.96	NO
4500.	0.6243E-01	6	1.0	1.2	10000.0	37.57	132.77	33.63	NO
5000.	0.5731E-01	6	1.0	1.2	10000.0	37.57	145.91	35.22	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

137.	0.2510	3	5.0	5.1	1600.0	14.42	16.89	10.18	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

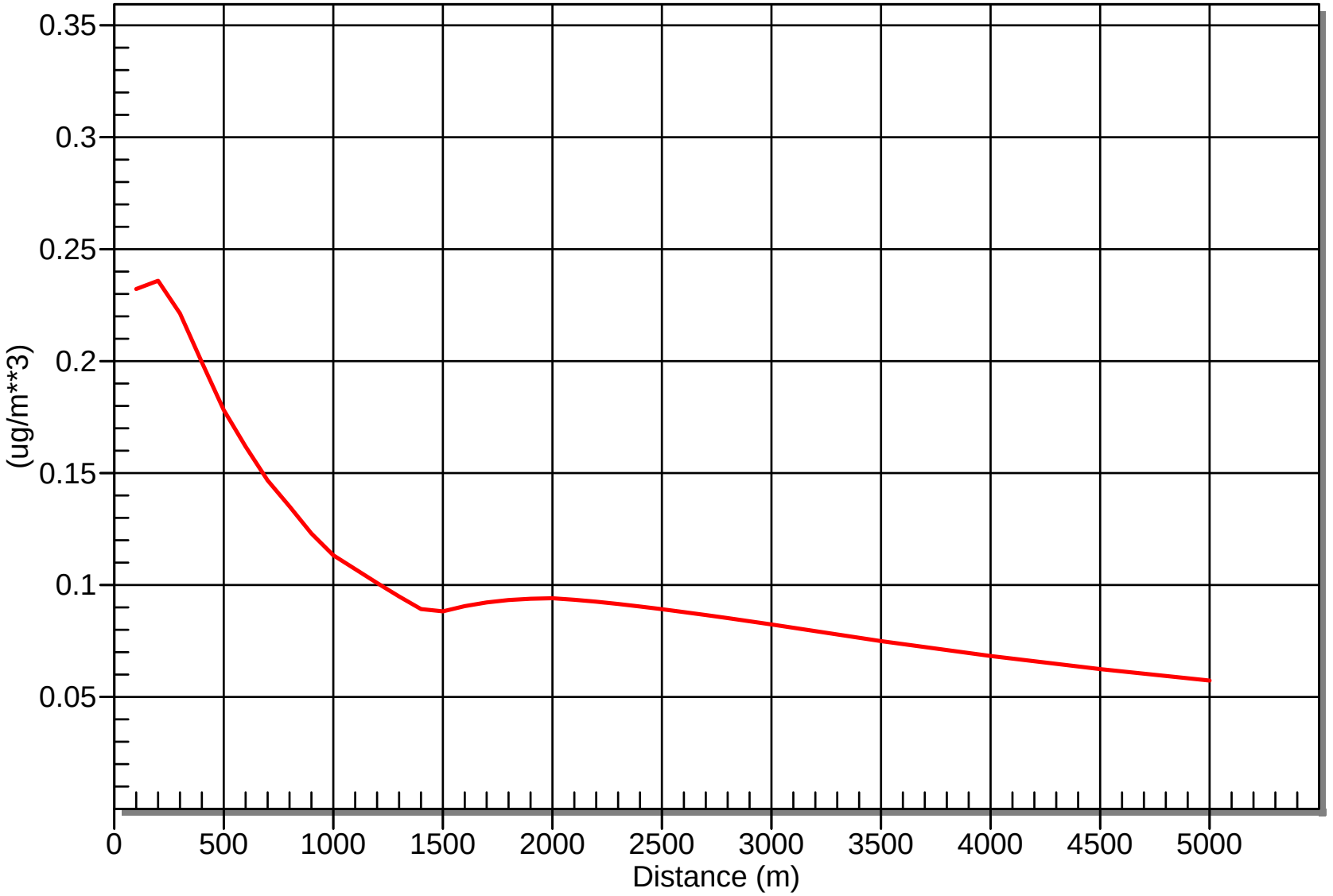
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2510	137.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - LP Flare Stack - CASE 23 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0067
Actual Stack Diameter (m)	0.154
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00040468	0.0	0
CO2	0.0024	0.00001608	0.0	0
C1	0.443363	0.002970532	33.9	0.100701038
C2	0.1893	0.00126831	60.3	0.076479093
C3	0.1888	0.00126496	86.1	0.108913056
iC4	0.0246	0.00016482	111.7	0.018410394
nC4	0.0580	0.0003886	112.1	0.04356206
iC5	0.0106	0.00007102	137.8	0.009786556
nC5	0.0108	0.00007236	138.1	0.009992916
C6	0.0066	0.00004422	164.0	0.00725208
C7+	0.0050	0.0000335	189.9	0.00636165
H2S	0.000137	9.179E-07	21.9	2.0102E-05
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.381478945

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	91262.90555
Buoyancy Flux (m^4/s^3)	2.532545629

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**0.3536**
Effective Stack Height (m)	**13.2715**
Equivalent Stack Diameter (m):	**1.9432**
Emission Rate of SO_2 (g/s):	**0.0025**
Emission Rate of H_2S (g/s):	**0.0000**

07/15/10

21:25:28

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.250000E-02
STACK HEIGHT (M)	=	13.2715
STK INSIDE DIAM (M)	=	1.9432
STK EXIT VELOCITY (M/S)	=	0.3536
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 2.520 M**4/S**3; MOM. FLUX = 0.027 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	320.0	50.80	4.39	3.24	NO
100.	0.2465	2	5.0	5.1	1600.0	16.11	19.41	10.87	NO
200.	0.2534	3	4.0	4.1	1280.0	18.19	23.81	14.34	NO
300.	0.2378	4	4.5	4.7	1440.0	16.86	22.76	12.37	NO
400.	0.2151	4	3.5	3.7	1120.0	19.55	29.64	15.63	NO
500.	0.1924	4	2.5	2.6	800.0	24.40	36.45	18.89	NO
600.	0.1739	4	2.5	2.6	800.0	24.40	42.97	21.72	NO
700.	0.1593	4	2.0	2.1	640.0	28.64	49.54	24.74	NO
800.	0.1443	4	2.0	2.1	640.0	28.64	55.88	27.42	NO
900.	0.1347	4	1.5	1.6	480.0	35.70	62.38	30.49	NO
1000.	0.1252	4	1.5	1.6	480.0	35.70	68.57	33.03	NO
1100.	0.1156	4	1.5	1.6	480.0	35.70	74.72	35.01	NO
1200.	0.1068	4	1.5	1.6	480.0	35.70	80.82	36.93	NO
1300.	0.1002	4	1.0	1.0	320.0	49.83	87.31	39.77	NO
1400.	0.9586E-01	4	1.0	1.0	320.0	49.83	93.29	41.55	NO
1500.	0.9153E-01	4	1.0	1.0	320.0	49.83	99.24	43.29	NO
1600.	0.9422E-01	6	1.0	1.2	10000.0	40.48	52.79	20.87	NO
1700.	0.9701E-01	6	1.0	1.2	10000.0	40.48	55.69	21.53	NO
1800.	0.9917E-01	6	1.0	1.2	10000.0	40.48	58.58	22.19	NO

1900.	0.1008	6	1.0	1.2	10000.0	40.48	61.46	22.83	NO
2000.	0.1019	6	1.0	1.2	10000.0	40.48	64.32	23.47	NO
2100.	0.1019	6	1.0	1.2	10000.0	40.48	67.18	24.00	NO
2200.	0.1016	6	1.0	1.2	10000.0	40.48	70.02	24.53	NO
2300.	0.1011	6	1.0	1.2	10000.0	40.48	72.85	25.05	NO
2400.	0.1005	6	1.0	1.2	10000.0	40.48	75.67	25.56	NO
2500.	0.9967E-01	6	1.0	1.2	10000.0	40.48	78.48	26.07	NO
2600.	0.9874E-01	6	1.0	1.2	10000.0	40.48	81.28	26.56	NO
2700.	0.9772E-01	6	1.0	1.2	10000.0	40.48	84.06	27.05	NO
2800.	0.9662E-01	6	1.0	1.2	10000.0	40.48	86.84	27.53	NO
2900.	0.9545E-01	6	1.0	1.2	10000.0	40.48	89.61	28.00	NO
3000.	0.9423E-01	6	1.0	1.2	10000.0	40.48	92.37	28.47	NO
3500.	0.8699E-01	6	1.0	1.2	10000.0	40.48	106.04	30.38	NO
4000.	0.8022E-01	6	1.0	1.2	10000.0	40.48	119.52	32.15	NO
4500.	0.7406E-01	6	1.0	1.2	10000.0	40.48	132.81	33.82	NO
5000.	0.6854E-01	6	1.0	1.2	10000.0	40.48	145.95	35.40	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

153.	0.2671	3	5.0	5.1	1600.0	16.04	18.72	11.30	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

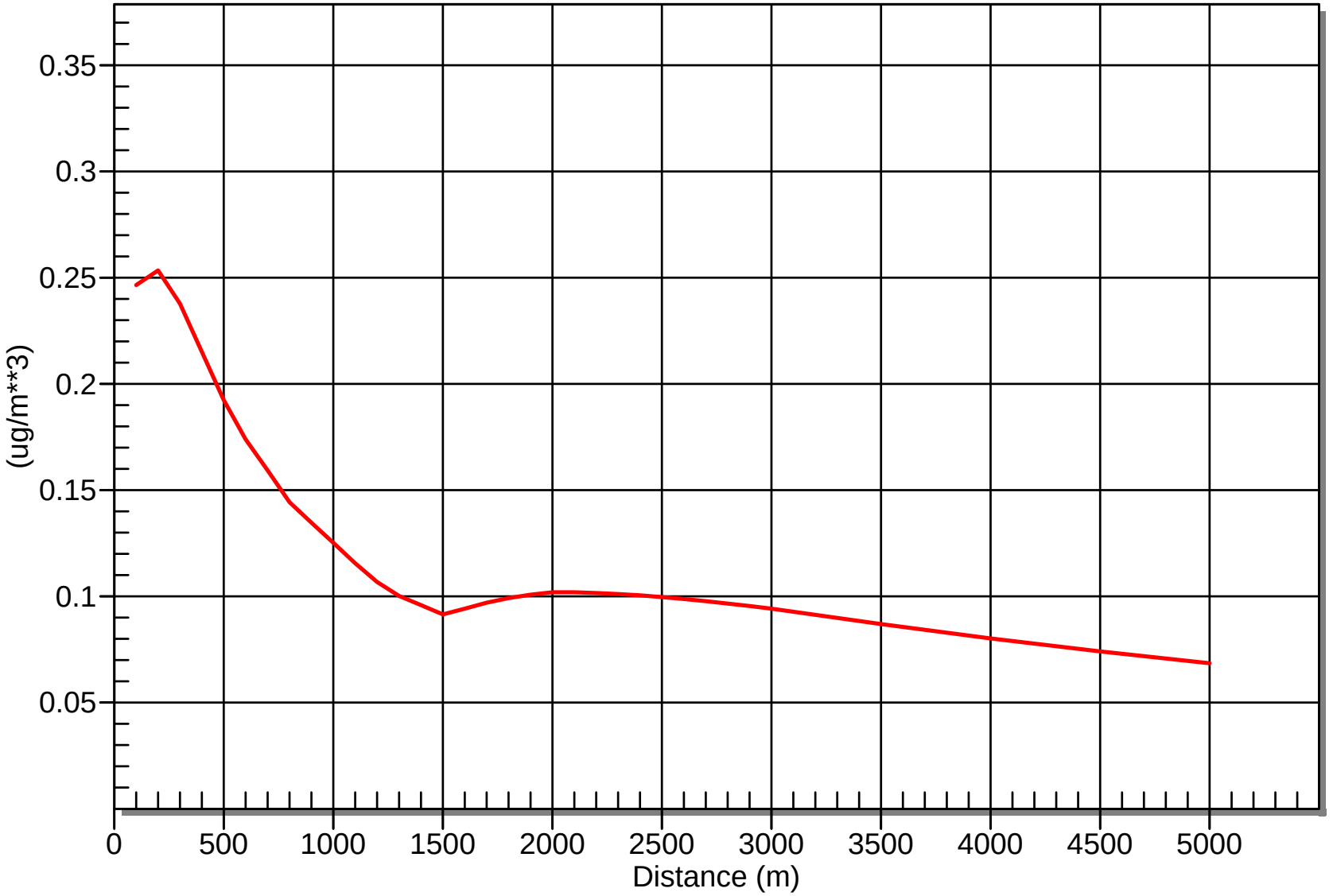
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2671	153.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - LP Flare Stack - CASE 24 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0104
Actual Stack Diameter (m)	0.154
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.00062816	0.0	0
CO2	0.0024	0.00002496	0.0	0
C1	0.443363	0.004610975	33.9	0.156312059
C2	0.1893	0.00196872	60.3	0.118713816
C3	0.1888	0.00196352	86.1	0.169059072
iC4	0.0246	0.00025584	111.7	0.028577328
nC4	0.0580	0.0006032	112.1	0.06761872
iC5	0.0106	0.00011024	137.8	0.015191072
nC5	0.0108	0.00011232	138.1	0.015511392
C6	0.0066	0.00006864	164.0	0.01125696
C7+	0.0050	0.000052	189.9	0.0098748
H2S	0.000137	1.4248E-06	21.9	3.12031E-05
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.592146422

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	141661.8235
Buoyancy Flux (m^4/s^3)	3.931115603

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**0.5488**
Effective Stack Height (m)	**13.5221**
Equivalent Stack Diameter (m):	**1.9432**
Emission Rate of SO_2 (g/s):	**0.0039**
Emission Rate of H_2S (g/s):	**0.0000**

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.390000E-02
STACK HEIGHT (M)	=	13.5221
STK INSIDE DIAM (M)	=	1.9432
STK EXIT VELOCITY (M/S)	=	0.5488
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 3.911 M**4/S**3; MOM. FLUX = 0.065 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	320.0	68.12	4.69	3.64	NO
100.	0.2493	3	10.0	10.3	3200.0	13.68	12.55	7.59	NO
200.	0.2762	3	5.0	5.2	1600.0	19.67	23.85	14.41	NO
300.	0.2505	4	8.0	8.4	2560.0	15.07	22.70	12.26	NO
400.	0.2353	4	5.0	5.2	1600.0	19.49	29.63	15.61	NO
500.	0.2125	4	4.0	4.2	1280.0	22.44	36.37	18.74	NO
600.	0.1922	4	3.0	3.1	960.0	27.35	43.06	21.89	NO
700.	0.1751	4	3.0	3.1	960.0	27.35	49.49	24.64	NO
800.	0.1616	4	2.5	2.6	800.0	31.29	55.95	27.56	NO
900.	0.1484	4	2.0	2.1	640.0	37.19	62.42	30.57	NO
1000.	0.1390	4	2.0	2.1	640.0	37.19	68.61	33.11	NO
1100.	0.1290	4	2.0	2.1	640.0	37.19	74.75	35.08	NO
1200.	0.1197	4	2.0	2.1	640.0	37.19	80.85	37.00	NO
1300.	0.1131	4	1.5	1.6	480.0	47.02	87.20	39.52	NO
1400.	0.1075	4	1.5	1.6	480.0	47.02	93.19	41.31	NO
1500.	0.1021	4	1.5	1.6	480.0	47.02	99.14	43.06	NO
1600.	0.1005	5	1.0	1.1	10000.0	54.82	79.21	31.83	NO
1700.	0.1012	5	1.0	1.1	10000.0	54.82	83.58	32.87	NO
1800.	0.1013	5	1.0	1.1	10000.0	54.82	87.93	33.89	NO

1900.	0.1035	6	1.0	1.2	10000.0	46.27	61.68	23.42	NO
2000.	0.1064	6	1.0	1.2	10000.0	46.27	64.54	24.04	NO
2100.	0.1079	6	1.0	1.2	10000.0	46.27	67.38	24.57	NO
2200.	0.1090	6	1.0	1.2	10000.0	46.27	70.21	25.09	NO
2300.	0.1098	6	1.0	1.2	10000.0	46.27	73.04	25.59	NO
2400.	0.1103	6	1.0	1.2	10000.0	46.27	75.85	26.10	NO
2500.	0.1106	6	1.0	1.2	10000.0	46.27	78.65	26.59	NO
2600.	0.1107	6	1.0	1.2	10000.0	46.27	81.45	27.07	NO
2700.	0.1106	6	1.0	1.2	10000.0	46.27	84.23	27.55	NO
2800.	0.1104	6	1.0	1.2	10000.0	46.27	87.00	28.02	NO
2900.	0.1100	6	1.0	1.2	10000.0	46.27	89.77	28.49	NO
3000.	0.1095	6	1.0	1.2	10000.0	46.27	92.52	28.95	NO
3500.	0.1042	6	1.0	1.2	10000.0	46.27	106.17	30.83	NO
4000.	0.9842E-01	6	1.0	1.2	10000.0	46.27	119.63	32.58	NO
4500.	0.9270E-01	6	1.0	1.2	10000.0	46.27	132.92	34.22	NO
5000.	0.8722E-01	6	1.0	1.2	10000.0	46.27	146.05	35.78	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

145.	0.2897	3	8.0	8.2	2560.0	15.18	17.79	10.72	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

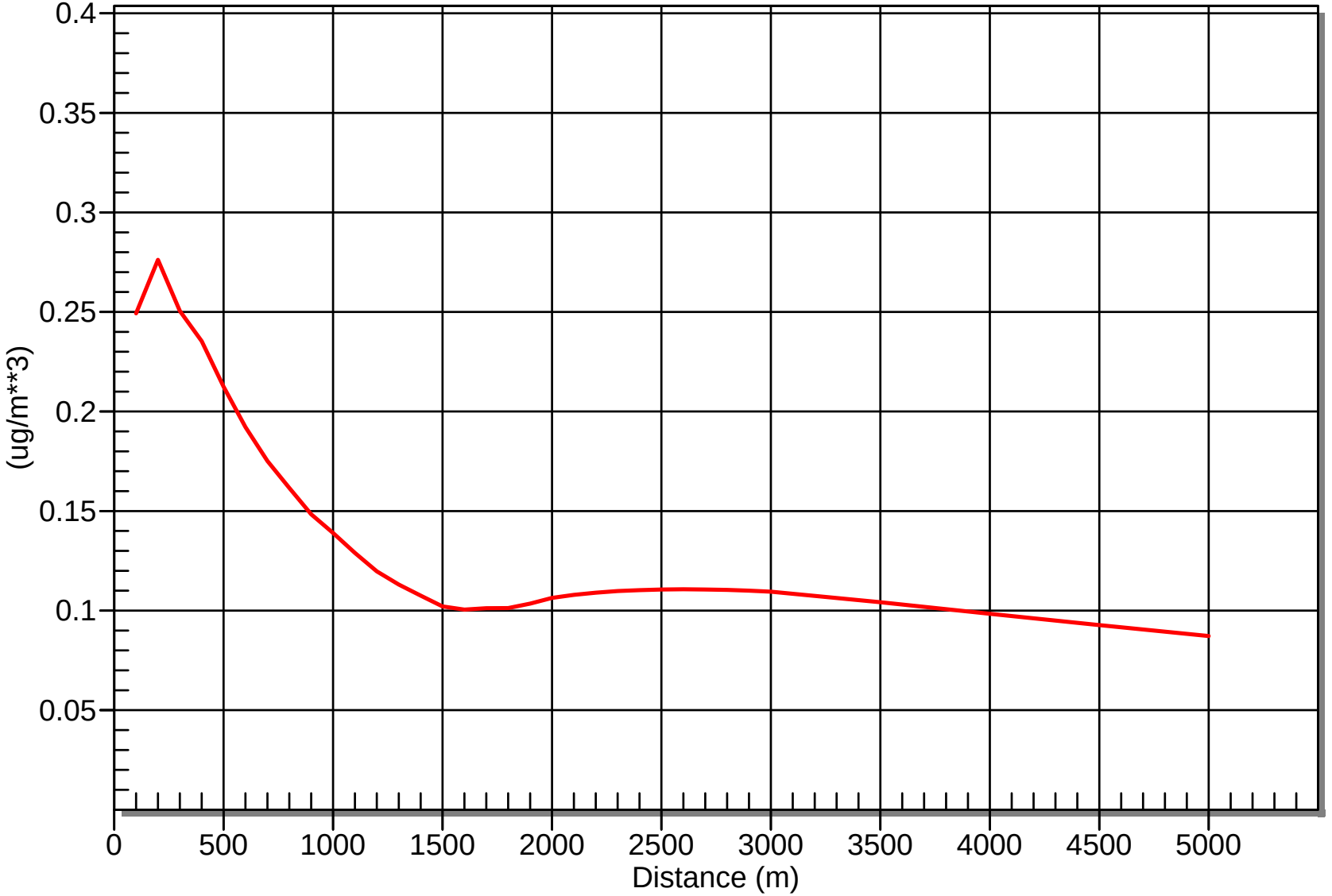
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2897	145.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.



Calculation Sheet for Dispersion Model Inputs - LP Flare Stack - CASE 25 - Rev3

USER SUPPLIED INPUTS (GREY CELLS)

Total Gas Flow Rate at Reference Temperature (m^3/s):	0.0135
Actual Stack Diameter (m)	0.154
Stack Height (m):	12.2
Heat Radiation Loss (%)	25
Conversion Efficiency for SO_2 (%)	100
Ambient Temperature (K):	288
Standard Temperature (K):	293

Gas Component	Gas Fraction	Gas Flow Rate	Low Heat Value at 15.6C and 101.3kPa	Heat Release
		m^3/s	**MJ/m^3**	**MJ/s**
H2	0.0000	0	10.2	0
He	0.0000	0	0.0	0
N2	0.0604	0.0008154	0.0	0
CO2	0.0024	0.0000324	0.0	0
C1	0.443363	0.005985401	33.9	0.202905077
C2	0.1893	0.00255555	60.3	0.154099665
C3	0.1888	0.0025488	86.1	0.21945168
iC4	0.0246	0.0003321	111.7	0.03709557
nC4	0.0580	0.000783	112.1	0.0877743
iC5	0.0106	0.0001431	137.8	0.01971918
nC5	0.0108	0.0001458	138.1	0.02013498
C6	0.0066	0.0000891	164.0	0.0146124
C7+	0.0050	0.0000675	189.9	0.01281825
H2S	0.000137	1.8495E-06	21.9	4.05041E-05
TOTAL	1.0000			
			Total Heat Release Rate (MJ/s)	0.768651606

Total Heating Value (MJ/m^3)	56.937156
Total Heat Release Rate (cal/s)	183887.944
Buoyancy Flux (m^4/s^3)	5.102890447

ADDITIONAL NUMBERS FOR INPUT INTO ISC3 MODEL OR SCREEN3 AS POINT SOURCE OPTION

Equivalent Stack temperature (K):	**1273**
Actual Exit Velocity (m/s):	**0.7124**
Effective Stack Height (m)	**13.6977**
Equivalent Stack Diameter (m):	**1.9432**
Emission Rate of SO_2 (g/s):	**0.0050**
Emission Rate of H_2S (g/s):	**0.0000**

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.500000E-02
STACK HEIGHT (M)	=	13.6977
STK INSIDE DIAM (M)	=	1.9432
STK EXIT VELOCITY (M/S)	=	0.7124
STK GAS EXIT TEMP (K)	=	1273.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 5.077 M**4/S**3; MOM. FLUX = 0.110 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	0.000	1	1.0	1.0	320.0	81.46	4.90	3.90	NO
100.	0.2227	3	10.0	10.3	3200.0	15.16	12.57	7.62	NO
200.	0.2800	3	8.0	8.3	2560.0	16.98	23.75	14.25	NO
300.	0.2665	4	8.0	8.4	2560.0	16.84	22.75	12.34	NO
400.	0.2401	4	5.0	5.2	1600.0	22.22	29.72	15.77	NO
500.	0.2210	4	4.5	4.7	1440.0	23.82	36.41	18.82	NO
600.	0.2008	4	4.0	4.2	1280.0	25.81	43.00	21.78	NO
700.	0.1833	4	3.5	3.7	1120.0	28.37	49.51	24.69	NO
800.	0.1687	4	3.0	3.1	960.0	31.79	55.96	27.58	NO
900.	0.1555	4	2.5	2.6	800.0	36.57	62.39	30.51	NO
1000.	0.1452	4	2.5	2.6	800.0	36.57	68.58	33.05	NO
1100.	0.1345	4	2.5	2.6	800.0	36.57	74.73	35.03	NO
1200.	0.1264	4	2.0	2.1	640.0	43.75	81.04	37.42	NO
1300.	0.1193	4	2.0	2.1	640.0	43.75	87.08	39.26	NO
1400.	0.1126	4	2.0	2.1	640.0	43.75	93.08	41.06	NO
1500.	0.1062	4	2.0	2.1	640.0	43.75	99.04	42.82	NO
1600.	0.1015	5	1.0	1.1	10000.0	59.59	79.41	32.32	NO
1700.	0.1033	5	1.0	1.1	10000.0	59.59	83.76	33.34	NO
1800.	0.1046	5	1.0	1.1	10000.0	59.59	88.10	34.35	NO

1900.	0.1053	5	1.0	1.1	10000.0	59.59	92.43	35.34	NO
2000.	0.1056	5	1.0	1.1	10000.0	59.59	96.73	36.32	NO
2100.	0.1052	6	1.0	1.2	10000.0	50.21	67.53	24.98	NO
2200.	0.1072	6	1.0	1.2	10000.0	50.21	70.36	25.49	NO
2300.	0.1089	6	1.0	1.2	10000.0	50.21	73.18	25.99	NO
2400.	0.1102	6	1.0	1.2	10000.0	50.21	75.98	26.48	NO
2500.	0.1113	6	1.0	1.2	10000.0	50.21	78.78	26.97	NO
2600.	0.1122	6	1.0	1.2	10000.0	50.21	81.57	27.45	NO
2700.	0.1128	6	1.0	1.2	10000.0	50.21	84.35	27.92	NO
2800.	0.1132	6	1.0	1.2	10000.0	50.21	87.12	28.38	NO
2900.	0.1135	6	1.0	1.2	10000.0	50.21	89.88	28.84	NO
3000.	0.1136	6	1.0	1.2	10000.0	50.21	92.63	29.30	NO
3500.	0.1103	6	1.0	1.2	10000.0	50.21	106.27	31.15	NO
4000.	0.1060	6	1.0	1.2	10000.0	50.21	119.72	32.89	NO
4500.	0.1012	6	1.0	1.2	10000.0	50.21	132.99	34.52	NO
5000.	0.9638E-01	6	1.0	1.2	10000.0	50.21	146.12	36.07	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

145.	0.2974	3	10.0	10.3	3200.0	15.16	17.79	10.71	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.2974	145.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Automated Distance Vs. Concentration

Terrain Height = 0.00 m.