WIND TUNNEL STUDY ON PLUME DISPERSION AT THE SAVANNAH RIVER PROJECT

by

D. E. NEFF
and
R. N. MERONEY

Fluid Mechanics and Wind Engineering Program
Department of Civil Engineering
Colorado State University
Fort Collins, Colorado 80523

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EXECUTIVE SUMMARY

Title	Wind Tunnel Study on Plume Dispersion at the Savannah River Project
Contractor	Civil Engineering Department Colorado State University Fort Collins, Colorado 80523 E. I. DuPONT
Principal Investigators	D. E. Neff and R. N. Meroney
Report Period	August 1, 1983 - December 31, 1983
Objective	The objective of this study is to physically model, at a reduced scale, the plant stack and proposed cooling tower plumes for a reactor complex typical to those at the Savannah River Project for a combination of different wind speeds, wind directions, and atmospheric stabilities.
Results	Visual and concentration data on both the cooling tower and plant stack plumes were obtained for sixty-four different run conditions. For neutral atmospheric stability, eight different wind directions were studied at each of four different wind speeds (4,6,8 and 10 m/s). For stable atmospheric stability, eight different wind directions were examined at each of two different wind speeds (4 and 6 m/s). For unstable atmospheric stability, eight different wind directions were considered at each of two different wind speeds (4 and 6 m/s).
Technical Approach	A small scale model (1:400) of the nuclear power plant complex and proposed cooling tower was constructed and placed within a wind tunnel capable of simulating the turbulent character of the atmospheric surface winds. Simulate gases were released at their properly-scaled values from the cooling tower and plant stack models. Still photographs and video motion pictures were taken when these plumes were made visible with smoke. Hydrocarbon tracers in the plumes were measured at forty-eight different locations downwind of the power plant complex.

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LIST OF SYMBOLS

Dimensions are given in terms of mass (m), length (L), time (t), moles (n), and temperature (T).

Symbol	Definition	Code
@	at	
C_p	Specific heat capacity at constant pressure	$[L^2t^{-2}T^{-1}]$
g	Gravitational acceleration	$[Lt^{-2}]$
g'	$(= g(\rho_s-\rho_a)/\rho_a)$ gravitational parameter	$[Lt^{-2}]$
H	Height	[L]
k	Thermal conductivity	$[mLT^{-1}t^{-3}]$
L	Length	[L]
n	Mole or frequency	[n], $[t^{-1}]$
P	Pressure	$[mL^{-1}t^{-2}]$
Q	Volumetric rate of gas flow	$[L^3t^{-1}]$
$\bar{R}$	Universal gas constant	$[nm^{-1}L^2t^{-1}T^{-1}]$
$S_u(n)$	Spectral power density	$[L^2t^{-1}]$
T	Temperature	[T]
Δ T	Temperature difference across some reference layer	[T]
u_*	Friction velocity	$[Lt^{-1}]$
u_e	Entrainment velocity	$[Lt^{-1}]$
U,u	Mean velocity	$[Lt^{-1}]$
W,w	Plume vertical velocity	$[Lt^{-1}]$
x	General downwind coordinate	[L]
y	General lateral coordinate	[L]
z	General vertical coordinate	[L]
z_o	Surface roughness parameter	[L]

η	General vertical position	[L]
ν	Kinematic viscosity	$[L^2t^{-1}]$
ξ	General lateral position	[L]
ρ	Density	$[mL^{-3}]$
χ	Mole fraction of gas component	–
Ω	Angular velocity of earth = 0.726×10^{-4} (radians/sec)	$[t^{-1}]$

Subscripts

a	Air
bg	Background
g	Gas
H	Evaluated at height H
$℄$	On centerline
m	Model
mea	Measured
p	Prototype
r	Reference conditions
s	Source gas

Superscripts

$\overline{()}$	Mean of a quantity
$()'$	Fluctuating part of a quantity
$\dot{(\ )}$	Quantity per unit time
$()''$	Quantity per unit area

Dimensionless Parameters

Re	Reynolds number
Ri	Bulk Richardson number
Ro	Rossby number
Pr	Prandtl number
Ec	Eckert number
Ma	Mach number
M	Mass flux ratio
F	Momentum flux ratio
Fr	Densimetric Froude number
Fr_s	Densimetric Froude number relative to inertia of the plume
$\dot{Fr}$	Flux Froude number
V	Volume flux ratio
SG	Specific gravity
K	Dimensionless concentration
φ_ε	Dimensionless dissipation rate for turbulent energy

1.0 INTRODUCTION

The primary objective of this study was to assist the Savannah River Meteorological Group in the determination of environmental impact due to the installation of a Markley type circular mechanical draft cooling tower at the Savannah River Site. The potential for cooling tower plume environment impact is reviewed in the Savannah River Report, *Environmental Effects of Cooling Towers at SRP*, DPST-83-432. It was stated that the primary concern, which needed further investigation, was the potential for the cooling tower plume to produce ground level fogging and icing near the vicinity of the plant site. To assist the SRL Meteorological Group in the prediction of fogging and icing events, a physical modeling study (wind tunnel simulation) of the proposed cooling tower plume was performed. The secondary objective of this study was to obtain model data on the structure of the plume exiting the reactor complex's main stack as it interacted with the cooling tower plume and complex buildings.

A 1:400 reduced scale model of the Savannah River reactor plant complex, offices and proposed cooling tower were constructed and placed within the Meteorological Wind Tunnel facility at Colorado State University. Cooling tower and plant stack plume concentrations were measured for sixty-four different approach flow wind conditionsμ combinations of four wind speeds, eight wind directions, and stable, unstable and neutral atmospheric stabilities.

Section 2.0 discusses the physics of modeling plumes at reduced scalesμ Section 3.0 describes the data acquisition technique used to perform this studyμ Section 4.0 lists the test program resultsμ and Section 5.0 is a discussion of selected data.

2.0 MODELING OF PLUME DISPERSION

A predictive model for a specific plume dispersion problem requires arranging the pertinent physical variables and parameters into a logical expression that determines their interrelationships. This task is acheived implicitly for processes occurring in the atmospheric boundary layer by formulating the conservation equations for mass, momentum, and energy. These equations, together with site and souce conditions and associated constitutive relations, describe the actual physical interrelationship between the various independent (space and time) and dependent (velocity, temperature, pressure, density, concentration, etc.) variables.

These generalized conservation statements are too complex to be solved accurately by present analytical or numerical techniques. It is also impossible to create a physical model at a reduced geometric scale for which exact similarity exists for all the dependent variables over all the scales of motion present in the atmosphere. Thus, one must resort to various degrees of approximation to obtain a predictive model. At present purely analytical or numerical solutions of plume dispersion are unavailable because of the classical problem of turbulent closure (Hinze, 1975). Alternative techniques rely heavily upon empirical input from observed or physically modeled data. The empirical-analytical-numerical solutions have been combined into several different predictive approaches (Pasquill, 1974). The estimates of dispersion by these approaches are often crude; hence, they should only be used when the approach and site terrain are uniform and without obstacles. Boundary-layer wind tunnels are capable of accurately modeling plume processes in the atmosphere under certain restrictions. Snyder (1981) discusses, in detail, requirements for wind-tunnel simulation of plume dispersion in atmospheric shear layers. These restrictions are reviewed briefly in the next few sections.

2.1 PHYSICAL MODELING OF THE ATMOSPHERIC BOUNDARY LAYER

The atmospheric boundary layer is that portion of the atmosphere extending from ground level to a height of approximately 1000 meters within which the major exchanges of mass, momentum, and heat occur. This region of the atmosphere is described mathematically by statements of conservation of mass, momentum, and energy (Cermak, 1971). The mathematical requirements for rigid laboratory-atmospheric-flow similarity may be obtained by fractional analysis of these governing equations (Kline, 1965). This methodology is accomplished by scaling the pertinent dependent and independent variables and then casting the equations into dimensionless form by dividing by one of the coefficients (the inertial terms in this case). Performing these operations on such dimensional equations yields dimensionless parameters commonly known as:

Reynolds number	$Re = (UL/\nu)$	$= \dfrac{\text{Inertial Force}}{\text{Viscous Force}}$
Bulk Richardson number	$Ri = [g(\Delta T)/T)(L/U^2)]$	$= \dfrac{\text{Gravitational Force}}{\text{Inertial Force}}$
Rossby number	$Ro = (U/L\,\Omega)$	$= \dfrac{\text{Inertial Force}}{\text{Coriolis Force}}$
Prandtl number	$Pr = [\nu/(\kappa/\rho\, C_p)]$	$= \dfrac{\text{Viscous Diffusivity}}{\text{Thermal Diffusivity}}$
Eckert number	$Ec = [U^2/C_p(\Delta T)]$	

For exact similarity between different flows which are described by the same set of equations, each of these dimensionless parameters must be equal for both flow systems. In addition to this requirement, there must be similarity between the surface-boundary conditions and the approach flow wind field.

Surface-boundary condition similarity requires equivalence of the following features:

a. Surface-roughness distributions,

b. Topographic relief, and

c. Surface-temperature distribution.

If all the foregoing requirements are met simultaneously, all atmospheric scales of motion ranging from micro to mesoscale could be simulated within the same flow field (Cermak, 1975). However, all of the requirements cannot be satisfied simultaneously by existing laboratory facilities; thus, a partial or approximate simulation must be used. This limitation requires that atmospheric simulation for a particular wind-engineering application be designed to simulate most accurately those scales of motion which are of greatest significance for the given application.

2.1.1 <u>Partial Simulation of the Atmospheric Boundary Layer</u>

For the specific case of the near-field dispersion of a cooling tower plume, several of the aforementioned parameters are unnecessarily restrictive and may be relaxed without causing a significant effect on the resultant concentration field. The Rossby number magnitude controls the extent to which the mean wind direction changes with height. The effect of coriolis-force-driven lateral wind shear on plume dispersion is only significant when the plume height is of the same order of magnitude as the boundary layer height. The Eckert number (in air Ec = 0.4 Ma^2 $(T_r/\Delta T_r)$, where Ma is the Mach number) is the ratio of energy dissipation to the convection of energy. In both the atmosphere and the laboratory flow the wind velocities and temperature differences are such that the Eckert number is very small; hence, it is neglected. Prandtl number equality guarantees equivalent rates of momentum and heat transport. Since air is the working fluid in both the atmosphere and the laboratory Prandtl number equality is always maintained.

The Richardson number (Ri) and Reynolds number (Re) determine the kinematic and dynamic structure of turbulent flow within a boundary layer (Hinze, 1975). This influence is apparent in the variations that occur in the spectral distribution of turbulent kinetic energies with changing Ri (Figure 1) and changing Re (Figure 2).

Richardson numbers characteristic of non-neutrally stable conditions can be obtained in wind tunnel facilities that control air and floor temperatures. Figure 1 displays the influence of stratification on the turbulent structure in the atmospheric boundary layer (Kaimal, et al., 1972). Unstable conditions cause the energy of large scale fluctuations to increase and stable conditions cause the energy of large scale fluctuations to decrease.

Re equality implies $u_m = (L_p/L_m)u_p$. Re equality at a significantly reduced length scale would cause the model flow velocity to be above sonic; hence, its equality must be distorted. Figure 2 shows that a reduced Re changes only the higher frequency portion of an Eulerian type description of the spectral energy distribution.

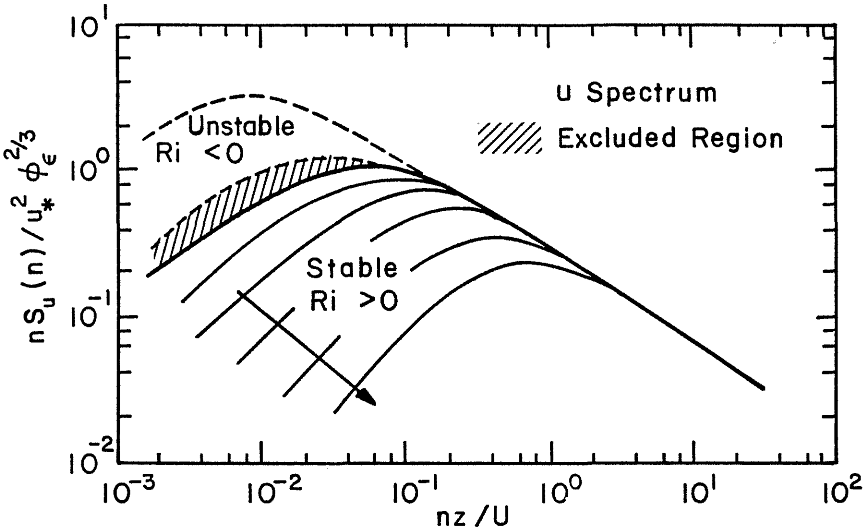

Figure 1. Variation of Turbulent Velocity Power Spectrum with Richardson Number (Kaimal, et al, 1972)

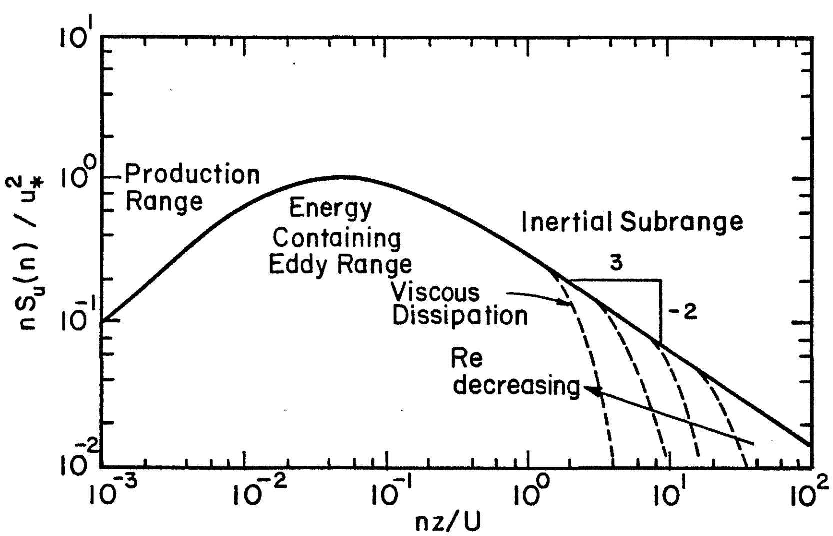

Figure 2. Variation of Turbulent Velocity Power Spectrum with Reynolds Number

Unfortunately there is no precise definition as to which portion of an Eulerian spectrum is dominant in given dispersion application.

Most investigators use a minimum Re requirement, i.e., $Re = u_* z_o / \nu < 2.5$, where u_*, the friction velocity, and z_o, the roughness length, are derived from a log-linear fit to a measured mean velocity profile. The value 2.5 is an empirically determined constant. At Re below 2.5 it is observed that the mean velocity profiles in turbulent pipe flow lose similarity in shape and deviate from the universal curve of a rough wall turbulent boundary layer (Schlichting, 1968). For Re above 2.5 it is observed that the surface drag coefficient (and thus the normalized mean velocity profile) is invariant with respect to increasing Re. For Re between 0.11 and 2.5 the velocity profiles are characteristic of smooth wall turbulent boundary layers, and for values below 0.11 the growth of a laminar sublayer on the wall is observed to increase with decreasing Re.

Extrapolation of results from pipe flow measurements to flat plate boundary layers may cause a shift in the magnitude of the minimum Re requirement, but it is generally felt that this shift is small (Hinze, 1975 and Schlichting, 1968). Precise similarity in the universal form of mean wind shear may be necessary for invariance with respect to the surface drag coefficient, but this does not necessitate that precise similarity must exist for the invariance of passive dispersion. It is the distribution of turbulent velocities which has the greatest effect on dispersion. It is the mean wind shear, however, which generates the turbulent velocities. It is possible that the specification of a miniumum Re of 2.5 is overly conservative. The criteria, $Re > 2.5$, for example, is not applicable for flow over complex terrain or building clusters.

To define the lower limit of Re for which turbulent dispersion is invariant in a particular model setting, the investigator should perform several passive plume releases at decreasing wind speeds (decreasing Re). The source strength corrected concentration fields (see Section 2.2.1) of the Re invariant plumes will all display a similar structure. The minimum acceptable Re is the lower limit of this class of similar plumes. At Re below this value the proper portion of the spectral energy distribution is not simulated.

Halitsky (1969) reported such tests performed for dispersion in the vicinity of a cube placed in a near uniform flow field. He found that for Re invariance of the concentration distributions over the cube surface and downwind the Re magnitude (based on H, the height of the cube and u_H, the velocity at H) must exceed 11,000.

2.2 PHYSICAL MODEL OF PLUME MOTION

In addition to modeling the turbulent structure of the atmosphere in the vicinity of a test site it is necessary to properly scale the plume source conditions. One approach would be to follow the methodology used in Section 2.1, i.e., writing the conservation statements for the combined flow system followed by fractional analysis to find the governing parameters. An alternative approach, the one which will be used here, is that of similitude (Kline, 1965). The method of similitude obtains scaling parameters by reasoning that the mass ratios, force ratios, energy ratios, and property ratios should be equal for both model and prototype. When one considers the dynamics of gaseous plume behavior the following nondimensional parameters of importance are identified.*

$$\text{Mass Flux Ratio (M)} = \frac{\text{mass flow of plume}}{\text{effective mass flow of air}} = \frac{\rho_g W_g A_g}{\rho_a U_a A_a} = \left[\frac{\rho_s Q}{\rho_a U_a L^2}\right]_{@\ \text{source}}$$

$$\text{Momentum Flux Ratio (F)} = \frac{\text{inertia of plume}}{\text{effective inertia of air}} = \frac{\rho_g W_g^2 A_g}{\rho_a U_a^2 A_a} = \left[\frac{\rho_s Q^2}{\rho_a U_a^2 L^4}\right]_{@\ \text{source}}$$

$$\begin{array}{l}\text{Densimetric Froude}\\ \text{No. relative to the}\\ \text{inertia of air (Fr)}\end{array} = \frac{\text{effective inertia of air}}{\text{buoyancy of plume}} = \frac{\rho_a U_a^2 A_a}{g(\rho_g - \rho_a)V_g} = \left[\frac{U_a^2}{g\left(\frac{\rho_s - \rho_a}{\rho_a}\right)L}\right]_{@\ \text{source}}$$

$$\begin{array}{l}\text{Densimetric Froude No.}\\ \text{relative to inertia}\\ \text{of the plume } (Fr_s)\end{array} = \frac{\text{inertia of plume}}{\text{buoyancy of plume}} = \frac{\rho_g W_g^2 A_g}{g(\rho_g - \rho_a)V_g} = \left[\frac{Q^2}{g\left(\frac{\rho_s - \rho_a}{\rho_s}\right)L^5}\right]_{@\ \text{source}}$$

$$\text{Flux Froude No. } (\dot{F}r) = \frac{\text{momentum flux of air}}{\text{buoyancy momentum flux of plume}} = \frac{\rho_a U_a^2 A_a}{Qg(\rho_g - \rho_a)(L/U_a)} = \left[\frac{U_a^3 L}{Qg\left(\frac{\rho_s - \rho_a}{\rho_a}\right)}\right]_{@\ \text{source}}$$

$$\text{Volume Flux Ratio (V)} = \frac{\text{volume flow of plume}}{\text{effective volume flow of air}} = \frac{W_g A_g}{U_a A_a} = \left[\frac{Q}{U_a L^2}\right]_{@\ \text{source}}$$

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* The scaling of plume Reynolds number is also a significant parameter. Its effects are invariant over a large range. This makes it possible to accurately model its influence by maintaining model tests above a minimum plume Reynolds number requirement.

It is necessary to maintain equality of the plume's specific gravity, ρ_g/ρ_a, over the plume's entire lifetime to obtain simultaneous simulation of all of these parameters. Unfortunately a requirement for equality of the plume gas specific gravity leads to several complications in practice. These are:

1) Equality of the source gas specific gravity between a model and its atmospheric equivalent leads to a wind speed scaling of $u_m = (L_m/L_p)^{1/2} u_p$. For a significant range of atmospheric wind speeds this relationship leads to wind-tunnel speeds at which there is a possible loss of the Reynolds number invariance in the approach flow.

2) A thermal plume in the atmosphere is frequently simulated in the laboratory by an isothermal plume formed from a gas of appropriate molecular weight. Under certain situations of specific heat capacity mismatch, this practice will lead to a variation of the equality of plume density as the plume mixes with air.

It is important to examine each modeling situation and decide if an approximation to complete plume behavior may be employed without a significant loss in the similarity of the modeled plume structure.

2.2.1 Concentration Scaling Theory

Most plume studies measure the concentration magnitudes at distances far downwind from the source. In the limit as concentrations approach zero, the conventional concentration scaling laws for steady state plumes are appropriate. The form of this expression is:

$$K(x) = \chi U_H L^2 / (\frac{T_a}{T_s}) Q$$

where T_a and T_s are the temperatures of the ambient air and the source gas respectively. Q in this expression is the total source gas flow rate evaluated at source conditions. When modeling the plume at a reduced scale the function K(x) is determined by experimental measurements (usually in an isothermal setting where $T_a = T_s$). Provided that the proper similarity requirements were satisfied then the function K(x) will be equal for field and model plumes. The effects caused by volume flux ratio ($U_h L^2/Q$) distortion and source gas temperature differences between model and prototype are corrected for small concentrations by the expression. This technique is completely satisfactory in the limit as concentration approaches zero. When modeling plume concentration in the near field, such as is the case with moist air plumes from cooling towers, this relationship is not satisfactory. The problems lie in the asymptotic behavior as the concentration, χ, approaches one. $K(0) = U_H L^2/(\frac{T_a}{T_s})Q$ indicates that K is not a function of the downwind position, x, alone. It is a function of both x and $U_H L^2/(\frac{T_a}{T_s})Q$. To alleviate these problems the following generalized concentration scaling methodology was formulated.

Figure 3 will aid in understanding the derivation of this generalized concentration scaling methodology. Continuity of total molar flow rate of source gas at the source (Section A-A) and at some downwind cross-sectional area (Section B-B) requires that

$$\dot{n}_s = \int_{B-B} \dot{n}_s'' \, dB \ .$$

where $\dot{n}_s$ is the total molar flow rate of source gas and $\dot{n}_s''$ is the molar flux of source gas through some differential area dB. Definition of molar concentration X requires that

$$X = \frac{\dot{n}_s''}{\dot{n}_s'' + \dot{n}_a''} \ .$$

Rearranging this expression to $\dot{n}_s'' = (\frac{X}{1-X})\dot{n}_a$ and substituting it into the integral expression for $\dot{n}_s$ yields

$$\dot{n}_s = \int_{B-B} (\frac{X}{1-X}) \dot{n}_a'' \, dB \ .$$

The mean value theorem of integral calculus allows one to rewrite the equation as

$$\dot{n}_s = \frac{X(\xi,\eta)}{1 - X(\xi,\eta)} \int_{B-B} \dot{n}_a'' \, dB \ ,$$

where $X(\xi,\eta)$ is the value of X at some point, (ξ,η) on the surface B-B. The total molar flow rate of air across the entire plume boundary up to Section B-B (Surface σ) and the molar flow rate of air through Section B-B are equal; hence,

$$\dot{n}_s = \frac{X(\xi,\eta)}{1-X(\xi,\eta)} \int_{\sigma} \dot{n}_a'' \, d\sigma \ .$$

Let $\dot{n}_s = \frac{pQ}{\bar{R}T_s}$ and $\dot{n}_a'' = \frac{pu_e}{\bar{R}T_a}$ where u_e is the entrainment velocity of air across the boundary σ. Dividing the entire equation by $\frac{X}{1-X}$,

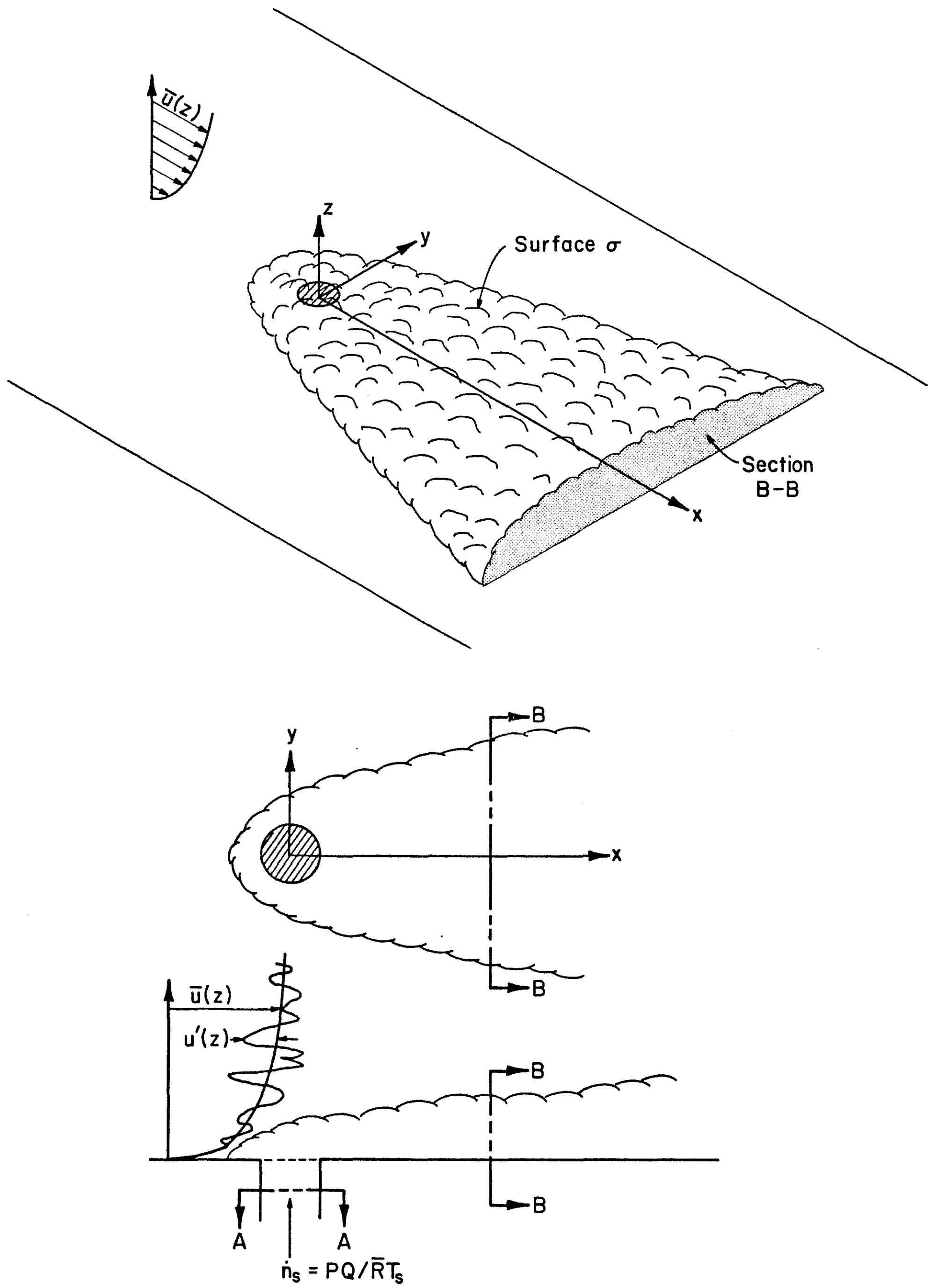


Figure 3. Notation Definition Diagram for Concentration Scaling Theory Derivation

where χ is evaluated at the point of interest on the Surface B-B, say $\chi_{\mathfrak{L}}$ and rearranging the equation cancelling constant quantities such as $\bar{R}$ p and yields

$$\left(\frac{T_s}{T_a}\right)\left(\frac{\chi_{\mathfrak{L}}}{1-\chi_{\mathfrak{L}}}\right)\frac{\int_\sigma u_e d\sigma}{Q} = \frac{\chi_{\mathfrak{L}}/(1-\chi_{\mathfrak{L}})}{(\xi,\eta)/(1-\chi(\xi,\eta)} \quad .$$

The expression on the right side of this equation is a function of the profile at the Section B-B; thus, it is a function of downwind position position, x, only. Provided that two plumes satisfy the proper similarity requirements

$$\left(\text{i.e. } \frac{(u_e)_m}{(u_e)_p} = \frac{(u_H)_m}{(u_H)_p} \text{ or } (u_e \sim u_H),\ \sigma_m/\sigma_p = L_m^2/L_p^2 \text{ (or } \sigma \sim L^2)\right),$$

the concentration profiles will have the same form. Utilizing these factors, the final form of a concentration scaling law that relates the concentration distributions in plumes that are physically similar is

$$\left(\frac{T_s}{T_a}\right)\left(\frac{\chi}{1-\chi}\right)\frac{u_H L^2}{Q} = K(x) \quad .$$

Some observations on the utility of this expression are summarized below:

- As concentration, χ approaches zero this expression approaches the conventional definition.
- Note that the quantity $u_H L^2/Q$ is the inverse of the Volume Flux Ratio; thus this expression corrects the entire concentration field for distortions in the similarity of this parameter as specified by some enhanced simulation techniques.
- The quantity T_s/T_a corrects for the fact that concentrations measured at spacially similar points will be different for a thermal plume than for an isothermal plume.
- The function K(x) can be viewed quite simply in the following format

$$K(x) = \frac{\dot{n}_a/\dot{n}_s}{\dot{n}_a''/\dot{n}_s''} .$$

  Thus it is the ratio of the quantity $\dot{n}_a/\dot{n}_s$ evaluated for the entire plume to that same quantity evaluated at a single point within the plume.

- Given the equality of $K(x)_m = K(x)_p$ then a convenient formula for the conversion from a modeled concentration to a prototype concentration is given by

$$\chi_p = \frac{\chi_m}{\chi_m + (1-\chi_m)\left[\left(\frac{T_a}{T_s}\right)V\right]_m / \left[\left(\frac{T_a}{T_s}\right)V\right]_p} , \text{ where } V = \frac{Q}{u_H L^2}$$

  For reciprocal conversion from prototype to model simple exchange the m's and p's.

• If the indeterminant behavior of this formulation of K(x) as $\chi \to 1$ is bothersome note that by the transformation $K'(x)=\frac{K(x)}{K(x)+1}$ this problem is allevated.

$$K'(x) = \frac{\chi}{\chi + (1-\chi)\left[\left(\frac{T_a}{T_s}\right) \frac{Q}{u_H L^2}\right]}$$

This new function K'(x) has the convenient property that as $\chi \to 0$, $K'(x) \to 0$ and as $\chi \to 1$, $K'(x) \to 1$.

It is reemphasized that K(x) is only a universal function for plumes that are similar in both entrainment physics and normalized concentration variation in downwind plume cross-sections. All passive plumes in the absence of wake effects and significant initial momentum meet these conditions; hence, K(x) should be a universal function for passive plume dispersion. Measurements on plumes of this type have universally confirmed such correlations. As the source and near field factors such as initial momentum, building wakes, and buoyancy effects become more dominant than the background flow in determining the entrainment physics and plume profiles, the universal character of K(x) is lost.

3.0 DATA ACQUISITION AND ANALYSIS

Laboratory measurement techniques are discussed in this section, along with conversion methods which provide a basis for interpretation of model data in terms of field equivalent quantities. Some of the methods used are conventional and need little elaboration.

3.1 WIND-TUNNEL FACILITIES

The experiments were performed in the Meteorological Wind Tunnel (MWT) shown in Figure 4. This wind tunnel, especially designed to study atmospheric flow phenomena, incorpoates special features such as an adjustable ceiling, a rotating turntable, temperature controlled boundary walls, and a long test section to permit adequate reproduction of micrometeorological behavior. Mean wind speeds of 0.2 to 36 m/sec in the MWT can be obtained. Boundary-layer thickness up to 1.2 m can be developed "naturally" over the downstream 12 m of the MWT test section. Thermal stratification in the MWT is provided by the heating and cooling systems in the section passage and the test section floor. The flexible test section on the MWT roof is adjustable in height to permit the longitudinal pressure gradient to be set at zero.

During the neutral stability test series the following test section modifications were employed:

- A perforated plate was placed across the entrance of the tunnel test section to improve low speed tunnel control.
- One centimeter high link chains were placed across the entire test section floor to insure the proper upwind roughness condition.

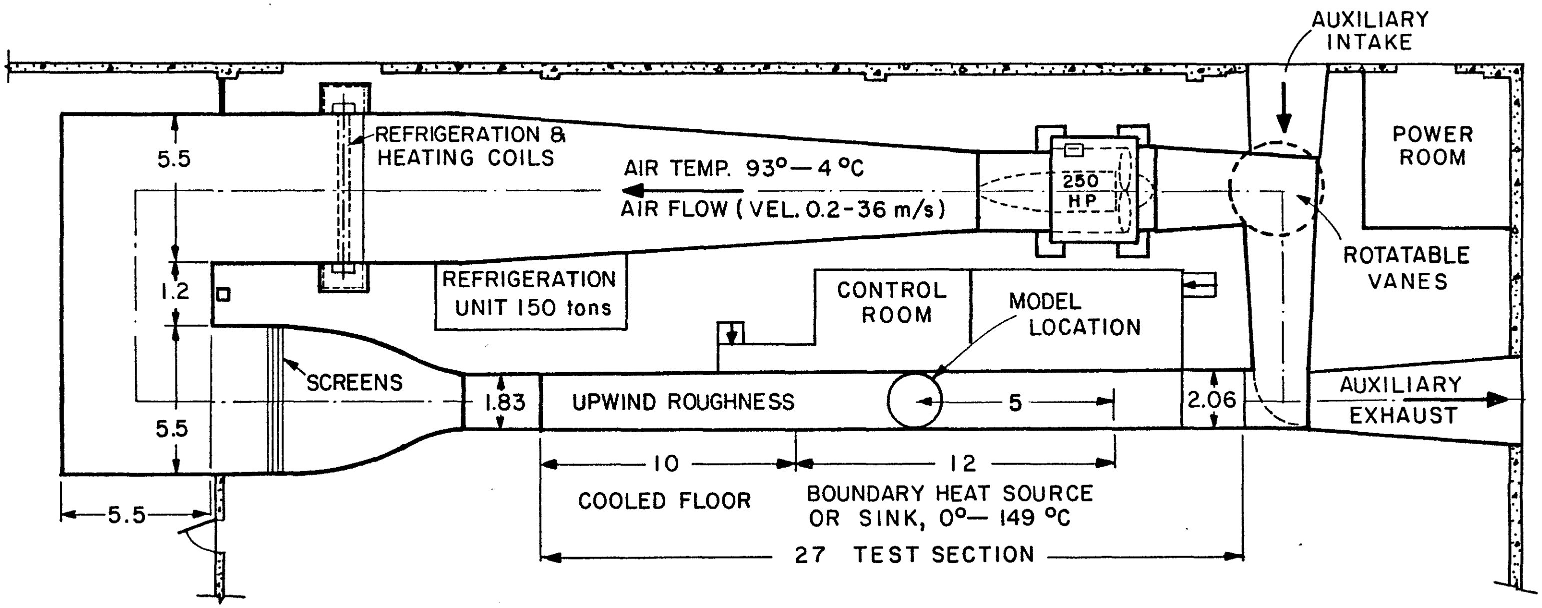


Figure 4. Meteorologicl Wind Tunnel

- Four one-meter-high vortex generators were evenly spaced across the test section's entrance to give the simulated boundary layer on initial impulse for growth.
- The air flow and wall boundary temperatures were maintained at an isothermal condition of 22° C.
- The power plant model was placed 17 m downwind of the test section entrance to permit an equilibrium boundary layer to develop.

During the stably-stratified test series the following test section modifications were employed:

- The perforated plate was removed.
- Two set of honeycomb flow straighteners were placed at the test section entrance and one set was placed at the test section exit.
- The chains were removed from the floor.
- The vortex generator was removed.
- The tunnel floor temperature was maintained at an appropriate constant value below that of the incoming air over the entire test section length of 22 meters.

During the unstably stratified test series the following test section modifications were employed:

- The perforated, chains, and votex generators were not present.
- One set of honeycomb flow straighteners were placed at the test section entrance; another set was placed at the start of the heated floor plates, 10 meters from the test section entrance; and a third set was placed at the test section exit.

- The tunnels floor temperature was maintained at an appropriate constant value abovethat ofthe incomingair overthe last12 meters of the test section.

honeycomb to permit an equilibrium boundary layer to develop.

3.2 WIND AND TEMPERATURE PROFILE MEASUREMENTS

During neutrally stable flow velocity profile measurements, reference wind speed conditions, and turbulence measurements were obtained with a Thermo-Systems, Inc. (TSI) 1050 anemometer and a TSI model 1210 hot-film probe.

During the stable and unstable flows a Datametrics thermally compensated velocity probe was used. This probe was calibrated by placing it at the side of a previously calibrate TSI model 1210 probe in a low turbulence, isothermal wind tunnel.

The velocity standard used in the present study consisted of a Matheson model 8116-0154 mass flowmeter, a Yellowsprings thermistor, and a profile conditioning section designed and calibrated by the FDDL staff at CSU. The mass flowmeter measures mass flow rate independent of temperature at the exit conditions, and the profile conditioning section forms a flat velocity profile of very low tubulence at the position where the probe is located. Incorporating a measurement of the ambient atmospheric pressure and a small profile correction factor permits the calibration of velocity at the measurement station from 0.1-2.0 m/s ± 20 percent or ± 5.0 cm/s., whichever is smaller. During calibration of the single film probe anemometer voltage values over the velocity range of interest were fit to a King's law expression (Sandborn, 1972) with a variable exponent. The accuracy of this technique is approximately ± 2 percent of the actual longitudinal velocity.

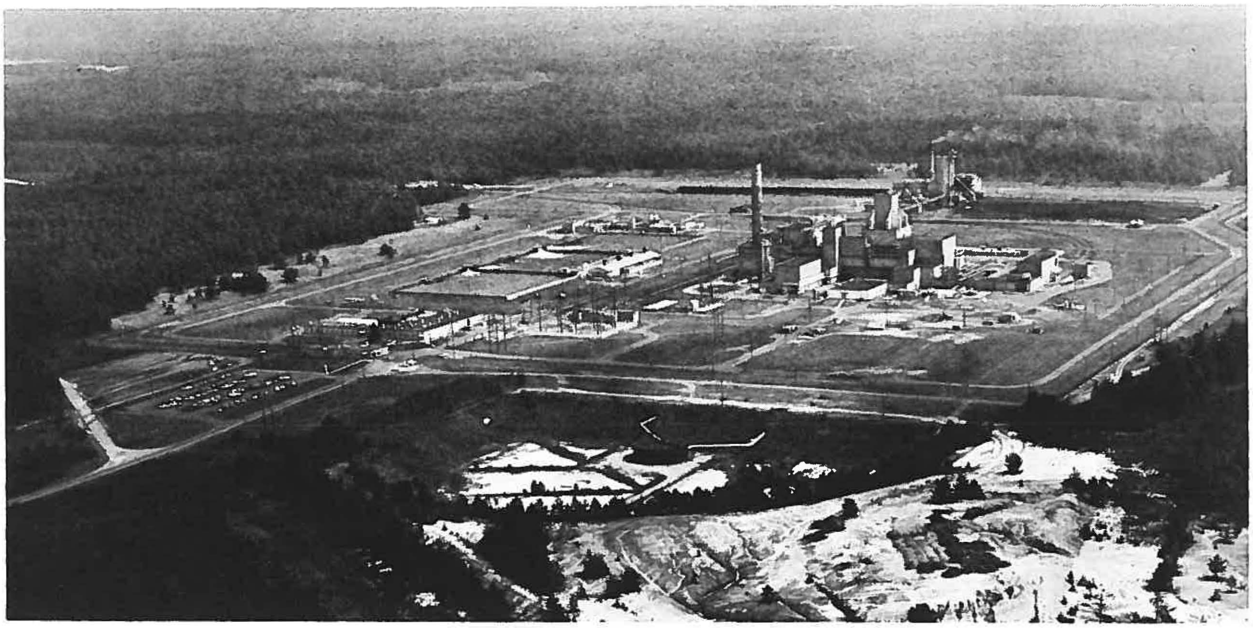
Temperature profiles were obtained from a fixed-vertical rake of copper-constantant thermocouples. An Omega Model DSS-199 Digital Thermometer was used to monitor these ten thermocouples positioned at 0.5, 1, 2.5, 5, 7.5, 10, 15, 25, 35 and 45 cm above the floor upwind of the model.

3.3 POWER PLANT MODEL

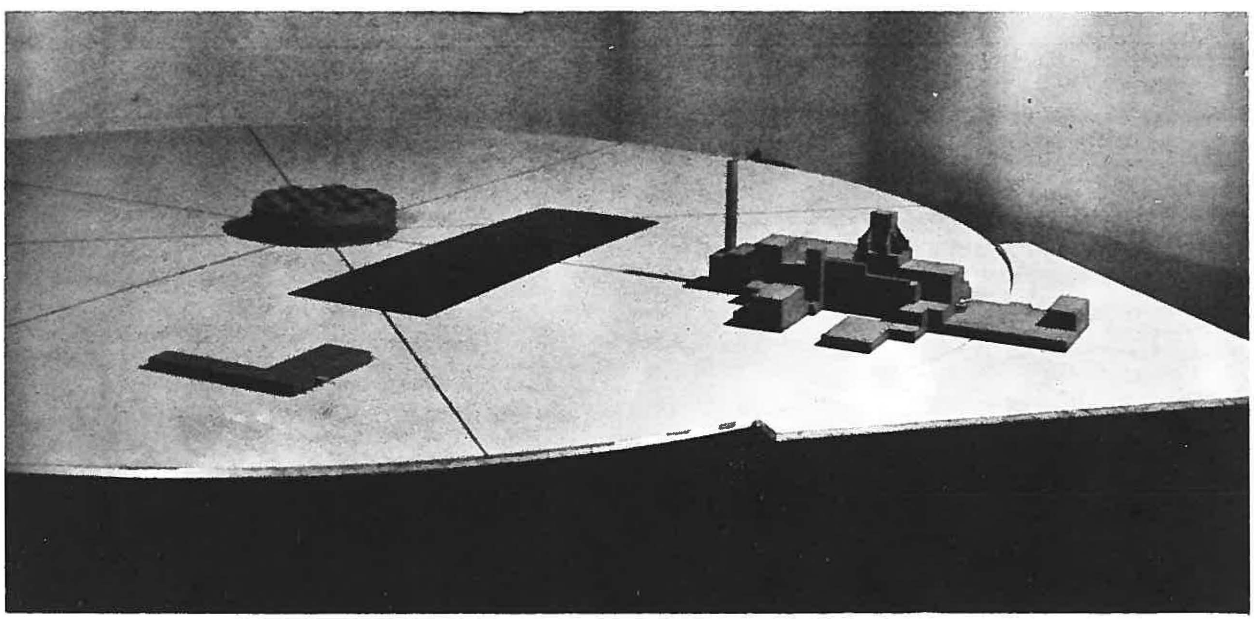
In order to reproduce the cooling tower plume dispersion process at the Savannah River site in the MWT, a model to field length scale ratio of 1:400 used. The cooling tower modeled was a large diameter (~76 m) cylinder which housed twelve mechanical draft fans. The air intake was along the circumferential base of the large housing cylinder. The cooling tower model was built from plexiglas and brass tubing (see Figure 5). The cooling tower plume delivery system was designed to produce equal flow from each fan exit port.

The model cooling tower air intake was simulated by constructing the lower circumferential housing wall from fine mesh stainless steel screen. A vacuum pump pulled air from the hollow cooling tower base to produce an intake air flow. This base was separated into four sectors to assure an even distribution of air withdrawal. In each of these four sectors, a concentration sampling part was present.

The model of the reactor building and plant stack was also made from plexiglas and brass tubing (see Figure 5). Six different concentration sampling ports and the stack gas delivery path were drilled through the solid interior of this building, and connections for 2 mm



Actual



Model

Figure 5. Savannah River Power Plant

diameter Tygon[R] tubing were placed at the far end of the building from the stack.

An office complex was made from plexiglass blocks, and three concentration sampling ports were drilled through the complex interior.

In addition to the thirteen concentration sampling ports on these three model buildings, thirty-five additional sample positions were located downwind of the plant complex. Figure 6 shows the near field layout of these sensors, and Table 5 list the actual coordinates of all positions.

To change the wind direction between the different tests, the plant complex and office building were rotated about the cooling tower placed at the center of the wind tunnel.

The model plume's specific gravity was isothermally adjusted to be equivalent to the prototypes plume specific gravity of 0.896. The model plume consisted of 91% N_2 , 8% He and 1% CH_4. These gases were mixed in their proper proportion into a 350 liter high pressure cylinder and then released through a two stage regulator and metered by a Fischer-Porter flow rator into the model cooling tower delivery system.

The stack plume specific gravity was ~1.0; thus, a neutrally buoyant gas mixture of 85.2% N_2, 10% C_2H_6 and 4.8% CO_2 was used as a stack simulant.

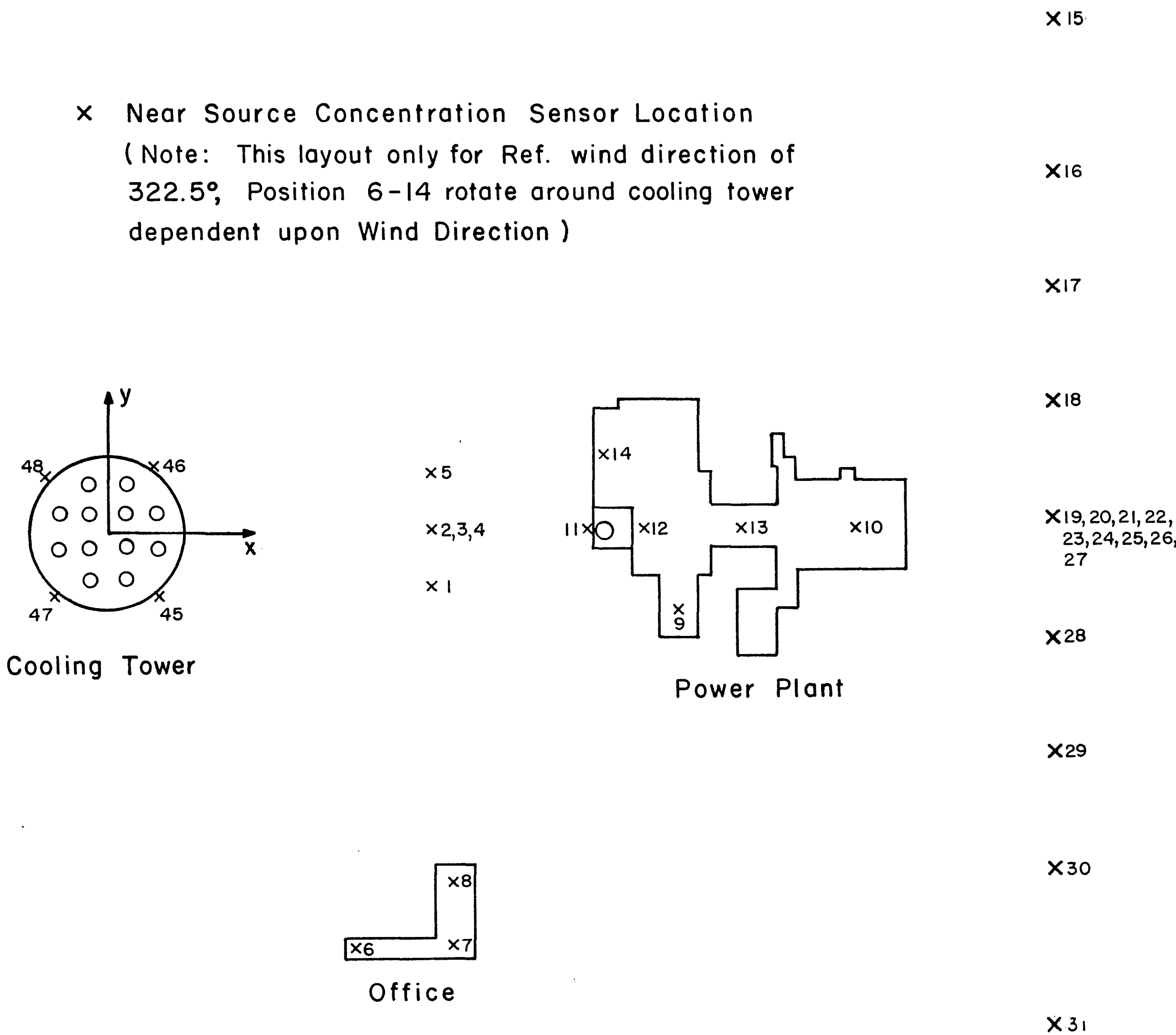


Figure 6. Near Field Concentration Sensor Locations

3.4 FLOW VISUALIZATION TECHNIQUES

A visible cooling tower plume was produced by passing the simulate gas through an oil smoke generator (Fog/Smoke Machine manufactured by Roscolab, Ltd.). A visible stack plume was produced by placing a cotton swap soaked in titanium tetrachloride in the exit of the model stack. A fine white suspension of titanium dioxide was produced when the stack-gas simulate flowed through the swab. A visible record was obtained from pictures taken with a Speed Graphic camera using Polaroid film for immediate examination. In addition, color slides were taken with a 35 mm camera and motion pictures were recorded on VHS video cassettes.

3.5 CONCENTRATION MEASUREMENTS

The experimental measurements of concentration were performed using gas-chromatograph and sampling systems designed by Fluid Dynamics and Diffusion Laboratory staff.

3.5.1 Gas Chromatograph

A gas chromatograph (Hewlett-Packard Model 5710A) (GC) with flame ionization detector (FID) operates on the principle that the electrical conductivity of a gas is directly proportional to the concentration of charge particles within the gas. The ions in this case are formed by the burning a mixture of hydrogen and the sample gas in the FID. The ions and electrons formed enter an electrode gap and decrease the gap resistance. The resulting voltage drop is amplified by an electrometer and fed to the HP 3390A integrator. When no effluent gas is flowing, a carrier gas (nitrogen) flows through the FID. Due to certain impurities in the carrier, some ions and electrons are formed creating a background voltage or zero shift. When the effluent gas enters the FID, the voltage increase above this zero shift is proportional to the degree of ionization or correspondingly the amount of tracer gas present. Since the chromatograph used in this study features a temperature control on the flame and electrometer, there is very low drift of the zero shift. In case of any zero drift, the HP 3390A, which integrates the effluent peak, also subtracts out the zero drift.

The lower limit of measurement is imposed by the instrument sensitivity and the background concentration of tracer within the air in the wind tunnel. Background concentrations were measured and subtracted from all data quoted herein.

3.5.2 Sampling System

The tracer gas sampling system consists of a series of fifty 30 cc syringes mounted between two circular aluminum plates. A variable-speed motor raises a third plate, which lifts the plunger on all 50 syringes, simultaneously. A set of check valves and tubing are connected such that airflow from each tunnel sampling point passes over the top of each designated syringe. When the syringe plunger is raised, a sample from the tunnel is drawn into the syringe container. The sampling procedure consists of flushing (taking and expending a sample) the syringe three times after which the test sample is taken. The draw rate is variable and generally set to be approximately 6 cc/min.

The sampler was periodically calibrated to insure proper function of each of the check valves and tubing assemblies. To calibrate the sampler each intake was connected to a manifold. The manifold, in turn, was connected to a gas cylinder having a known concentration of tracer gas. The gas was turned on, and a valve on the manifold was opened to release the pressure produced in the manifold. The manifold was allowed to flush for about one minute. Normal sampling procedures were carried out during caibration to insure exactly the same procedure is reproduced as when taking a sample from the tunnel. Each sample was then analyzed for tracer gas concentration. Percent error was calculated, and "bad" samples (error > 2 percent) indicated a failure in the check valve assembly, and the check valve was replaced, or the bad syringe was not used for sampling from the tunnel.

3.5.3 Test Procedure

The test procedure consisted of: 1) setting the proper tunnel wind speed, 2) releasing the metered mixtures of source gas from the cooling tower and plant stack, 3) withdrawing samples of air from the tunnel designated locations, and 4) analyzing the samples with a FID. The samples were drawn into each syringe over a 300 s (approximate) time period and then consecutively injected into the GC.

The procedure for analyzing the samples from the tunnel is introduced into the GC which separates the methane and ethane tracers and then travels through the FID, 2) the voltage output from the electrometer is sent to the Hewlett-Packard 3390A Integrator, 3) the output signal for methane and ethane are integrated by the HP 3390A, 4) these values $(\mu\ v\text{-}s)_{mea.}$ along with the response levels for the background $(\mu\ v\text{-}s)_{bg}$ and source $(\mu\ v\text{-}s)_{source}$ are converted into source normalized concentration by the equation

$$X = \frac{X_{mea.} - X_{bg}}{X_{source} - X_{bg}} = \frac{(\mu v\text{-}s_{mea.} - (\mu v\text{-}s)_{bg}}{(\mu v\text{-}s)_{source} - (-\mu v\text{-}s)_{bg}}$$

4.0 TEST PROGRAM AND DATA

A 1:400 reduced scale model of the Savannah River L-reactor complex and proposed Markley-type cooling tower were constructed and placed in the Meteorological Wind Tunnel (MET) facility at Colorado State University. Three different simulated atmospheric stabilities and four different approach flow wind speeds were reproduced. The velocity and temperature profiles measured upwind of the model area are described in Section 4.1. Simulate gases were released from the power plant stack and the cooling tower. The downwind concentrations from each of these sources were measured at up to forty-eight spacial locations. The concentration measurement program and results are described in Section 4.2. The simulate gases were also tagged with smoke to make them visible, and photographs for each of the tests were obtained (see Section 4.3).

4.1 VELOCITY AND TEMPERATURE PROFILES

The techniques employed in the acquisition of upwind velocity and temperature information are discussed in Section 3.2. Scaling laboratory measurements up to those expected in the actual field situation is described in Appendix A. All flow and concentration values reported in this report have been scaled to prototype conditions. Table 1 lists the mean velocity, local longitudinal turbulent intensity, and temperature profiles (variation with height) for the neutral atmospheric wind speeds of 4, 6 and 8 meters/second at a 62 meter height. Table 2 lists the mean velocity and temperature profiles for the stable and unstable atmospheric stabilities at the reference wind speeds of 4 and 6 meters/second.

Figures 7 and 8 display the velocity and temperature profiles for the 4 and 6 m/s mean wind reference conditions, respectively. These velocity profiles demonstrate the effect that the temperature gradient has upon the transfer of momentum within the boundary layer. In the convective situation (unstable) the momentum of the free stream penetrates close to the ground due to the large vertical convective velocities generated by the thermal instability. In the stable situation, vertical motions are suppressed.

An analysis of selected neutral-stability mean wind profiles measured at the Savannah River T.V. Tower suggested that the apropriate value for the local roughness length, z_o, is 0.4 meters. This value compares well with the neutral stability simulated boundary layer measurements listed in Table 1.

4.2 CONCENTRATION DATA RESULTS

Techniques employed to obtain the concentration data are discussed in Section 3.5. Table 3 sumarizes the field test conditions for which concentration data was obtained (Table A1 summarizes the model test conditions). There were eight different wind directions tested for each stability-wind speed group. Four different reference mean wind speeds were tested for a neutrally stable condition (4,6,8, and 10 m/s at 62 m height). Two different reference mean wind speeds were tested for the stable and unstable atmospheric conditions (4 and 6 m/s at 62 m height). A total of 64 different approach flow conditions were examined. The cooling tower and plant stack release rates remained constant for all tests. Tables 5-1 through 5-64 lists the mean concentrations measured at up to 48 different locations for both the plant stack and cooling tower sources. The origin of the right-handed coodinate system used in these tables to specify sample locations is at ground level at the center of the cooling tower. The x direction is always in the mean wind

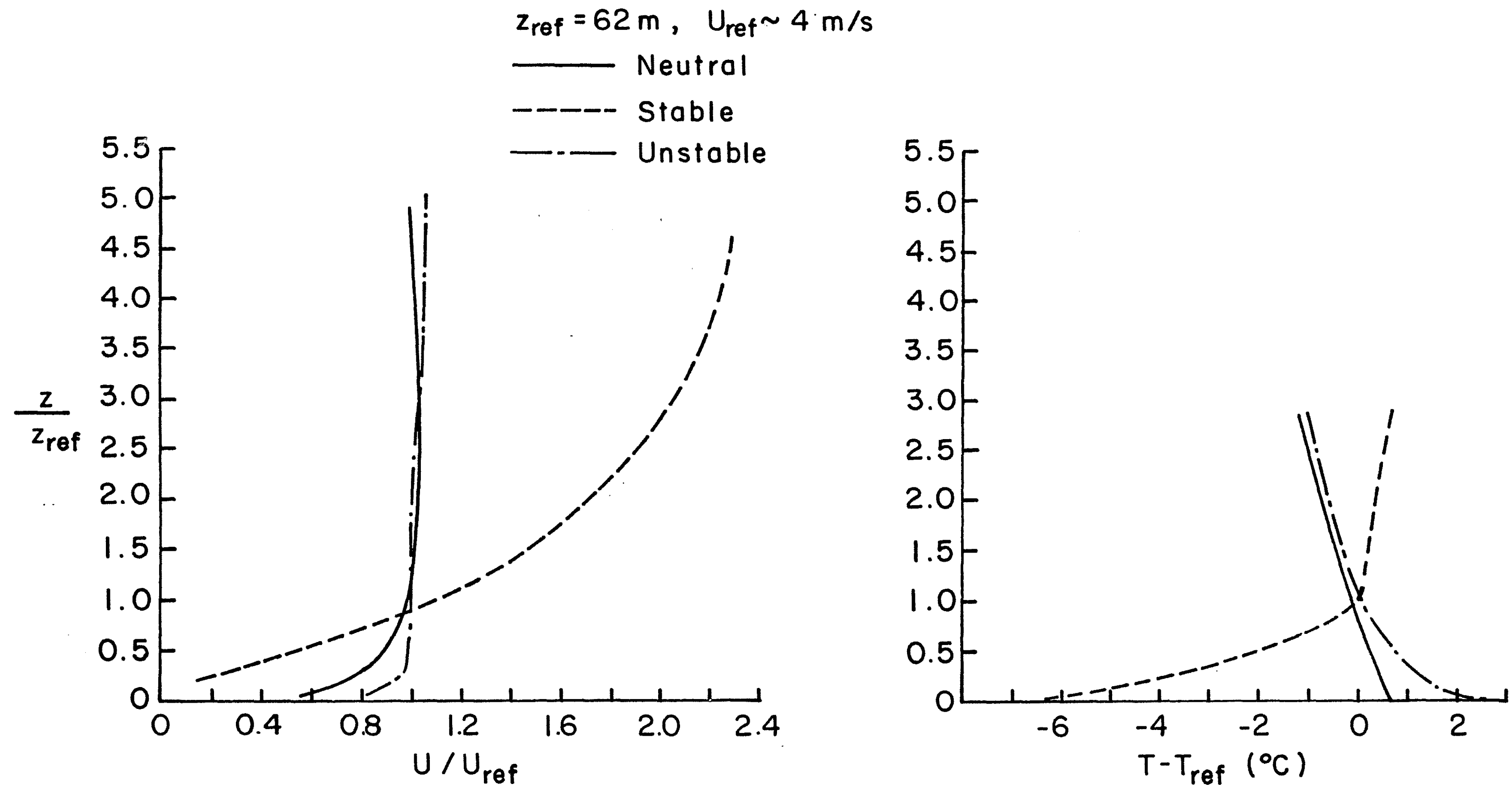


Figure 7. Velocity and Temperature Profiles; $U_{Ref} = 4$ m/s

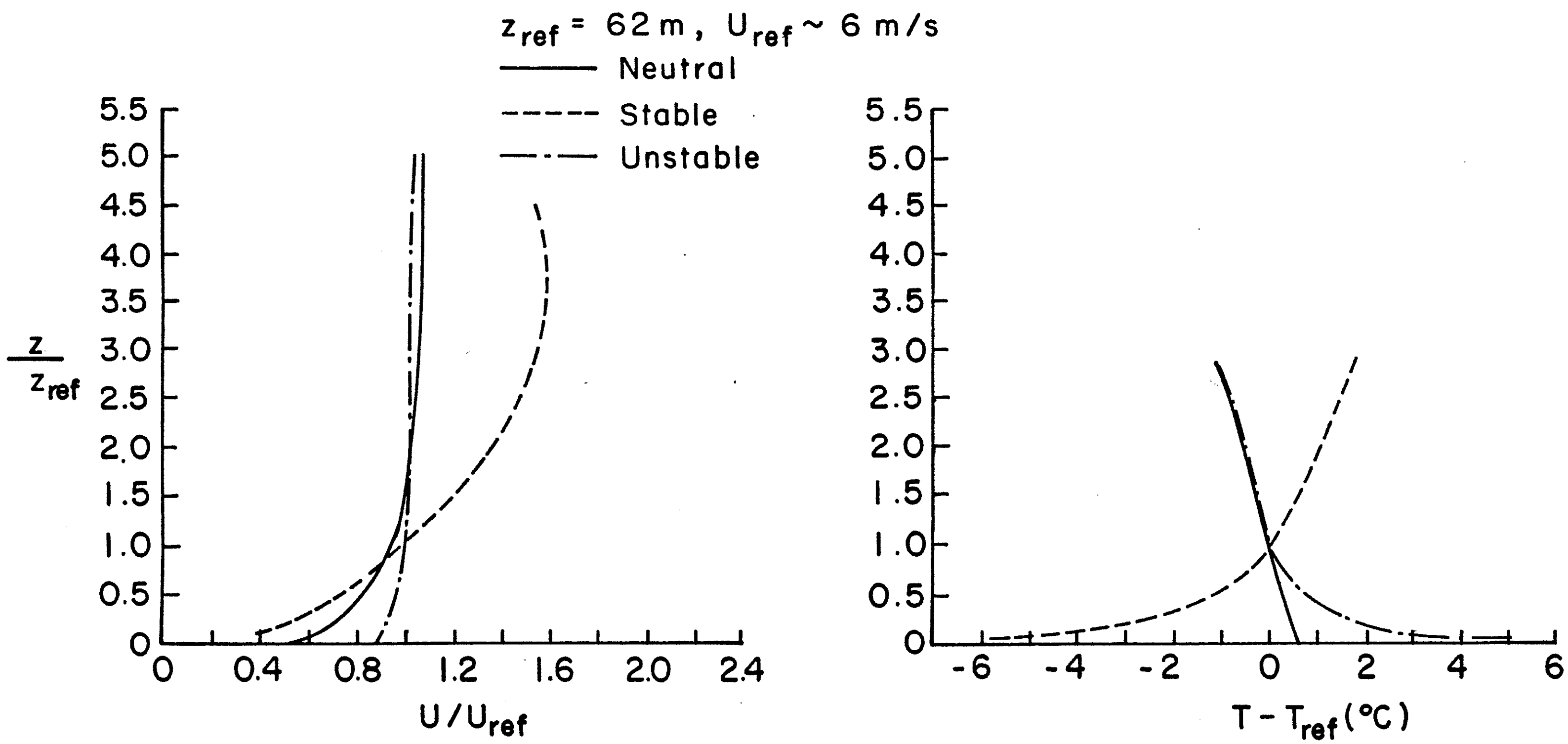


Figure 8. Velocity and Temperature Profiles; U_{Ref} = 6 m/s

direction, and z is the height above ground level, Figure 6 is helpful in visualizing the near field sample locations.

4.3 VISUAL PLUME RESULTS

Techniques employed to obtain a visual plume are discussed in Section 3.4. Three different still camera positions were used during the test program. Two of these camera positions are described in detail in Figures 9 and 10. The third camera position was inside the wind tunnel, and it was used only for the neutral stability test series. VHS video motion pictures were also taken during the test series. The TV camera was located near the camera position shown in Figure 10, but it was often moved around to record the entire plume behavior. Table 4 lists the different types of visual documentation for each of the 64 different tests.

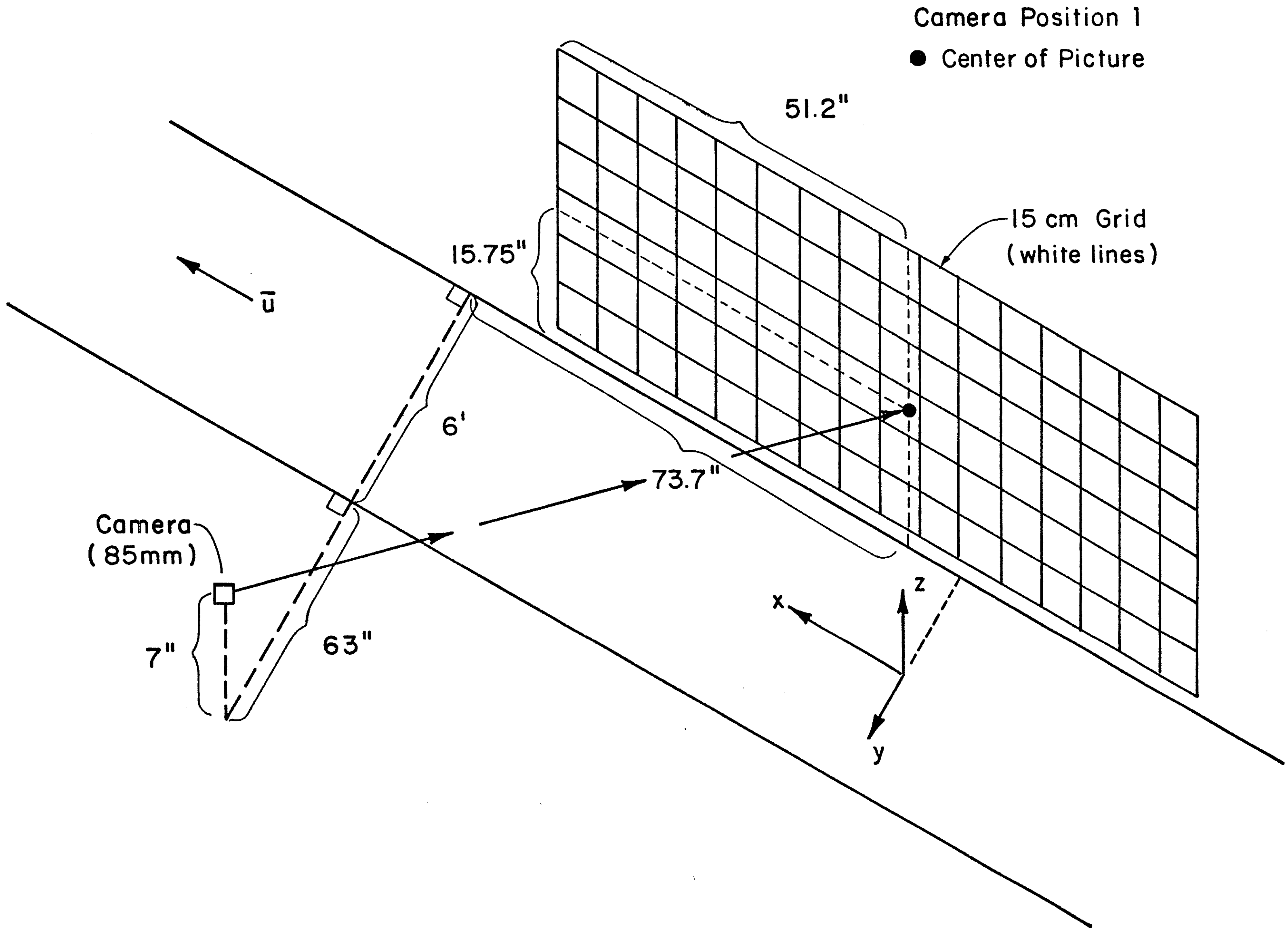


Figure 9. Location of Camera Position 1

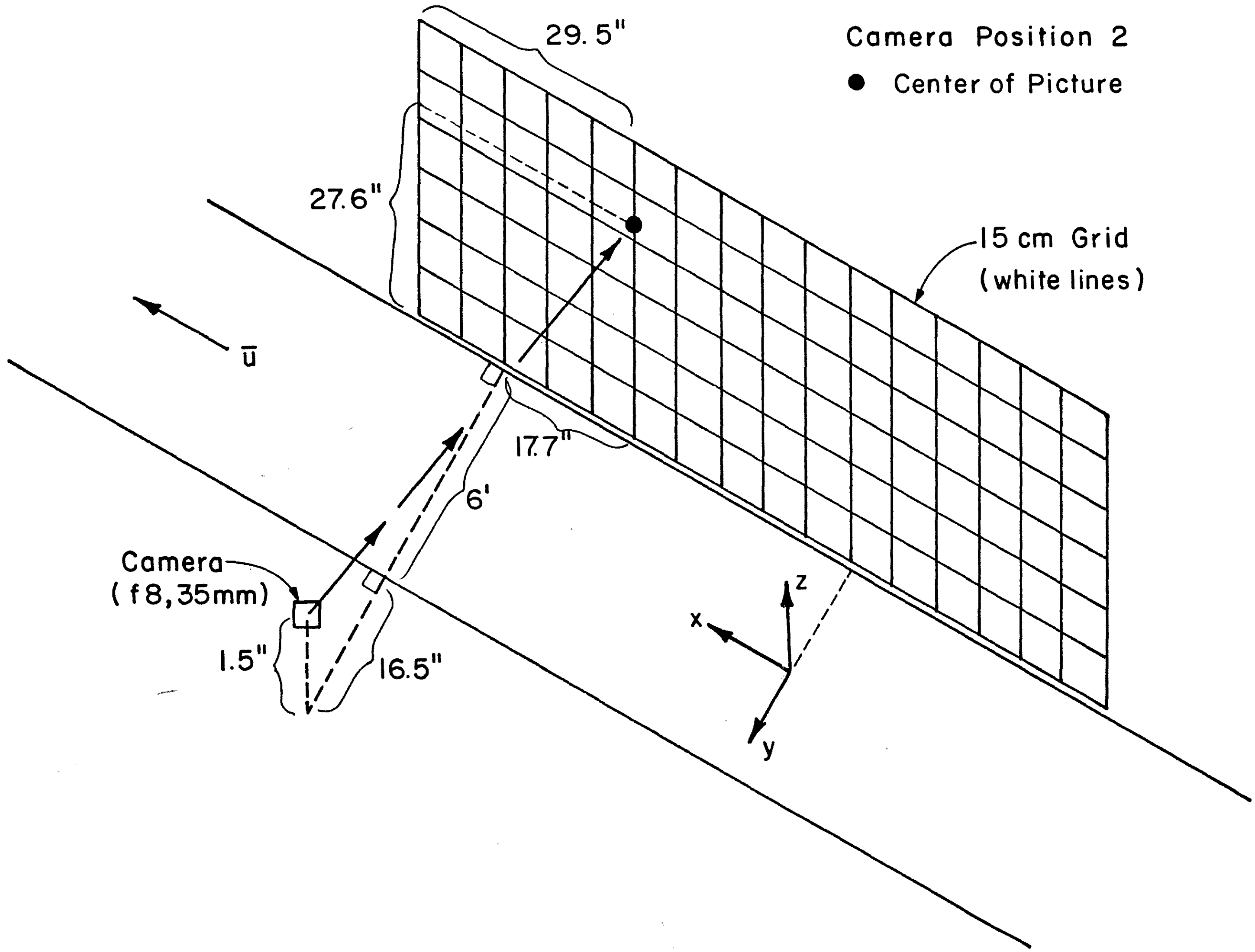


Figure 10. Location of Camera Position 2

5.0 DISCUSSION

Cooling tower and stack plume visual behavior are discussed in Section 5.1. Concentration distributions, vertical profiles, and surface isopleths are reviewed in Section 5.2.

5.1 VISUALIZATION RESULTS

During the visualization experiments, it was observed that the model cooling tower plume was internally very turbulent. This self-generated turbulence was dominate over the approach flow turbulence in the near field. The near field cooling tower plume structure was most strongly influenced by variation in the mean wind speed vertical distribution caused by changes in approach flow wind speed and stability. For unstable flow, (see Figures 7 and 8) at heights greater than the reference, the wind speed was very nearly constant; thus, the cooling-tower-plume momentum lofted high into the ambient air mass. For stable flow, (again, see Figures 7 and 8) at heights greater than the reference, the wind speed was much larger than that at the reference height; thus, the cooling tower plume was bent over abruptly, causing higher concentration at lower elevations when compared to the unstable condition, at the same reference velocity.

The visual experiments also showed that 1) the plume height decreased with increasing wind speed; 2) the cooling tower plume itself formed a large turbulent recirculation wake on its downwind side which re-entrained portions of the plume; 3) there was no noticeable recirculation of the plume through the tower intake ports, and 4) the plume shape was largely unaffected by wind direction (i.e., building orientation).

Visual observation of the model plant stack plume showed that the plume appearance was very sensitive to the approach flow turbulence level, i.e., very little vertical dispersion in stable flows, pronounced looping in unstable flows.

The exit momentum of the plume was insufficient to prevent stack downwash at the higher wind speeds tested.

When the stack was directly downwind of the cooling tower plume, it meandered vigorously as it interacted with the cooling tower wake.

When the stack was directly upwind of the cooling tower, the stack plume was drawn into the cooling towers counter-swirling vortex pattern. As the stack plume approached the cooling tower, some of its gases were clearly displaced downwind and drawn into the cooling towers intake vents.

It was observed during the visualization test series that the wind tunnel approach flow for the low wind speed (4 m/s) unstable tests (Runs 49 through 56) contained strong wind tunnel scale secondary flows. Stack height wind flow displayed wind shear to the right of downwind ($\sim 15^{o}$); however, this low level wind shear did not appear to influence the cooling tower plume motion.

5.2 CONCENTRATION RESULTS

Cooling tower plume surface concentrations increase regularly with increased wind speed and became maximum at about 512 m downwind of the tower (see Figure 11a).

Vertical profiles of the cooling tower plume for 4,6,8, and 10 m/s, when the plant complex is directly downwind, display a consistent pattern of plume rise variation with wind speed (Figure 11b). Note that in this figure that a comparison between the measured plume rise height and

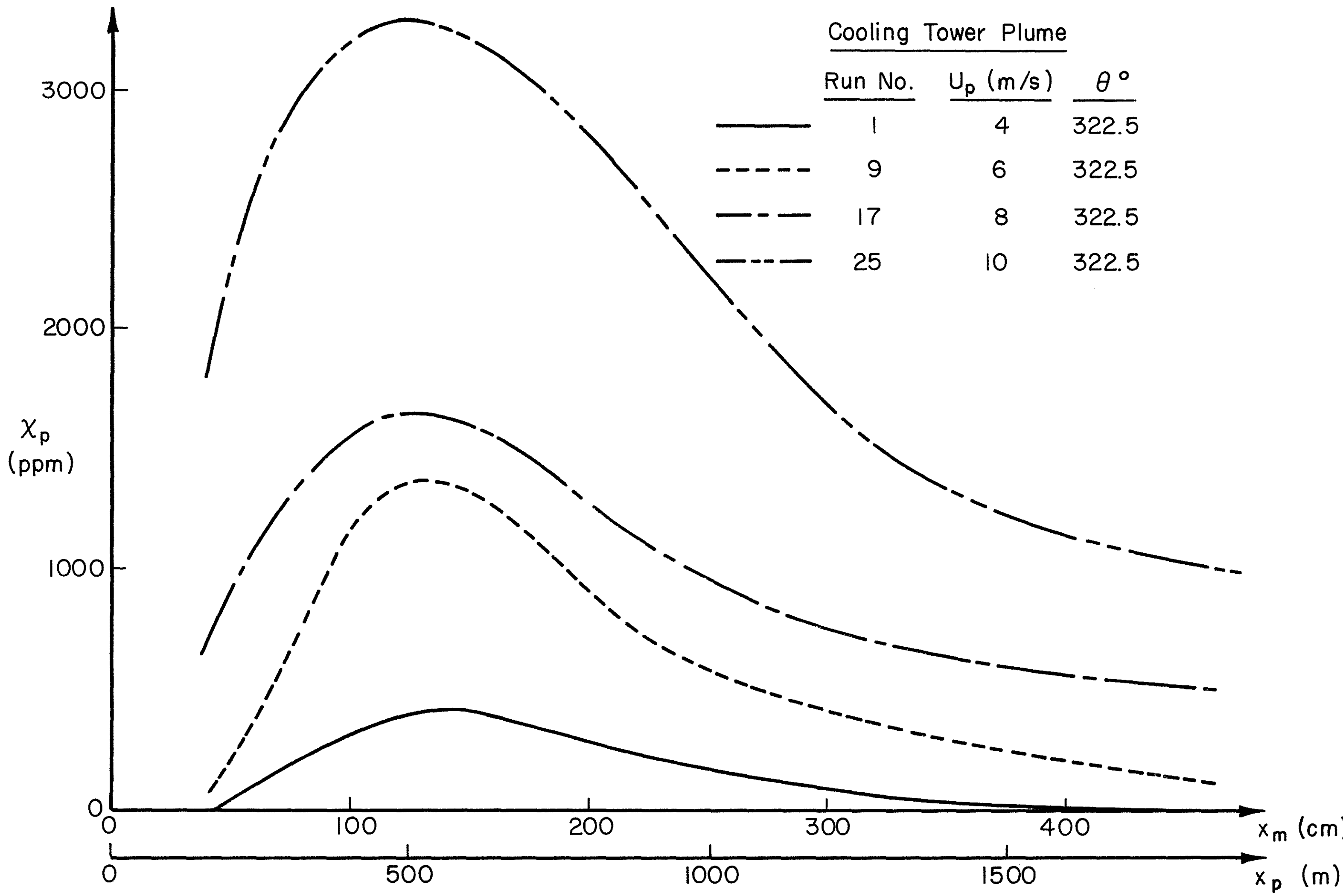


Figure 11a. Cooling Tower Surface Concentrations, $\theta = 322.5^{o}$, U_R = 4-10 m/s

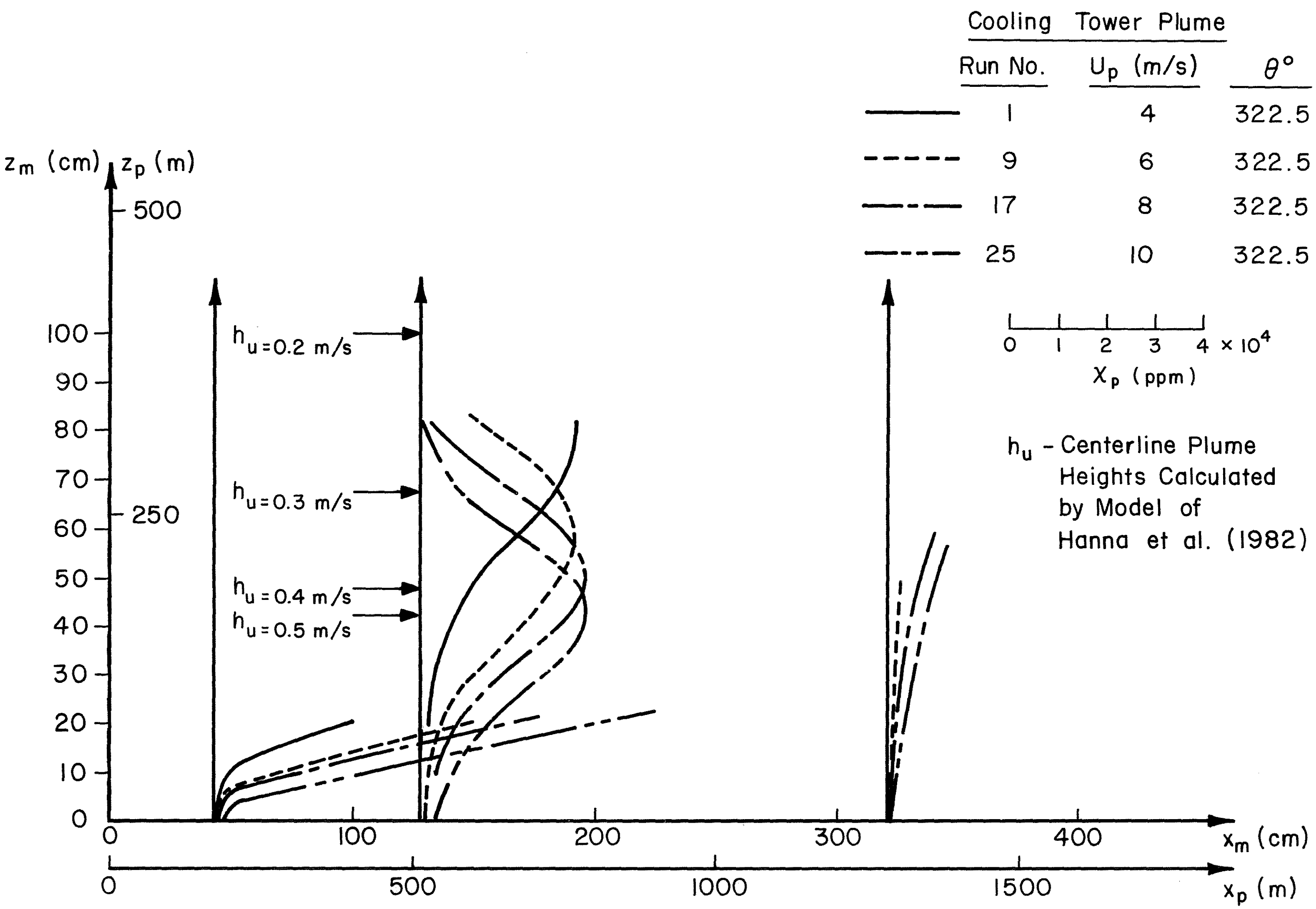


Figure 11b. Cooling Tower Vertical Concentration Profiles, $\theta = 322.5°$, $U_R = 4\text{–}10$ m/s

calculated from relations recommended by Hanna, et al. (1982) is quite close.

Surface concentrations from the facility stack are quite small (Figure 12a). Vertical concentration profiles display only a small variation in plume height as wind speed increases (Figure 12b). The plume has such small exit momentum that the effective stack height is at stack exit, and even slightly lower due to stack downwind.

Figures 13a and 13b consider cooling tower vertical plume concentrations for a wind speed of 6 m/s under different stratification conditions. Increased elevated peak concentrations were found under stable conditions and reduced concentrations under unstable conditions. Since the wind speed is nearly constant with height during unstable flow, the plume penetrates higher as well as mixes faster.

Figures 14a and 14b demonstrates that the wind direction does not have any major influences on the cooling tower plume structure. These figures show ground level concentration isopleths for wind directions where the plant complex is downwind of the tower and where the plant complex is out of the plume path. The plume is so large with respect to the building dimensions that any additional turbulence produced by the structures does not seem significant. Figures 15a thru 15c examine the maximum concentrations and plume heights observed at the 512 m vertical traverse. Consideration of various approach directions, speeds, and stratifications suggest that only when the building complex is directly downwind is there a consistent perturbation. When the buildings are directly downwind, conentration maximums decrease and plume height lowers slightly.

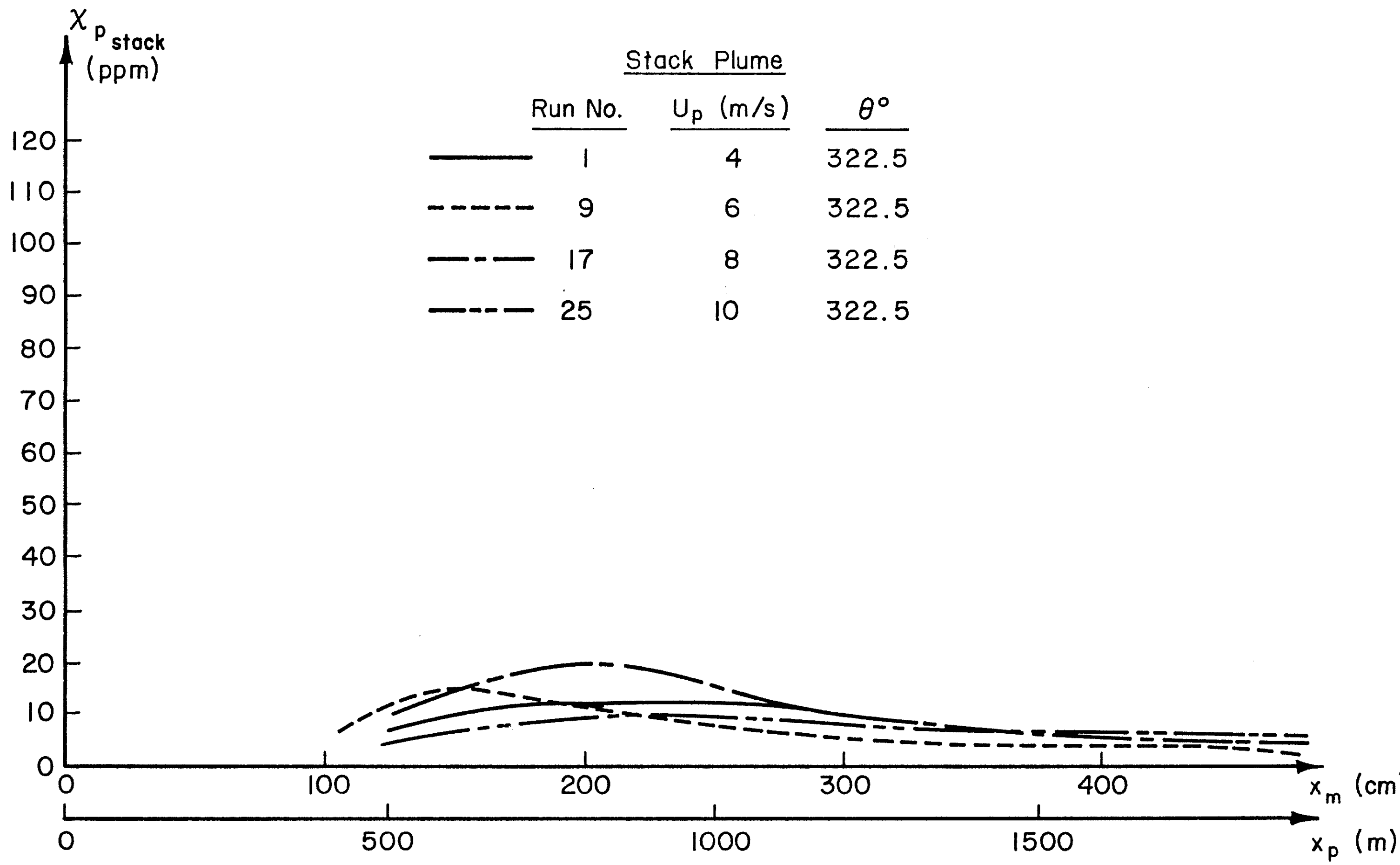


Figure 12a Stack Plume Surface Concentrations, $\Theta = 322.5^{\circ}$, U_R = 4-10 m/s

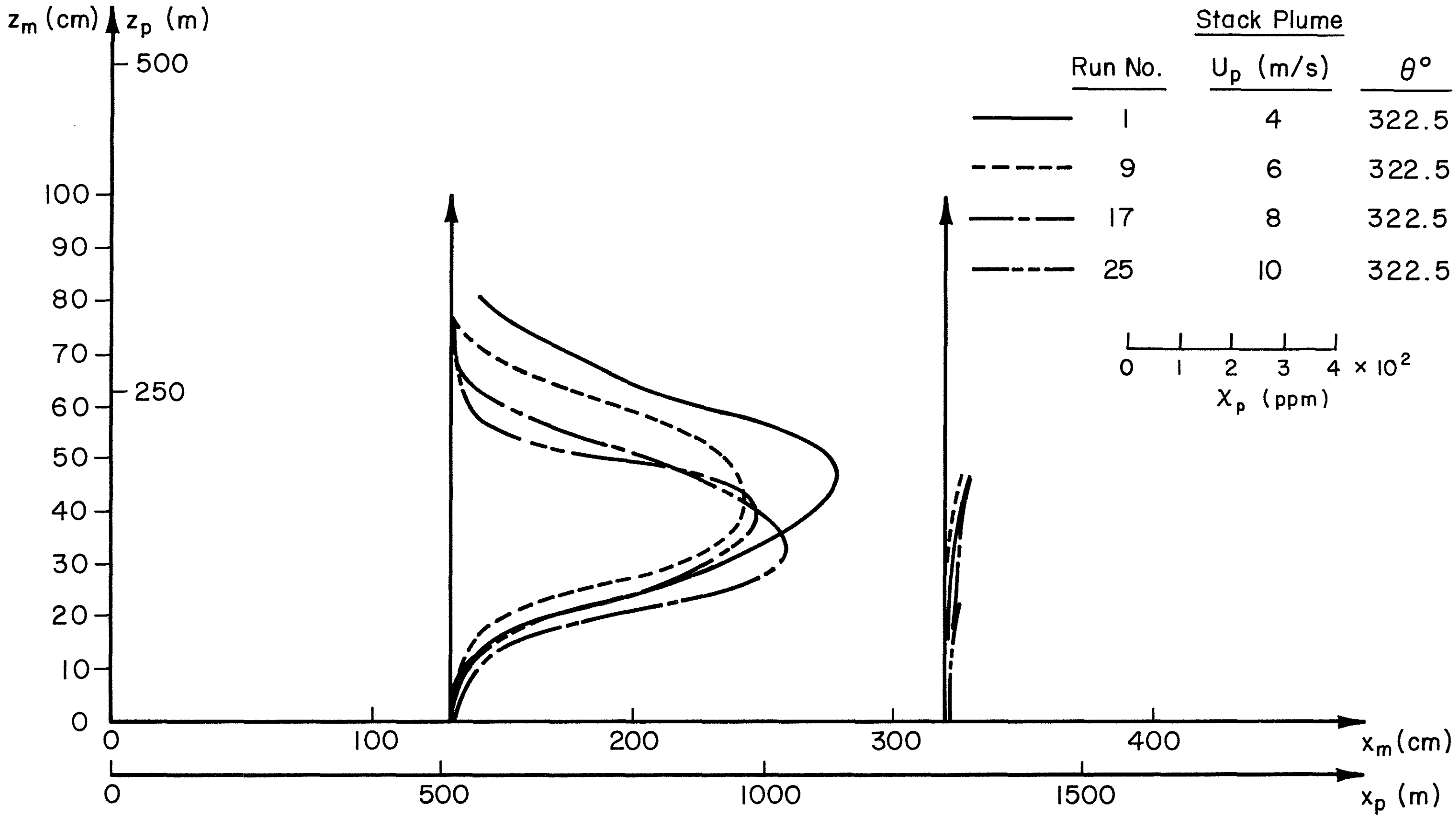


Figure 12b Stack Plume Vertical Concentration Profiles, $\Theta = 322.5^{o}$, U_R = 4–10 m/s

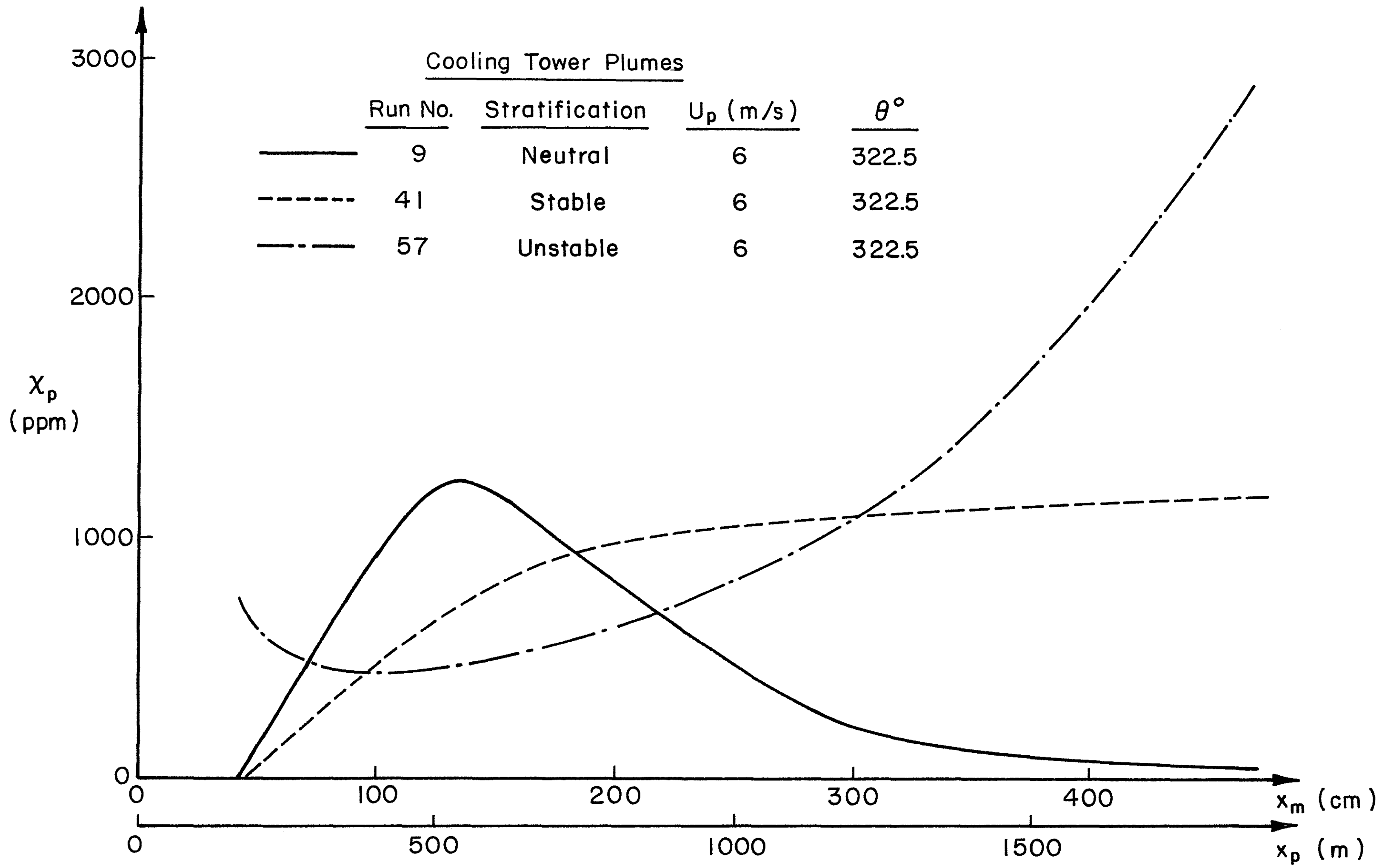


Figure 13a. Cooling Tower Surface Concentrations, $\theta = 322.5^{o}$, $U_R = 6$ m/s
Stratification Neutral, Stable, and Unstable

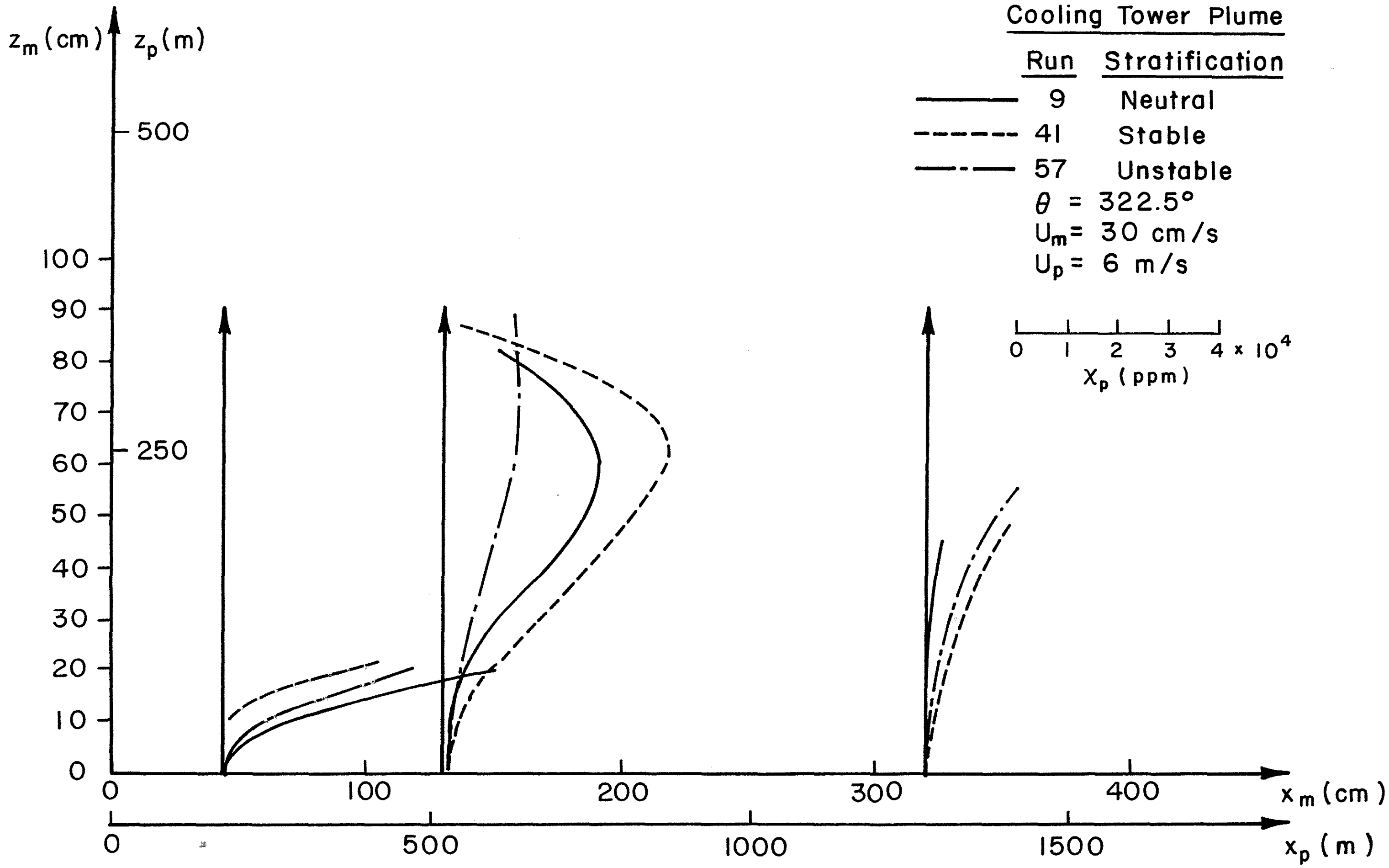


Figure 13b. Cooling Tower Vertical Concentration Profiles, Θ = 322.5°, U_R = 6 m/s
Stratification Neutral, Stable, and Unstable

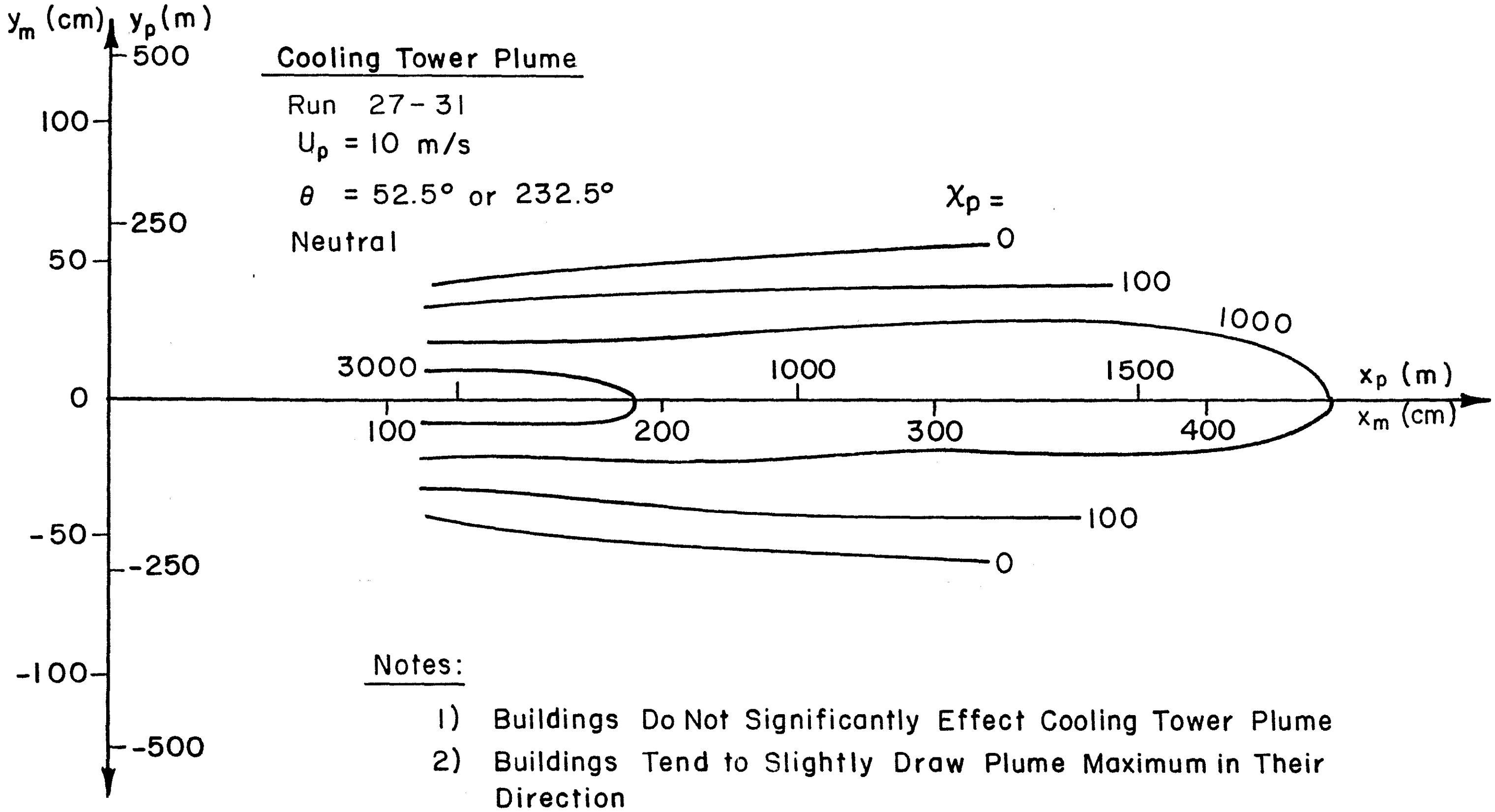


Figure 14a. Cooling Tower Surface Concentration Isopleths, $\theta = 52.5^{o}$ and 232.5^{o}
U_R = 10 m/s

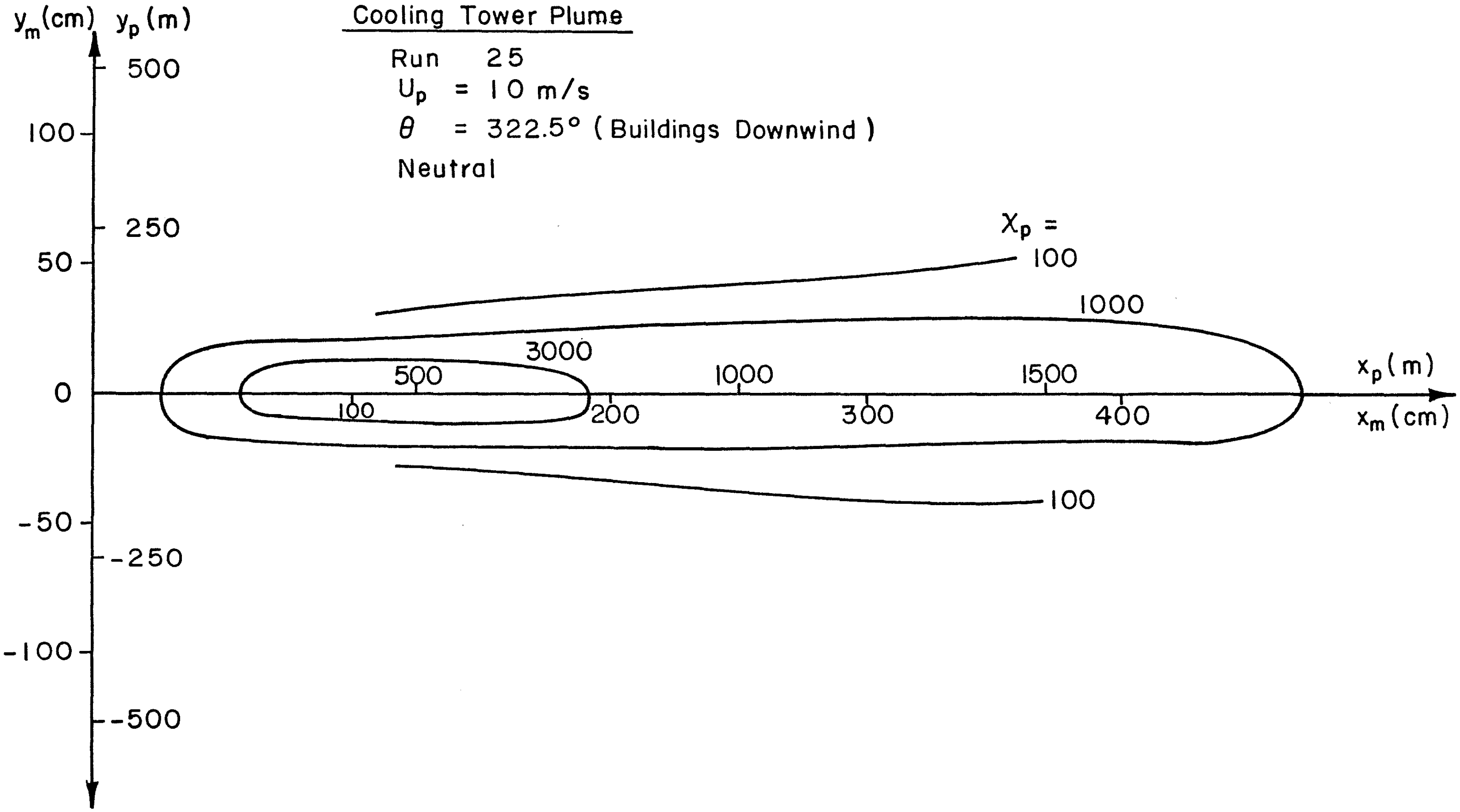


Figure 14b. Cooling Tower Surface Concentration Isopleths, $\theta = 322.5^{\circ}$, $U_r = 10$ m/s

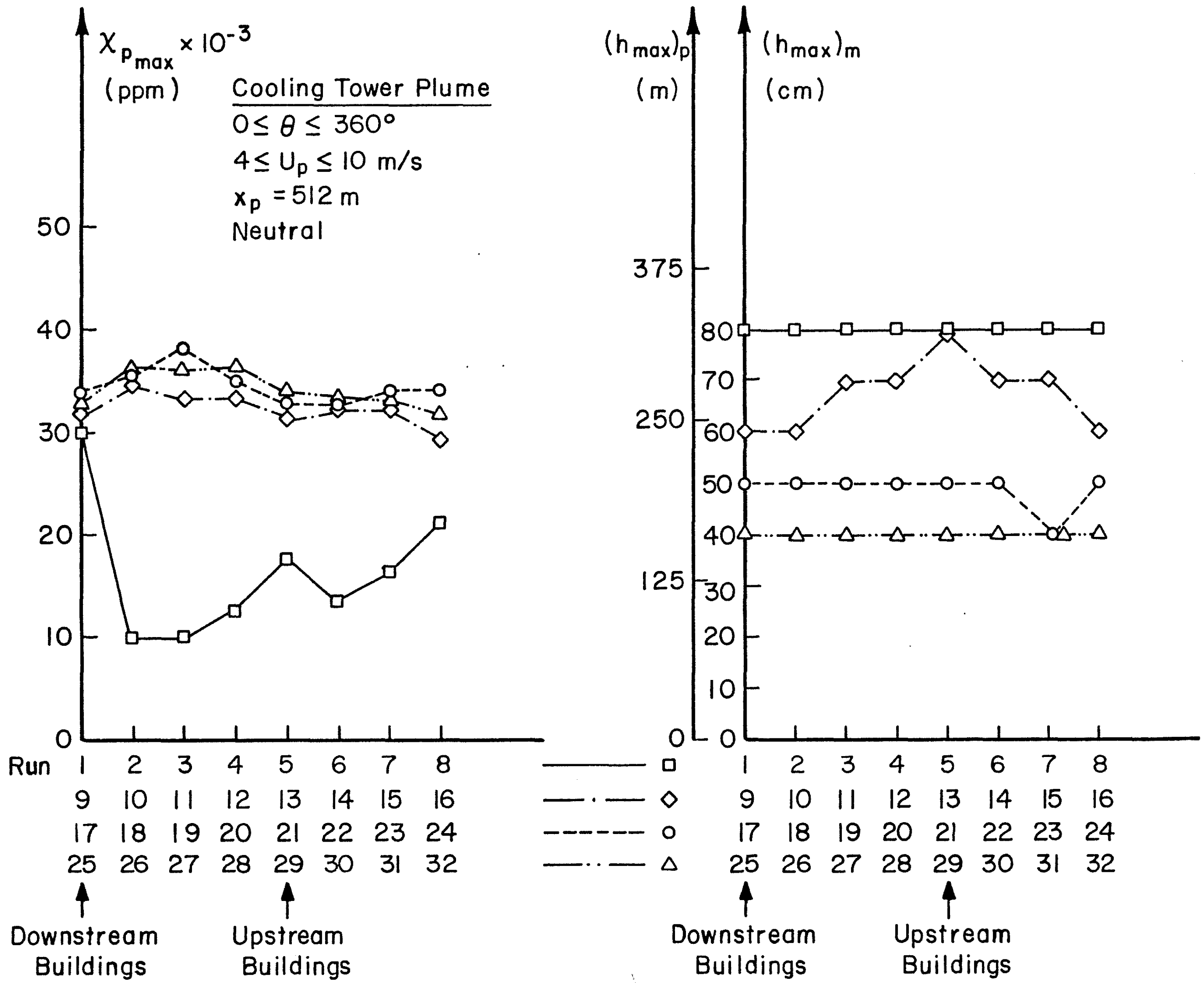


Figure 15a. Orientation Influences Cooling Plume Concentrations and Elevation, Neutral

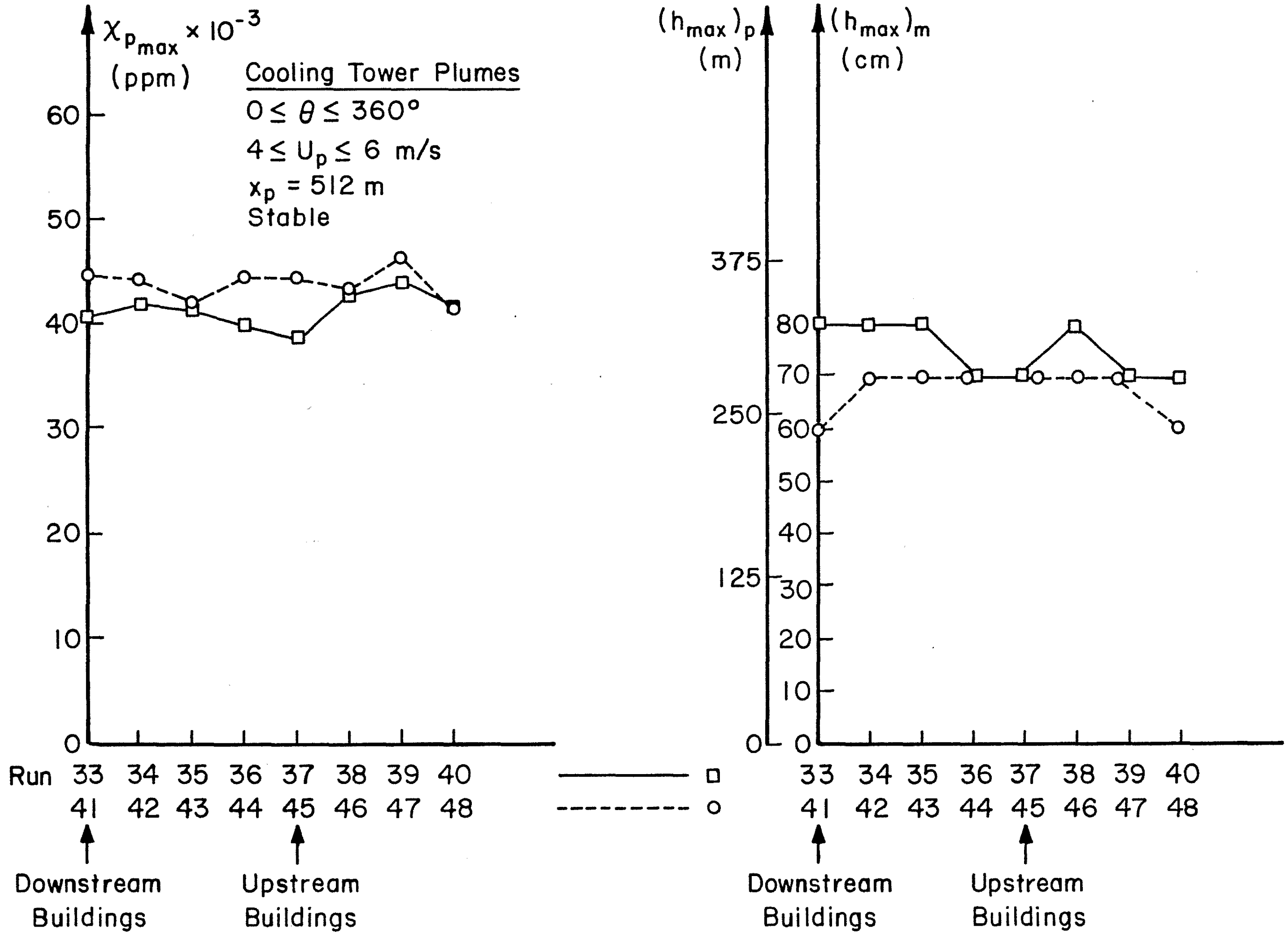


Figure 15b. Orientation Influences Cooling Plume Concentrations and Elevation, Stable

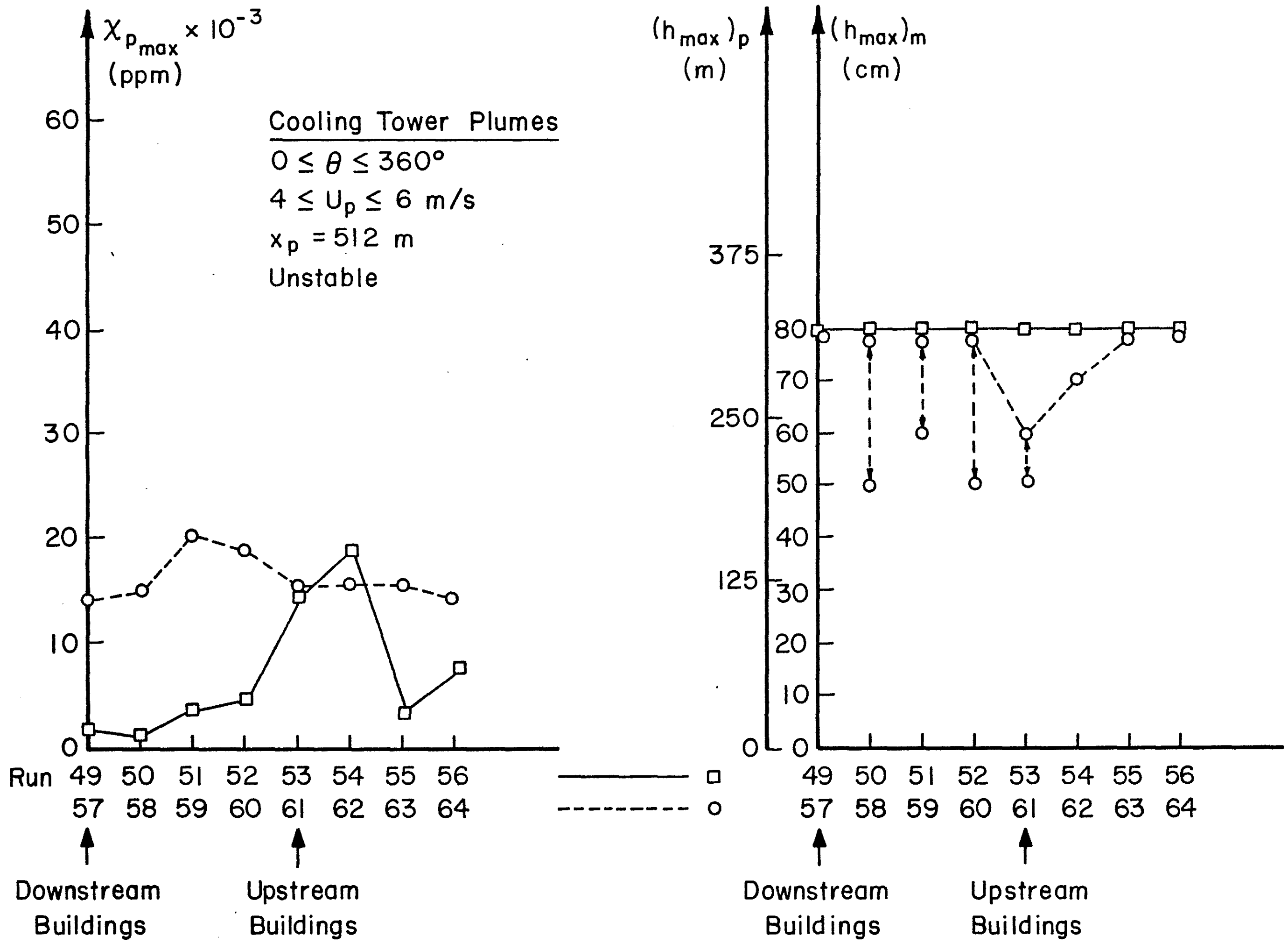


Figure 15c. Orientation Influences Cooling Plume Concentrations and Elevation, Unstable

Re-entrainment of the cooling tower plume back into the cooling tower intakes was only observed at one quadrant of the intake during three of the unstable runs. The maximum concentration measured was 905 ppm.

Entrainment of the plant stack plume into the cooling tower intake vents was observed for many of the runs when the plant stack was directly upwind of the cooling tower. The maximum of these plant stack concentrations was 323 ppm.

The maximum concentrations observed at the office complex (tubes 6,7,8) were 3321 ppm and 937 ppm for the cooling tower plume and plant stack plume, respectively.

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APPENDIX A

THE CALCULATION OF MODEL SCALE FACTORS

The following is a list of parameters commonly used in the physical scaling of plume dispersion.

Plume Specific Gravity	SG	$= \rho_s/\rho_a$
Volume Flux Ratio	V	$= Q/U_a L^2$
Mass Flux Ratio	M	$= \rho_s Q/\rho_a U_a L^2$
Momentum Flux Ratio	F	$= \rho_s Q/\rho_a U_a L^4$
Flux Froude Number	$\dot{Fr}$	$= U_a L/g'Q$
Densimetric Froude Number (relative to air inertia)	Fr	$= U_a/g'L$
Densimetric Froude Number	Fr_s	$= Q^2/g\left(\frac{\rho_s - \rho_a}{\rho_s}\right)L^5$

where $g' = \left(\frac{\rho_s - \rho_a}{\rho_a}\right)g$ and Q is the volume flux rate at source conditions.

The following is a list of the plume source flow rate and approach flow velocities scales which are obtained from several different scaling procedures.

Equality of	$\frac{U_m}{U_p}$	$\frac{Q_m}{Q_p}$
1. all parameter listed above	$(LS)^{1/2}$	$(LS)^{5/2}$
2. V, Fr_a or $V, \dot{Fr}$	$(g'_m/g'_p)^{1/2}(LS)^{1/2}$	$(g'_m/g'_p)^{1/2}(LS)^{5/2}$
3. F, Fr_a, Fr_s	$(g'_m/g'_p)^{1/2}(LS)^{1/2}$	$(SG_p/SG_m)^{1/2}(g'_m/g'_p)^{1/2}(LS)^{5/2}$
4. $F, \dot{Fr}$	$(SG_p/SG_m)^{1/4}(g'_m/g'_p)^{1/2}(LS)^{1/2}$	$(SG_p/SG_m)^{3/4}(g'_m/g'_p)^{1/2}(LS)^{5/2}$
5. $M, \dot{Fr}$	$(SG_p/SG_m)^{1/2}(g'_m/g'_p)^{1/2}(LS)^{1/2}$	$(SG_p/SG_m)^{3/2}(g'_m/g'_p)^{1/2}(LS)^{5/2}$
6. $\dot{Fr}$, SG	$(Q_m/Q_p)^{1/3}(LS)^{-1/3}$	$(U_m/U_p)^3(LS)$

where $LS = L_m/L_p$ and $g'_m/g'_p = (SG_m-1)/(SG_p-1)$

For all scaling approches in which equality of ν is not maintained and/or one or both or the plumes are thermal, then the concentration fields must be corrected by the following equation

$$\chi_p = \frac{\chi_m}{\chi_m + (1-\chi_m)\left[\left(\frac{T_a}{T_s}\right)\nu\right]_m / \left[\left(\frac{T_a}{T_s}\right)\nu\right]_p}$$

TABLE NO. A1 Model Test Conditions

Model Values

Run No.	Stability	Wind Speed at 15.5cm (cm/s)	Wind Direction	Flow Rate Cooling Tower (ccs)	Flow Rate Stack (ccs)
1	N	20	Similar to Prototype Values	2978	18.9
2	N	20		2978	18.9
3	N	20		2978	18.9
8	N	20		2978	18.9
9	N	30		2978	18.9
10	N	30		2978	18.9
11	N	30		2978	18.9
12	N	30		2978	18.9
13	N	30		2978	18.9
14	N	30		2978	18.9
15	N	30		2978	18.9
16	N	30		2978	18.9
17	N	40		2978	18.9
18	N	40		2978	18.9
19	N	40		2978	18.9
20	N	40		2978	18.9
21	N	40		2978	18.9
22	N	40		2978	18.9
23	N	40		2978	18.9
24	N	40		2978	18.9
25	N	50		2978	18.9
26	N	50		2978	18.9
27	N	50		2978	18.9
28	N	50		2978	18.9
29	N	50		2978	18.9
30	N	50		2978	18.9
31	N	50		2978	18.9
32	N	50		2978	18.9
33A	S	20		2978	18.9
34A	S	20		2978	18.9
35A	S	20		2978	18.9
36A	S	20		2978	18.9
37A	S	20		2978	18.9
38A	S	20		2978	18.9
39A	S	20		2978	18.9
40A	S	20		2978	18.9
41	S	30		2978	18.9
42	S	30		2978	18.9
43	S	30		2978	18.9
44	S	30		2978	18.9

TABLE NO. A1 Model Test Conditions (cont'd)

Run No.	Stability	Wind Speed at 62 m (m/s)	Wind Direction (from North)	Flow Rate Cooling Tower (ccs)	Flow Rate Stack (ccs)
45	S	30	Similar to Prototype Values	2978	18.9
46	S	30		2978	18.9
47	S	30		2978	18.9
48	S	30		2978	18.9
49	US	20		2978	18.9
50	US	20		2978	18.9
51	US	20		2978	18.9
52	US	20		2978	18.9
53	US	20		2978	18.9
54	US	24		2978	18.9
55A	US	20		2978	18.9
56	US	20		2978	18.9
57	US	30		2978	18.9
58	US	30		2978	18.9
59	US	30		2978	18.9
60	US	30		2978	18.9
61	US	30		2978	18.9
62	US	30		2978	18.9
63	US	30		2978	18.9
64	US	30		2978	18.9

TABLE NO. 1

Velocity and Temperature Profile Data
(Neutral Stability)

Stability ----	Neutral		Neutral		Neutral	
Reference Wind Speed (m/s at 62 m) ----	~4		~6		~8	
Height (m)	Velocity (m/s)	Turbulent Intensity (%)	Velocity (m/s)	Turbulent Intensity (%)	Velocity (m/s)	Turbulent Intensity (%)
4	2.5	16.1	3.5	22.0	4.8	25.9
6	2.9	17.5	3.9	20.0	5.2	23.4
8	2.9	16.7	4.3	19.7	5.5	23.4
12	3.4	14.4	4.5	19.4	5.7	23.0
18	3.7	12.4	4.8	18.4	6.5	20.8
24	3.9	11.2	5.1	18.8	6.2	21.3
36	3.7	11.7	5.4	16.5	7.1	22.9
48	4.2	9.8	6.0	14.1	7.8	20.6
62	4.5	8.3	6.6	12.1	7.8	18.5
91	4.4	8.4	6.3	11.0	8.6	16.9
137	4.7	5.5	6.7	11.4	10.0	14.5
182	4.6	6.0	6.9	11.0	10.6	11.2
243	4.6	5.0	7.1	7.6	11.1	10.4
304	4.5	5.2	7.1	7.3	11.3	8.9

Height (m)	Temperature* (^oC)	Temperature* (^oC)	Temperature* (^oC)
2	22.0	22.0	22.0
4	22.0	22.0	22.0
10	21.9	21.9	21.9
20	21.8	21.8	21.8
30	21.7	21.7	21.7
40	21.6	21.6	21.6
60	21.4	21.4	21.4
100	21.0	21.0	21.0
140	20.6	20.6	20.6
180	20.2	20.2	20.2

* Adibatic Lapse Rate = -0.01^o C/m

TABLE NO. 2

Velocity and Temperature Profile Data
(Stable and Unstable Stabilities)

Stability ----	Stable	Stable	Unstable	Unstable
Reference Wind Speed (m/s at 62 m) ----	~4	~6	~4	~6
Height (m)	Velocity (m/s)	Velocity (m/s)	Velocity (m/s)	Velocity (m/s)
8	--	2.6	3.0	5.8
16	--	3.6	3.4	6.0
24	--	4.2	3.6	6.2
32	2.0	4.8	3.6	6.2
40	2.8	5.2	3.6	6.2
48	3.2	5.6	3.6	6.2
60	4.0	6.2	3.6	6.4
70	4.6	6.6	3.6	6.4
80	5.4	7.0	3.6	6.4
120	6.4	8.4	3.6	6.6
160	8.0	9.4	3.8	6.6
200	8.4	9.8	3.8	6.6
280	9.0	9.6	3.8	6.6
320			3.8	6.8

Height (m)	Temperature (°C)	Temperature (°C)	Temperature (°C)	Temperature (°C)
2	9.0	9.5	32.0	29.5
4	10.0	10.0	31.0	28.0
10	9.9	10.9	30.9	26.4
20	11.8	13.3	30.8	25.8
30	13.2	14.7	30.2	25.2
40	13.6	14.6	29.6	24.9
60	15.4	15.4	29.4	24.4
100	15.5	16.0	29.0	24.0
140	15.6	16.6	28.6	23.6
180	16.2	17.2	28.2	23.2

TABLE NO. 3   Concentration Test Program

Prototype Values

Run No.	Stability	Wind Speed at 62 m (m/s)	Wind Direction (from North)	Flow Rate Cooling Tower (cfm)	Flow Rate Stack (cfm)
1	N	4	322.5^o	2.02×10^7	128,000
2	N	4	7.2^o	2.02×10^7	128,000
3	N	4	52.5^o	2.02×10^7	128,000
4	N	4	97.5^o	2.02×10^7	128,000
5	N	4	142.5^o	2.02×10^7	128,000
6	N	4	187.5^o	2.02×10^7	128,000
7	N	4	232.5^o	2.02×10^7	128,000
8	N	4	277.5^o	2.02×10^7	128,000
9	N	6	322.5^o	2.02×10^7	128,000
10	N	6	7.5^o	2.02×10^7	128,000
11	N	6	52.5^o	2.02×10^7	128,000
12	N	6	97.5^o	2.02×10^7	128,000
13	N	6	142.5^o	2.02×10^7	128,000
14	N	6	187.5^o	2.02×10^7	128,000
15	N	6	232.5^o	2.02×10^7	128,000
16	N	6	277.5^o	2.02×10^7	128,000
17	N	8	322.5^o	2.02×10^7	128,000
18	N	8	7.5^o	2.02×10^7	128,000
19	N	8	52.5^o	2.02×10^7	128,000
20	N	8	97.5^o	2.02×10^7	128,000
21	N	8	142.5^o	2.02×10^7	128,000
22	N	8	187.5^o	2.02×10^7	128,000
23	N	8	232.5^o	2.02×10^7	128,000
24	N	8	277.5^o	2.02×10^7	128,000
25	N	10	322.5^o	2.02×10^7	128,000
26	N	10	7.5^o	2.02×10^7	128,000
27	N	10	52.5^o	2.02×10^7	128,000
28	N	10	97.5^o	2.02×10^7	128,000
29	N	10	142.5^o	2.02×10^7	128,000
30	N	10	187.5^o	2.02×10^7	128,000
31	N	10	232.5^o	2.02×10^7	128,000
32	N	10	277.5^o	2.02×10^7	128,000
33A	S	4	322.5^o	2.02×10^7	128,000
34A	S	4	7.5^o	2.02×10^7	128,000
35A	S	4	52.5^o	2.02×10^7	128,000
36A	S	4	97.5^o	2.02×10^7	128,000
37A	S	4	142.5^o	2.02×10^7	128,000
38A	S	4	187.5^o	2.02×10^7	128,000
39A	S	4	232.5^o	2.02×10^7	128,000
40A	S	4	277.5^o	2.02×10^7	128,000
41	S	6	322.5^o	2.02×10^7	128,000
42	S	6	7.5^o	2.02×10^7	128,000
43	S	6	52.5^o	2.02×10^7	128,000
44	S	6	97.5^o	2.02×10^7	128,000

Run No.	Stability	Wind Speed at 62 m (m/s)	Wind Direction (from North)	Flow Rate Cooling Tower (cfm)	Flow Rate Stack (cfm)
45	S	6	142.5^{o}	2.02×20^{7}	128,000
46	S	6	187.5^{o}	2.02×20^{7}	128,000
47	S	6	232.5^{o}	2.02×20^{7}	128,000
48	S	6	277.5^{o}	2.02×20^{7}	128,000
49	US	4	322.5^{o}	2.02×20^{7}	128,000
50	US	4	7.5^{o}	2.02×20^{7}	128,000
51	US	4	52.5^{o}	2.02×20^{7}	128,000
52	US	4	97.5^{o}	2.02×20^{7}	128,000
53	US	4	142.5^{o}	2.02×20^{7}	128,000
54	US	4	187.5^{o}	2.02×20^{7}	128,000
55A	US	4	232.5^{o}	2.02×20^{7}	128,000
56	US	4	277.5^{o}	2.02×20^{7}	128,000
57	US	6	322.5^{o}	2.02×20^{7}	128,000
58	US	6	7.5^{o}	2.02×20^{7}	128,000
59	US	6	52.5^{o}	2.02×20^{7}	128,000
60	US	6	97.5^{o}	2.02×20^{7}	128,000
61	US	6	142.5^{o}	2.02×20^{7}	128,000
62	US	6	187.5^{o}	2.02×20^{7}	128,000
63	US	6	232.5^{o}	2.02×20^{7}	128,000
64	US	6	277.5^{o}	2.02×20^{7}	128,000

TABLE 4. Visualization Test Log

TAPE #1
(neutral stratification)

Run No.	Video Index	Photo Position No. 1	2	3
1	25- 62	x		x
2	62- 80	x		x
3				x
4	80- 99			x
5	99-115	x		x
6	115-125	x		x
7	125-138	x		x
8	138-152	x		x
9	152-172	x		x
10	172-193	x		x
11	193-215			x
12	215-248			x
13	248-276	x		x
14	276-295	x		x
15	295-315	x		x
16	315-334	x		x
17	334-360	x		x
18	360-395	x		x
19	395-425			x
20	425-455			x
21	455-485	x		x
22	485-505	x		x
23	505-525	x		x
24	525-555	x		x
25	555-578	x		x
26	578-618	x		x
27	618-645			x
28	645-670			x
29	670-698	x		x
30	698-713	x		x
31	713-740	x		x
32	740-760	x		x

TAPE #2
(stable stratification)

Run No.	Video Index	Photo Position No. 1	2	3
33A	18 -90	x	x	
34A	91-149	x	x	
35A	150-221	x		
36A	222-280			
37A	281-339	x	x	
38A	340-390	x	x	
39A	391-449	x	x	
40A	450-498	x	x	
41	499-544	x	x	
42	545-581	x	x	
43	582-631	x	x	
44	632-675	x	x	
45	676-716	x	x	
46	717-770	x	x	
47	771-812	x	x	
48	813-861	x	x	

TAPE #3
(unstable stratification)

Run No.	Video Index	Photo Position No. 1	2	3
49	529-589	x	x	
50	590-634	x	x	
51	635-682	x	x	
52	683-727	x	x	
53	728-792	x	x	
54	793-835	x	x	
55A	836-883	x	x	
56	884-930	x	x	
57	10-116	x	x	
58	117-186	x	x	
59	186-237	x		
60	238-271			
61	272-346	x	x	
62	347-416	x	x	
63	417-478	x	x	
64	479-528	x	x	

Table 5-1. Concentration Measurement Results

RUN NUMBER 1
STABILITY -- NEUTRAL
WIND DIR. -- 322.5
WIND SPEED 4.00 M/S AT 62.0 M

		TOWER	STACK
SOURCE DESIGNATION		TOWER	STACK
SOURCE FLOW RATE (CFM)		20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)		52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	7221.1	0.0
4	172.00	0.00	80.00	36172.6	0.0
5	172.00	30.40	0.00	0.0	0.0
6	130.00	-222.40	4.40	0.0	0.0
7	184.00	-222.40	4.40	0.0	0.0
8	184.00	-188.00	4.40	0.0	0.0
9	306.00	-42.40	14.00	0.0	0.0
10	404.00	0.00	4.40	457.1	3.0
12	287.60	0.00	25.20	389.0	6.0
13	342.00	0.00	45.20	807.2	38.1
14	267.60	39.60	12.00	622.4	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	408.5	7.0
20	512.00	0.00	40.00	515.4	26.1
21	512.00	0.00	80.00	855.9	224.4
22	512.00	0.00	120.00	2519.4	521.0
23	512.00	0.00	160.00	5594.9	649.3
24	512.00	0.00	200.00	11079.3	708.4
25	512.00	0.00	240.00	20074.0	435.9
26	512.00	0.00	280.00	29271.0	196.4
27	512.00	0.00	320.00	30816.9	62.1
28	512.00	-62.80	0.00	184.8	3.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	301.5	7.0
33	844.00	0.00	0.00	252.9	11.0
34	844.00	62.80	0.00	282.0	6.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
38	1284.00	0.00	60.00	107.0	11.0
39	1284.00	0.00	120.00	301.5	24.0
40	1284.00	0.00	180.00	612.7	49.1
41	1284.00	-91.60	0.00	0.0	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	0.0	4.0
44	1844.00	-30.40	0.00	0.0	6.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-2. Concentration Measurement Results

RUN NUMBER 2
STABILITY -- NEUTRAL
WIND DIR. -- 7.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	497.1	0.0
4	172.00	0.00	80.00	12483.0	0.0
5	172.00	30.40	0.00	0.0	0.0
6	249.18	-65.34	4.40	0.0	0.0
7	287.37	-27.15	4.40	0.0	0.0
8	263.04	-2.83	4.40	0.0	0.0
9	246.36	186.39	14.00	0.0	0.0
10	285.67	285.67	4.40	0.0	0.0
11	183.56	183.57	0.00	0.0	0.0
12	203.36	203.36	25.20	0.0	0.0
13	241.83	241.83	45.20	0.0	0.0
14	161.22	217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	270.5
18	512.00	62.80	0.00	0.0	410.8
19	512.00	0.00	0.00	0.0	59.1
20	512.00	0.00	40.00	0.0	92.2
21	512.00	0.00	80.00	0.0	158.3
22	512.00	0.00	120.00	121.7	105.2
23	512.00	0.00	160.00	730.4	70.1
24	512.00	0.00	200.00	1511.7	17.0
25	512.00	0.00	240.00	2760.0	5.0
26	512.00	0.00	280.00	5785.6	0.0
27	512.00	0.00	320.00	9046.8	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	231.5
33	844.00	0.00	0.00	0.0	443.9
34	844.00	62.80	0.00	0.0	228.5
35	1284.00	187.20	0.00	0.0	16.0
36	1284.00	91.60	0.00	0.0	82.2
37	1284.00	0.00	0.00	0.0	177.4
38	1284.00	0.00	60.00	0.0	372.7
39	1284.00	0.00	120.00	0.0	372.7
40	1284.00	0.00	180.00	0.0	242.5
41	1284.00	-91.60	0.00	0.0	291.6
42	1284.00	-187.20	0.00	0.0	42.1
43	1844.00	30.40	0.00	0.0	139.3
44	1844.00	-30.40	0.00	0.0	200.4
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-3. Concentration Measurement Results

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RUN NUMBER 3
STABILITY -- NEUTRAL
WIND DIR. -- 52.5
WIND SPEED   4.00  M/S AT   62.0  M
SOURCE DESIGNATION                    TOWER       STACK
SOURCE FLOW RATE (CFM)           20200000.0    128000.0
SOURCE GAS TEMPERATURE (C)             52.0        22.0
```

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	209.9	0.0
3	172.00	0.00	40.00	2465.2	0.0
4	172.00	0.00	80.00	20911.4	0.0
5	172.00	30.40	0.00	0.0	0.0
6	222.40	130.00	4.40	0.0	0.0
7	222.40	184.00	4.40	0.0	86.9
8	188.00	184.00	4.40	0.0	9.8
9	42.40	306.00	14.00	0.0	0.0
10	-.00	404.00	4.40	0.0	0.0
11	-.00	259.60	0.00	0.0	0.0
12	-.00	287.60	25.20	0.0	0.0
13	-.00	342.00	45.20	0.0	0.0
14	-39.60	267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	633.2
16	512.00	187.20	0.00	0.0	1203.2
17	512.00	124.00	0.00	0.0	445.0
18	512.00	62.80	0.00	0.0	28.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	0.0	4.6
21	512.00	0.00	80.00	269.0	0.0
22	512.00	0.00	120.00	835.4	0.0
23	512.00	0.00	160.00	1521.9	0.0
24	512.00	0.00	200.00	2994.4	0.0
25	512.00	0.00	240.00	4943.9	0.0
26	512.00	0.00	280.00	7432.5	0.0
27	512.00	0.00	320.00	10508.9	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	0.0	11.1
34	844.00	62.80	0.00	87.5	153.6
35	1284.00	187.20	0.00	0.0	707.0
36	1284.00	91.60	0.00	0.0	383.7
37	1284.00	0.00	0.00	0.0	92.0
38	1284.00	0.00	60.00	0.0	118.5
39	1284.00	0.00	120.00	0.0	62.3
40	1284.00	0.00	180.00	321.4	57.4
41	1284.00	-91.60	0.00	0.0	5.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	0.0	160.8
44	1844.00	-30.40	0.00	0.0	84.4
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-4. Concentration Measurement Results

RUN NUMBER 4
STABILITY -- NEUTRAL
WIND DIR. -- 97.5
WIND SPEED 4.00 M/S AT 62.0 M

		TOWER	STACK
SOURCE DESIGNATION		TOWER	STACK
SOURCE FLOW RATE (CFM)		20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)		52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	18.9
2	172.00	0.00	0.00	0.0	24.9
3	172.00	0.00	40.00	238.3	25.9
4	172.00	0.00	80.00	11024.0	24.3
5	172.00	30.40	0.00	0.0	52.6
6	65.34	249.18	4.40	0.0	0.0
7	27.15	287.37	4.40	0.0	0.0
8	2.83	263.04	4.40	0.0	0.0
9	-186.39	246.35	14.00	0.0	0.0
10	-285.67	285.67	4.40	0.0	0.0
11	-183.57	183.56	0.00	0.0	0.0
12	-203.37	203.36	25.20	0.0	0.0
13	-241.83	241.83	45.20	0.0	0.0
14	-217.22	161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	6.0
16	512.00	187.20	0.00	0.0	6.8
17	512.00	124.00	0.00	0.0	28.1
18	512.00	62.80	0.00	0.0	245.0
19	512.00	0.00	0.00	0.0	312.0
20	512.00	0.00	40.00	0.0	429.6
21	512.00	0.00	80.00	45.3	494.0
22	512.00	0.00	120.00	469.1	366.3
23	512.00	0.00	160.00	903.2	246.2
24	512.00	0.00	200.00	1708.1	199.8
25	512.00	0.00	240.00	3000.1	109.3
26	512.00	0.00	280.00	5921.1	52.1
27	512.00	0.00	320.00	12749.4	39.1
28	512.00	-62.80	0.00	0.0	162.2
29	512.00	-124.00	0.00	0.0	45.2
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	220.7
33	844.00	0.00	0.00	0.0	247.5
34	844.00	62.80	0.00	0.0	98.3
35	1284.00	187.20	0.00	0.0	23.5
36	1284.00	91.60	0.00	0.0	47.7
37	1284.00	0.00	0.00	0.0	165.2
38	1284.00	0.00	60.00	0.0	209.9
39	1284.00	0.00	120.00	0.0	215.5
40	1284.00	0.00	180.00	0.0	211.5
41	1284.00	-91.60	0.00	0.0	142.5
42	1284.00	-187.20	0.00	0.0	10.0
43	1844.00	30.40	0.00	0.0	100.1
44	1844.00	-30.40	0.00	0.0	140.7
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-5. Concentration Measurement Results

RUN NUMBER 5
STABILITY -- NEUTRAL
WIND DIR. -- 142.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	38.0	6.0
2	172.00	0.00	0.00	38.0	11.0
3	172.00	0.00	40.00	5625.9	45.1
4	172.00	0.00	80.00	33808.2	229.5
5	172.00	30.40	0.00	38.0	14.0
6	-130.00	222.40	4.40	0.0	0.0
7	-184.00	222.40	4.40	0.0	0.0
8	-184.00	188.00	4.40	0.0	0.0
9	-306.00	42.40	14.00	0.0	0.0
10	-404.00	-.00	4.40	0.0	0.0
11	-259.60	-.00	0.00	0.0	0.0
12	-287.60	-.00	25.20	0.0	0.0
13	-342.00	-.00	45.20	0.0	0.0
14	-267.60	-39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	6.0
17	512.00	124.00	0.00	0.0	11.0
18	512.00	62.80	0.00	86.7	14.0
19	512.00	0.00	0.00	77.0	13.0
20	512.00	0.00	40.00	96.5	9.0
21	512.00	0.00	80.00	281.7	13.0
22	512.00	0.00	120.00	1354.0	10.0
23	512.00	0.00	160.00	3040.8	22.0
24	512.00	0.00	200.00	5313.7	36.1
25	512.00	0.00	240.00	8993.4	70.1
26	512.00	0.00	280.00	12851.8	77.2
27	512.00	0.00	320.00	17916.3	109.2
28	512.00	-62.80	0.00	0.0	3.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	77.0	8.0
33	844.00	0.00	0.00	67.3	10.0
34	844.00	62.80	0.00	67.3	14.0
35	1284.00	187.20	0.00	47.8	11.0
36	1284.00	91.60	0.00	67.3	10.0
37	1284.00	0.00	0.00	67.3	8.0
39	1284.00	0.00	120.00	116.0	9.0
40	1284.00	0.00	180.00	194.0	7.0
41	1284.00	-91.60	0.00	57.5	6.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	57.5	9.0
44	1844.00	-30.40	0.00	57.5	6.0
45	26.95	-26.95	0.00	0.0	33.1
46	26.95	26.95	0.00	0.0	47.1
47	-26.95	-26.95	0.00	0.0	38.1
48	-26.95	26.95	0.00	0.0	44.1

Table 5-6. Concentration Measurement Results

RUN NUMBER 6

STABILITY -- NEUTRAL
WIND DIR. -- 187.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	68.0
2	172.00	0.00	0.00	0.0	10.9
3	172.00	0.00	40.00	1734.8	4.7
4	172.00	0.00	80.00	23279.1	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-249.19	65.33	4.40	0.0	0.0
7	-287.37	27.15	4.40	0.0	0.0
8	-263.04	2.83	4.40	0.0	0.0
9	-246.35	-186.40	14.00	0.0	0.0
10	-285.67	-285.67	4.40	0.0	0.0
11	-183.56	-183.57	0.00	0.0	0.0
12	-203.36	-203.37	25.20	0.0	0.0
13	-241.83	-241.83	45.20	0.0	0.0
14	-161.22	-217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	7.6
18	512.00	62.80	0.00	0.0	122.7
19	512.00	0.00	0.00	0.0	371.1
20	512.00	0.00	40.00	540.6	796.2
21	512.00	0.00	80.00	900.7	644.2
22	512.00	0.00	120.00	1127.0	250.0
23	512.00	0.00	160.00	2000.1	91.3
24	512.00	0.00	200.00	4007.9	39.2
25	512.00	0.00	240.00	6886.9	26.0
26	512.00	0.00	280.00	9821.3	4.9
27	512.00	0.00	320.00	13794.4	0.0
28	512.00	-62.80	0.00	0.0	687.3
29	512.00	-124.00	0.00	0.0	616.8
30	512.00	-187.20	0.00	0.0	309.5
31	512.00	-264.00	0.00	0.0	65.9
32	844.00	-62.80	0.00	0.0	644.7
33	844.00	0.00	0.00	0.0	614.5
34	844.00	62.80	0.00	0.0	361.7
35	1284.00	187.20	0.00	0.0	201.1
36	1284.00	91.60	0.00	0.0	407.6
37	1284.00	0.00	0.00	0.0	465.4
38	1284.00	0.00	60.00	0.0	292.3
39	1284.00	0.00	120.00	0.0	170.9
40	1284.00	0.00	180.00	139.2	100.5
41	1284.00	-91.60	0.00	0.0	351.3
42	1284.00	-187.20	0.00	0.0	121.0
43	1844.00	30.40	0.00	0.0	290.7
44	1844.00	-30.40	0.00	0.0	258.5
45	26.95	-26.95	0.00	0.0	5.6
46	26.95	26.95	0.00	0.0	5.0
47	-26.95	-26.95	0.00	0.0	4.1
48	-26.95	26.95	0.00	0.0	5.8

Table 5-7. Concentration Measurement Results

RUN NUMBER 7
STABILITY -- NEUTRAL
WIND DIR. -- 232.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	1851.2	0.0
4	172.00	0.00	80.00	25360.4	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-222.40	-130.00	4.40	0.0	0.0
7	-222.40	-184.00	4.40	0.0	0.0
8	-188.00	-184.00	4.40	0.0	0.0
9	-42.40	-306.00	14.00	0.0	0.0
10	.00	-404.00	4.40	0.0	0.0
11	.00	-259.60	0.00	0.0	3.2
12	.00	-287.60	25.20	0.0	0.0
13	.00	-342.00	45.20	0.0	0.0
14	39.60	-267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	65.4	0.0
21	512.00	0.00	80.00	534.5	0.0
22	512.00	0.00	120.00	1372.0	0.0
23	512.00	0.00	160.00	3247.4	0.0
24	512.00	0.00	200.00	5369.2	0.0
25	512.00	0.00	240.00	6762.9	0.0
26	512.00	0.00	280.00	10075.5	0.0
27	512.00	0.00	320.00	16517.6	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	187.3
30	512.00	-187.20	0.00	0.0	1030.3
31	512.00	-264.00	0.00	0.0	1595.0
32	844.00	-62.80	0.00	0.0	193.5
33	844.00	0.00	0.00	0.0	16.0
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	0.0	4.7
36	1284.00	91.60	0.00	0.0	53.0
37	1284.00	0.00	0.00	0.0	191.4
38	1284.00	0.00	60.00	0.0	136.3
39	1284.00	0.00	120.00	313.6	42.8
40	1284.00	0.00	180.00	462.5	6.7
41	1284.00	-91.60	0.00	0.0	639.9
42	1284.00	-187.20	0.00	0.0	1123.6
43	1844.00	30.40	0.00	0.0	219.1
44	1844.00	-30.40	0.00	0.0	374.5
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-8. Concentration Measurement Results

RUN NUMBER 8

STABILITY -- NEUTRAL
WIND DIR. -- -82.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	2851.0	0.0
4	172.00	0.00	80.00	33592.8	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-65.34	-249.18	4.40	0.0	0.0
7	-27.15	-287.37	4.40	0.0	0.0
8	-2.83	-263.04	4.40	0.0	0.0
9	186.39	-246.36	14.00	0.0	0.0
10	285.67	-285.67	4.40	0.0	0.0
11	183.56	-183.57	0.00	0.0	0.0
12	203.36	-203.36	25.20	0.0	0.0
13	241.83	-241.83	45.20	0.0	0.0
14	217.22	-161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	71.8	0.0
21	512.00	0.00	80.00	140.1	0.0
22	512.00	0.00	120.00	930.4	0.0
23	512.00	0.00	160.00	2386.9	0.0
24	512.00	0.00	200.00	4831.8	0.0
25	512.00	0.00	240.00	8864.3	0.0
26	512.00	0.00	280.00	14470.8	0.0
27	512.00	0.00	320.00	21129.1	0.0
28	512.00	-62.80	0.00	0.0	13.2
29	512.00	-124.00	0.00	0.0	280.3
30	512.00	-187.20	0.00	0.0	129.0
31	512.00	-264.00	0.00	0.0	15.8
32	844.00	-62.80	0.00	0.0	488.6
33	844.00	0.00	0.00	0.0	211.3
34	844.00	62.80	0.00	0.0	6.7
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	86.7
37	1284.00	0.00	0.00	0.0	418.8
38	1284.00	0.00	60.00	0.0	379.3
39	1284.00	0.00	120.00	0.0	308.6
40	1284.00	0.00	180.00	138.3	124.2
41	1284.00	-91.60	0.00	0.0	712.4
42	1284.00	-187.20	0.00	0.0	398.1
43	1844.00	30.40	0.00	0.0	308.1
44	1844.00	-30.40	0.00	0.0	408.7
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-9. Concentration Measurement Results

RUN NUMBER 9
STABILITY -- NEUTRAL
WIND DIR. -- 322.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	320.7	0.0
2	172.00	0.00	0.00	767.9	0.0
3	172.00	0.00	40.00	13800.8	0.0
4	172.00	0.00	80.00	50524.7	0.0
5	172.00	30.40	0.00	447.1	0.0
6	130.00	-222.40	4.40	0.0	0.0
7	184.00	-222.40	4.40	0.0	0.0
8	184.00	-188.00	4.40	0.0	0.0
9	306.00	-42.40	14.00	767.9	0.0
10	404.00	0.00	4.40	1283.1	0.0
11	259.60	0.00	0.00	1078.9	0.0
12	287.60	0.00	25.20	1477.5	0.0
13	342.00	0.00	45.20	2099.7	3.0
14	267.60	39.60	12.00	622.1	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	136.1	0.0
19	512.00	0.00	0.00	1224.7	3.0
20	512.00	0.00	40.00	1370.6	12.0
21	512.00	0.00	80.00	3412.5	83.2
22	512.00	0.00	120.00	10575.9	417.8
23	512.00	0.00	160.00	19866.7	565.1
24	512.00	0.00	200.00	27611.1	523.0
25	512.00	0.00	240.00	31395.0	321.6
26	512.00	0.00	280.00	26243.0	83.2
27	512.00	0.00	320.00	13947.0	0.0
28	512.00	-62.80	0.00	767.9	0.0
29	512.00	-124.00	0.00	58.3	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	544.3	0.0
33	844.00	0.00	0.00	748.4	10.0
34	844.00	62.80	0.00	398.5	0.0
35	1284.00	187.20	0.00	0.0	0.0
39	1284.00	0.00	120.00	884.5	7.0
40	1284.00	0.00	180.00	2362.3	22.0
41	1284.00	-91.60	0.00	106.9	6.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	87.5	0.0
44	1844.00	-30.40	0.00	136.1	7.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-10. Concentration Measurement Results

RUN NUMBER 10
STABILITY -- NEUTRAL
WIND DIR. -- 7.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	423.6	0.0
2	172.00	0.00	0.00	984.0	0.0
3	172.00	0.00	40.00	13674.7	0.0
4	172.00	0.00	80.00	59322.9	0.0
5	172.00	30.40	0.00	541.5	0.0
6	249.18	-65.34	4.40	1310.2	0.0
7	287.37	-27.15	4.40	1141.5	0.0
8	263.04	-2.83	4.40	927.1	0.0
9	246.36	186.39	14.00	0.0	5.7
10	285.67	285.67	4.40	0.0	0.0
11	183.56	183.57	0.00	0.0	0.0
12	203.36	203.36	25.20	0.0	0.0
13	241.83	241.83	45.20	0.0	0.0
14	161.22	217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	519.3
17	512.00	124.00	0.00	0.0	791.2
18	512.00	62.80	0.00	364.2	102.3
19	512.00	0.00	0.00	966.0	0.0
20	512.00	0.00	40.00	1165.9	0.0
21	512.00	0.00	80.00	3797.6	4.2
22	512.00	0.00	120.00	11702.1	0.0
23	512.00	0.00	160.00	21202.0	0.0
24	512.00	0.00	200.00	30825.4	0.0
25	512.00	0.00	240.00	34594.6	0.0
26	512.00	0.00	280.00	27992.7	0.0
27	512.00	0.00	320.00	14455.2	0.0
28	512.00	-62.80	0.00	753.9	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	438.0	0.0
33	844.00	0.00	0.00	734.8	46.0
34	844.00	62.80	0.00	451.4	499.0
35	1284.00	187.20	0.00	0.0	178.1
36	1284.00	91.60	0.00	0.0	431.4
37	1284.00	0.00	0.00	494.6	104.4
38	1284.00	0.00	60.00	639.9	146.3
39	1284.00	0.00	120.00	1241.8	130.0
40	1284.00	0.00	180.00	2839.6	100.2
41	1284.00	-91.60	0.00	0.0	3.2
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	410.3	162.9
44	1844.00	-30.40	0.00	0.0	52.4
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-11. Concentration Measurement Results

RUN NUMBER 11
STABILITY -- NEUTRAL
WIND DIR. -- 52.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	235.5	0.0
2	172.00	0.00	0.00	496.6	0.0
3	172.00	0.00	40.00	10671.0	0.0
4	172.00	0.00	80.00	48325.4	0.0
5	172.00	30.40	0.00	369.0	0.0
6	222.40	130.00	4.40	0.0	26.3
7	222.40	184.00	4.40	0.0	140.0
8	188.00	184.00	4.40	0.0	68.6
9	42.40	306.00	14.00	0.0	0.0
10	-.00	404.00	4.40	0.0	0.0
12	-.00	287.60	25.20	0.0	0.0
13	-.00	342.00	45.20	0.0	0.0
14	-39.60	267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	780.1
16	512.00	187.20	0.00	0.0	1072.2
17	512.00	124.00	0.00	0.0	420.6
18	512.00	62.80	0.00	474.6	17.4
19	512.00	0.00	0.00	844.0	0.0
20	512.00	0.00	40.00	847.3	0.0
21	512.00	0.00	80.00	1951.9	0.0
22	512.00	0.00	120.00	4339.6	0.0
23	512.00	0.00	160.00	10030.5	0.0
24	512.00	0.00	200.00	17751.8	0.0
25	512.00	0.00	240.00	28272.7	0.0
26	512.00	0.00	280.00	33597.7	0.0
27	512.00	0.00	320.00	29267.8	0.0
28	512.00	-62.80	0.00	472.9	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	406.3	0.0
33	844.00	0.00	0.00	586.9	7.4
34	844.00	62.80	0.00	430.9	136.3
35	1284.00	187.20	0.00	0.0	596.1
36	1284.00	91.60	0.00	0.0	447.5
37	1284.00	0.00	0.00	408.5	48.5
38	1284.00	0.00	60.00	436.7	88.6
39	1284.00	0.00	120.00	653.4	52.3
40	1284.00	0.00	180.00	1230.6	24.3
41	1284.00	-91.60	0.00	254.5	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	339.9	202.1
44	1844.00	-30.40	0.00	366.0	51.5
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-12. Concentration Measurement Results

RUN NUMBER 12
STABILITY -- NEUTRAL
WIND DIR. -- 97.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	103.2	0.0
2	172.00	0.00	0.00	987.4	0.0
3	172.00	0.00	40.00	11153.6	0.0
4	172.00	0.00	80.00	49146.0	0.0
5	172.00	30.40	0.00	503.6	10.0
6	65.34	249.18	4.40	0.0	0.0
7	27.15	287.37	4.40	0.0	0.0
8	2.83	263.04	4.40	0.0	0.0
9	-186.39	246.35	14.00	0.0	0.0
10	-285.67	285.67	4.40	0.0	0.0
11	-183.57	183.56	0.00	0.0	0.0
12	-203.37	203.36	25.20	0.0	0.0
13	-241.83	241.83	45.20	0.0	0.0
14	-217.22	161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	89.7
17	512.00	124.00	0.00	0.0	439.6
18	512.00	62.80	0.00	530.2	389.4
20	512.00	0.00	40.00	1389.9	144.5
21	512.00	0.00	80.00	2387.8	125.3
22	512.00	0.00	120.00	5474.7	105.4
23	512.00	0.00	160.00	10996.3	58.5
24	512.00	0.00	200.00	18868.6	39.1
25	512.00	0.00	240.00	28248.3	8.6
26	512.00	0.00	280.00	33404.5	0.0
27	512.00	0.00	320.00	28836.5	0.0
28	512.00	-62.80	0.00	648.6	4.1
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	479.6	24.6
33	844.00	0.00	0.00	831.6	155.7
34	844.00	62.80	0.00	473.2	353.5
35	1284.00	187.20	0.00	0.0	70.6
36	1284.00	91.60	0.00	0.0	199.6
37	1284.00	0.00	0.00	208.7	129.0
38	1284.00	0.00	60.00	203.2	129.3
39	1284.00	0.00	120.00	762.6	130.9
40	1284.00	0.00	180.00	1276.5	115.4
41	1284.00	-91.60	0.00	0.0	14.1
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	94.0	124.8
44	1844.00	-30.40	0.00	90.5	58.4
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-13. Concentration Measurement Results

RUN NUMBER 13
STABILITY -- NEUTRAL
WIND DIR. -- 142.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	0.0	13.1
2	172.00	0.00	0.00	334.0	11.3
3	172.00	0.00	40.00	8188.9	82.1
4	172.00	0.00	80.00	44555.8	334.7
5	172.00	30.40	0.00	0.0	9.9
6	-130.00	222.40	4.40	0.0	0.0
7	-184.00	222.40	4.40	0.0	0.0
8	-184.00	188.00	4.40	0.0	0.0
9	-306.00	42.40	14.00	0.0	0.0
10	-404.00	-.00	4.40	0.0	0.0
11	-259.60	-.00	0.00	0.0	0.0
12	-287.60	-.00	25.20	0.0	0.0
13	-342.00	-.00	45.20	0.0	0.0
14	-267.60	-39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	175.5	0.0
17	512.00	124.00	0.00	185.4	0.0
18	512.00	62.80	0.00	437.2	0.0
19	512.00	0.00	0.00	747.1	6.4
20	512.00	0.00	40.00	839.7	4.6
21	512.00	0.00	80.00	1832.8	10.1
22	512.00	0.00	120.00	4125.3	24.6
23	512.00	0.00	160.00	9241.9	58.7
24	512.00	0.00	200.00	15827.7	93.6
25	512.00	0.00	240.00	23956.8	149.9
26	512.00	0.00	280.00	30425.0	180.2
27	512.00	0.00	320.00	31408.3	186.4
28	512.00	-62.80	0.00	597.1	5.1
29	512.00	-124.00	0.00	0.0	3.9
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	516.3	3.0
33	844.00	0.00	0.00	534.6	3.1
34	844.00	62.80	0.00	0.0	7.9
35	1284.00	187.20	0.00	212.2	0.0
37	1284.00	0.00	0.00	441.4	0.0
38	1284.00	0.00	60.00	423.3	0.0
39	1284.00	0.00	120.00	583.6	0.0
40	1284.00	0.00	180.00	931.9	3.3
41	1284.00	-91.60	0.00	393.4	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	340.5	0.0
44	1844.00	-30.40	0.00	362.1	0.0
45	26.95	-26.95	0.00	0.0	105.4
46	26.95	26.95	0.00	0.0	100.3
47	-26.95	-26.95	0.00	0.0	102.7
48	-26.95	26.95	0.00	0.0	101.3

Table 5-14. Concentration Measurement Results

RUN NUMBER 14
STABILITY -- NEUTRAL
WIND DIR. -- 187.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	91.2	50.1
2	172.00	0.00	0.00	1029.2	0.0
3	172.00	0.00	40.00	11758.0	0.0
4	172.00	0.00	80.00	46782.6	0.0
5	172.00	30.40	0.00	1022.0	0.0
6	-249.19	65.33	4.40	0.0	0.0
7	-287.37	27.15	4.40	0.0	0.0
8	-263.04	2.83	4.40	0.0	0.0
9	-246.35	-186.40	14.00	0.0	0.0
10	-285.67	-285.67	4.40	0.0	0.0
11	-183.56	-183.57	0.00	0.0	0.0
12	-203.36	-203.37	25.20	0.0	0.0
13	-241.83	-241.83	45.20	0.0	0.0
14	-161.22	-217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	904.7	21.6
19	512.00	0.00	0.00	1578.0	133.3
20	512.00	0.00	40.00	1656.2	226.9
21	512.00	0.00	80.00	3113.8	177.7
22	512.00	0.00	120.00	6129.0	108.0
23	512.00	0.00	160.00	11951.7	31.5
24	512.00	0.00	200.00	20414.2	20.1
25	512.00	0.00	240.00	28662.2	9.0
26	512.00	0.00	280.00	32306.1	0.0
27	512.00	0.00	320.00	22482.0	0.0
28	512.00	-62.80	0.00	191.3	553.4
29	512.00	-124.00	0.00	0.0	848.0
30	512.00	-187.20	0.00	0.0	524.3
31	512.00	-264.00	0.00	0.0	139.4
32	844.00	-62.80	0.00	97.1	618.0
33	844.00	0.00	0.00	945.5	397.4
34	844.00	62.80	0.00	877.1	104.2
35	1284.00	187.20	0.00	0.0	7.3
36	1284.00	91.60	0.00	660.4	101.6
37	1284.00	0.00	0.00	154.2	405.1
38	1284.00	0.00	60.00	856.2	287.0
39	1284.00	0.00	120.00	1211.6	189.5
40	1284.00	0.00	180.00	1899.5	107.2
41	1284.00	-91.60	0.00	0.0	281.1
42	1284.00	-187.20	0.00	0.0	66.9
43	1844.00	30.40	0.00	102.7	249.8
44	1844.00	-30.40	0.00	519.8	195.4
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-15. Concentration Measurement Results

RUN NUMBER 15
STABILITY -- NEUTRAL
WIND DIR. -- 232.5
WIND SPEED 6.00 M/S AT 62.0 M

		TOWER	STACK
SOURCE DESIGNATION		TOWER	STACK
SOURCE FLOW RATE (CFM)		20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)		52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	414.5	0.0
2	172.00	0.00	0.00	909.3	0.0
3	172.00	0.00	40.00	10400.0	0.0
4	172.00	0.00	80.00	48727.3	0.0
5	172.00	30.40	0.00	513.6	0.0
6	-222.40	-130.00	4.40	0.0	0.0
7	-222.40	-184.00	4.40	0.0	0.0
8	-188.00	-184.00	4.40	0.0	0.0
9	-42.40	-306.00	14.00	0.0	0.0
10	.00	-404.00	4.40	0.0	0.0
11	.00	-259.60	0.00	0.0	0.0
12	.00	-287.60	25.20	0.0	0.0
13	.00	-342.00	45.20	0.0	0.0
14	39.60	-267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	157.8	0.0
18	512.00	62.80	0.00	482.4	0.0
19	512.00	0.00	0.00	831.8	0.0
20	512.00	0.00	40.00	942.9	0.0
21	512.00	0.00	80.00	1932.8	0.0
22	512.00	0.00	120.00	5268.8	0.0
23	512.00	0.00	160.00	12260.1	0.0
25	512.00	0.00	240.00	29778.6	0.0
26	512.00	0.00	280.00	31706.8	0.0
27	512.00	0.00	320.00	25860.0	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	68.6
30	512.00	-187.20	0.00	0.0	765.5
31	512.00	-264.00	0.00	0.0	1320.5
32	844.00	-62.80	0.00	336.8	144.4
33	844.00	0.00	0.00	521.6	4.6
34	844.00	62.80	0.00	463.4	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	344.0	0.0
37	1284.00	0.00	0.00	378.2	172.2
38	1284.00	0.00	60.00	477.7	95.4
39	1284.00	0.00	120.00	726.4	31.3
40	1284.00	0.00	180.00	1306.7	9.1
41	1284.00	-91.60	0.00	230.9	575.9
42	1284.00	-187.20	0.00	5461.1	28.9
43	1844.00	30.40	0.00	341.4	238.7
44	1844.00	-30.40	0.00	0.0	346.7
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-16. Concentration Measurement Results

RUN NUMBER 16
STABILITY -- NEUTRAL
WIND DIR. -- -82.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	63.3	0.0
2	172.00	0.00	0.00	126.8	0.0
3	172.00	0.00	40.00	11849.6	0.0
4	172.00	0.00	80.00	43272.0	0.0
5	172.00	30.40	0.00	138.0	0.0
6	-65.34	-249.18	4.40	0.0	0.0
7	-27.15	-287.37	4.40	0.0	0.0
8	-2.83	-263.04	4.40	0.0	0.0
9	186.39	-246.36	14.00	0.0	0.0
10	285.67	-285.67	4.40	0.0	0.0
11	183.56	-183.57	0.00	0.0	0.0
12	203.36	-203.36	25.20	0.0	0.0
13	241.83	-241.83	45.20	0.0	0.0
14	217.22	-161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	1099.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	66.9	0.0
19	512.00	0.00	0.00	937.9	0.0
20	512.00	0.00	40.00	1105.4	0.0
21	512.00	0.00	80.00	3351.4	0.0
22	512.00	0.00	120.00	7185.5	0.0
23	512.00	0.00	160.00	15476.4	0.0
24	512.00	0.00	200.00	22353.2	0.0
25	512.00	0.00	240.00	28826.7	0.0
26	512.00	0.00	280.00	26868.3	0.0
27	512.00	0.00	320.00	19043.9	0.0
28	512.00	-62.80	0.00	221.3	46.1
29	512.00	-124.00	0.00	0.0	749.9
30	512.00	-187.20	0.00	0.0	847.1
31	512.00	-264.00	0.00	0.0	29.5
32	844.00	-62.80	0.00	123.0	833.9
33	844.00	0.00	0.00	345.1	78.4
34	844.00	62.80	0.00	74.7	6.8
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	11.1
37	1284.00	0.00	0.00	137.9	397.4
38	1284.00	0.00	60.00	238.6	296.5
39	1284.00	0.00	120.00	973.5	221.1
40	1284.00	0.00	180.00	1892.8	117.1
41	1284.00	-91.60	0.00	42.3	417.6
42	1284.00	-187.20	0.00	0.0	42.2
43	1844.00	30.40	0.00	43.8	94.8
44	1844.00	-30.40	0.00	65.2	252.6
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-17. Concentration Measurement Results

RUN NUMBER 17
STABILITY -- NEUTRAL
WIND DIR. -- 322.5
WIND SPEED 8.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	547.6	0.0
2	172.00	0.00	0.00	704.4	0.0
3	172.00	0.00	40.00	17472.2	0.0
4	172.00	0.00	80.00	59371.5	0.0
5	172.00	30.40	0.00	469.8	0.0
6	130.00	-222.40	4.40	0.0	0.0
7	184.00	-222.40	4.40	0.0	0.0
8	184.00	-188.00	4.40	0.0	0.0
9	306.00	-42.40	14.00	1270.0	0.0
10	404.00	0.00	4.40	1782.2	0.0
11	259.60	0.00	0.00	1599.3	0.0
12	287.60	0.00	25.20	1667.0	0.0
13	342.00	0.00	45.20	2413.3	24.5
14	267.60	39.60	12.00	1286.5	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	564.1	0.0
19	512.00	0.00	0.00	1642.3	11.4
20	512.00	0.00	40.00	2361.0	42.6
21	512.00	0.00	80.00	7309.6	280.1
22	512.00	0.00	120.00	17014.1	636.3
23	512.00	0.00	160.00	26501.7	581.1
24	512.00	0.00	200.00	33335.8	404.8
25	512.00	0.00	240.00	27994.3	87.9
26	512.00	0.00	280.00	15330.4	8.9
27	512.00	0.00	320.00	3610.5	0.0
28	512.00	-62.80	0.00	792.2	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	559.3	0.0
33	844.00	0.00	0.00	1170.8	20.7
34	844.00	62.80	0.00	866.5	5.3
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	649.9	0.0
37	1284.00	0.00	0.00	677.5	9.2
38	1284.00	0.00	60.00	900.7	11.8
39	1284.00	0.00	120.00	2108.8	25.5
40	1284.00	0.00	180.00	5312.0	42.7
41	1284.00	-91.60	0.00	0.0	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	606.7	6.4
44	1844.00	-30.40	0.00	396.3	0.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-18. Concentration Measurement Results

RUN NUMBER 18
STABILITY -- NEUTRAL
WIND DIR. -- 7.5
WIND SPEED 8.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	588.5	0.0
2	172.00	0.00	0.00	1343.1	0.0
3	172.00	0.00	40.00	24036.2	0.0
4	172.00	0.00	80.00	69743.5	0.0
5	172.00	30.40	0.00	494.2	0.0
6	249.18	-65.34	4.40	1927.4	0.0
7	287.37	-27.15	4.40	1582.3	0.0
8	263.04	-2.83	4.40	1079.1	0.0
9	246.36	186.39	14.00	0.0	0.0
10	285.67	285.67	4.40	0.0	0.0
11	183.56	183.57	0.00	0.0	0.0
12	203.36	203.36	25.20	0.0	0.0
13	241.83	241.83	45.20	0.0	0.0
14	161.22	217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	323.1
17	512.00	124.00	0.00	98.4	874.3
18	512.00	62.80	0.00	453.2	75.9
19	512.00	0.00	0.00	1524.8	0.0
20	512.00	0.00	40.00	2627.2	0.0
21	512.00	0.00	80.00	12085.4	0.0
22	512.00	0.00	120.00	25725.1	0.0
23	512.00	0.00	160.00	34501.3	0.0
24	512.00	0.00	200.00	35624.5	0.0
25	512.00	0.00	240.00	24917.3	0.0
26	512.00	0.00	280.00	10475.4	0.0
27	512.00	0.00	320.00	2757.6	0.0
28	512.00	-62.80	0.00	1240.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	863.4	0.0
33	844.00	0.00	0.00	1188.1	69.1
34	844.00	62.80	0.00	514.0	637.7
35	1284.00	187.20	0.00	0.0	125.9
36	1284.00	91.60	0.00	454.6	385.3
37	1284.00	0.00	0.00	803.5	143.3
38	1284.00	0.00	60.00	1022.8	184.6
39	1284.00	0.00	120.00	2922.7	130.2
40	1284.00	0.00	180.00	6564.7	71.3
41	1284.00	-91.60	0.00	363.8	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	562.0	200.5
44	1844.00	-30.40	0.00	462.5	53.4
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-19. Concentration Measurement Results

RUN NUMBER 19
STABILITY -- NEUTRAL
WIND DIR. -- 52.5
WIND SPEED 8.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	685.3	0.0
2	172.00	0.00	0.00	1376.1	0.0
3	172.00	0.00	40.00	25720.6	0.0
4	172.00	0.00	80.00	66427.2	0.0
5	172.00	30.40	0.00	885.0	0.0
6	222.40	130.00	4.40	0.0	13.1
7	222.40	184.00	4.40	0.0	181.9
8	188.00	184.00	4.40	0.0	81.1
9	42.40	306.00	14.00	0.0	0.0
10	-.00	404.00	4.40	0.0	0.0
11	-.00	259.60	0.00	0.0	0.0
12	-.00	287.60	25.20	0.0	0.0
13	-.00	342.00	45.20	0.0	0.0
14	-39.60	267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	508.1
16	512.00	187.20	0.00	243.2	997.6
17	512.00	124.00	0.00	0.0	371.0
18	512.00	62.80	0.00	630.1	10.3
19	512.00	0.00	0.00	1872.5	0.0
20	512.00	0.00	40.00	2449.5	0.0
21	512.00	0.00	80.00	8152.3	0.0
22	512.00	0.00	120.00	19813.6	0.0
23	512.00	0.00	160.00	30973.5	0.0
24	512.00	0.00	200.00	38408.7	0.0
25	512.00	0.00	240.00	33515.4	0.0
26	512.00	0.00	280.00	16065.3	0.0
28	512.00	-62.80	0.00	982.1	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	661.6	0.0
33	844.00	0.00	0.00	1262.0	3.0
34	844.00	62.80	0.00	820.8	144.8
36	1284.00	91.60	0.00	637.8	312.4
37	1284.00	0.00	0.00	822.4	16.1
38	1284.00	0.00	60.00	944.1	36.8
39	1284.00	0.00	120.00	1861.8	31.2
40	1284.00	0.00	180.00	4461.2	15.5
41	1284.00	-91.60	0.00	79.8	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	662.3	90.8
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-20. Concentration Measurement Results

RUN NUMBER 20

STABILITY -- NEUTRAL
WIND DIR. -- 97.5
WIND SPEED 8.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	723.2	0.0
3	172.00	0.00	40.00	23422.5	0.0
4	172.00	0.00	80.00	61339.8	0.0
5	172.00	30.40	0.00	234.3	3.3
6	65.34	249.18	4.40	0.0	0.0
7	27.15	287.37	4.40	0.0	0.0
8	2.83	263.04	4.40	0.0	0.0
9	-186.39	246.35	14.00	0.0	0.0
10	-285.67	285.67	4.40	0.0	0.0
11	-183.57	183.56	0.00	0.0	0.0
12	-203.37	203.36	25.20	0.0	0.0
14	-217.22	161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	13.8
16	512.00	187.20	0.00	0.0	229.9
17	512.00	124.00	0.00	0.0	584.0
18	512.00	62.80	0.00	114.9	454.9
19	512.00	0.00	0.00	1902.2	64.3
20	512.00	0.00	40.00	2471.7	77.2
21	512.00	0.00	80.00	8459.3	50.5
22	512.00	0.00	120.00	19347.1	24.8
23	512.00	0.00	160.00	30113.1	0.0
24	512.00	0.00	200.00	34995.5	0.0
25	512.00	0.00	240.00	28908.0	0.0
26	512.00	0.00	280.00	9815.4	0.0
27	512.00	0.00	320.00	3396.1	0.0
28	512.00	-62.80	0.00	1115.1	0.0
29	512.00	-124.00	0.00	125.9	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	319.2	7.0
33	844.00	0.00	0.00	1386.1	131.9
34	844.00	62.80	0.00	211.3	467.3
35	1284.00	187.20	0.00	0.0	139.4
36	1284.00	91.60	0.00	104.4	338.1
37	1284.00	0.00	0.00	823.1	114.2
38	1284.00	0.00	60.00	1032.3	132.0
39	1284.00	0.00	120.00	1968.3	123.3
40	1284.00	0.00	180.00	4496.8	93.5
41	1284.00	-91.60	0.00	113.1	4.7
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	0.0	22.4
44	1844.00	-30.40	0.00	151.3	32.9
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-21. Concentration Measurement Results

RUN NUMBER 21
STABILITY -- NEUTRAL
WIND DIR. -- 142.5
WIND SPEED 8.00 M/S AT 62.0 M

		TOWER	STACK
SOURCE DESIGNATION		TOWER	STACK
SOURCE FLOW RATE (CFM)		20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)		52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	295.9	85.0
2	172.00	0.00	0.00	926.9	79.3
3	172.00	0.00	40.00	27229.0	209.9
4	172.00	0.00	80.00	68915.7	409.7
5	172.00	30.40	0.00	290.1	47.9
6	-130.00	222.40	4.40	0.0	0.0
7	-184.00	222.40	4.40	0.0	0.0
8	-184.00	188.00	4.40	0.0	0.0
9	-306.00	42.40	14.00	0.0	0.0
10	-404.00	-.00	4.40	0.0	0.0
11	-259.60	-.00	0.00	0.0	0.0
12	-287.60	-.00	25.20	0.0	0.0
13	-342.00	-.00	45.20	0.0	0.0
14	-267.60	-39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	169.6	3.5
19	512.00	0.00	0.00	1978.9	46.3
20	512.00	0.00	40.00	4224.3	32.1
21	512.00	0.00	80.00	15106.9	85.1
22	512.00	0.00	120.00	25415.2	140.1
23	512.00	0.00	160.00	32381.9	186.1
24	512.00	0.00	200.00	33189.3	198.5
25	512.00	0.00	240.00	21316.9	130.9
26	512.00	0.00	280.00	8628.8	56.0
27	512.00	0.00	320.00	2229.1	8.1
28	512.00	-62.80	0.00	1396.4	27.8
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	920.5	10.2
33	844.00	0.00	0.00	1506.6	13.6
34	844.00	62.80	0.00	283.6	5.3
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	157.2	0.0
37	1284.00	0.00	0.00	938.9	5.0
38	1284.00	0.00	60.00	1382.6	5.7
39	1284.00	0.00	120.00	3553.8	17.2
40	1284.00	0.00	180.00	7231.7	37.0
41	1284.00	-91.60	0.00	179.1	3.1
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	294.1	4.9
44	1844.00	-30.40	0.00	271.7	4.2
45	26.95	-26.95	0.00	0.0	187.1
46	26.95	26.95	0.00	0.0	323.0
47	-26.95	-26.95	0.00	0.0	235.4
48	-26.95	26.95	0.00	0.0	265.0

Table 5-22. Concentration Measurement Results

RUN NUMBER 22
STABILITY -- NEUTRAL
WIND DIR. -- 187.5
WIND SPEED 8.00 M/S AT 62.0 M

SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	186.5	20.6
2	172.00	0.00	0.00	1018.0	0.0
3	172.00	0.00	40.00	24680.4	0.0
4	172.00	0.00	80.00	64102.1	0.0
5	172.00	30.40	0.00	767.9	0.0
6	-249.19	65.33	4.40	0.0	0.0
7	-287.37	27.15	4.40	0.0	0.0
8	-263.04	2.83	4.40	0.0	0.0
9	-246.35	-186.40	14.00	0.0	0.0
10	-285.67	-285.67	4.40	0.0	0.0
11	-183.56	-183.57	0.00	0.0	0.0
12	-203.36	-203.37	25.20	0.0	0.0
13	-241.83	-241.83	45.20	0.0	0.0
14	-161.22	-217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	877.8	0.0
19	512.00	0.00	0.00	1793.5	85.4
20	512.00	0.00	40.00	3697.6	112.6
21	512.00	0.00	80.00	11724.2	80.1
22	512.00	0.00	120.00	22066.2	39.8
23	512.00	0.00	160.00	29724.3	16.0
24	512.00	0.00	200.00	32483.0	0.0
25	512.00	0.00	240.00	23076.1	0.0
26	512.00	0.00	280.00	9431.7	0.0
27	512.00	0.00	320.00	2388.3	0.0
28	512.00	-62.80	0.00	245.8	478.3
29	512.00	-124.00	0.00	0.0	574.8
30	512.00	-187.20	0.00	0.0	305.2
31	512.00	-264.00	0.00	0.0	43.4
32	844.00	-62.80	0.00	92.9	445.8
33	844.00	0.00	0.00	1315.4	307.8
34	844.00	62.80	0.00	1141.7	43.2
35	1284.00	187.20	0.00	0.0	0.0
37	1284.00	0.00	0.00	759.8	262.3
38	1284.00	0.00	60.00	1472.8	231.5
39	1284.00	0.00	120.00	3078.5	145.4
40	1284.00	0.00	180.00	6659.5	92.7
41	1284.00	-91.60	0.00	0.0	122.7
42	1284.00	-187.20	0.00	0.0	47.3
43	1844.00	30.40	0.00	251.8	150.7
44	1844.00	-30.40	0.00	174.8	59.9
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-23. Concentration Measurement Results

RUN NUMBER 23
STABILITY -- NEUTRAL
WIND DIR. -- 232.5
WIND SPEED 8.00 M/S AT 62.0 M

SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
2	172.00	0.00	0.00	1447.2	0.0
3	172.00	0.00	40.00	20666.0	0.0
4	172.00	0.00	80.00	71406.8	0.0
5	172.00	30.40	0.00	748.3	0.0
6	-222.40	-130.00	4.40	0.0	0.0
7	-222.40	-184.00	4.40	0.0	0.0
8	-188.00	-184.00	4.40	0.0	0.0
9	-42.40	-306.00	14.00	0.0	0.0
10	.00	-404.00	4.40	0.0	0.0
11	.00	-259.60	0.00	0.0	0.0
12	.00	-287.60	25.20	0.0	0.0
13	.00	-342.00	45.20	0.0	0.0
14	39.60	-267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	631.1	0.0
19	512.00	0.00	0.00	1840.7	0.0
20	512.00	0.00	40.00	3694.4	0.0
21	512.00	0.00	80.00	14285.0	0.0
22	512.00	0.00	120.00	24597.5	0.0
23	512.00	0.00	160.00	33715.5	0.0
24	512.00	0.00	200.00	32464.0	0.0
25	512.00	0.00	240.00	20167.7	0.0
26	512.00	0.00	280.00	7490.6	0.0
27	512.00	0.00	320.00	1719.3	0.0
28	512.00	-62.80	0.00	804.1	0.0
29	512.00	-124.00	0.00	123.1	72.0
30	512.00	-187.20	0.00	0.0	699.7
32	844.00	-62.80	0.00	230.1	146.5
33	844.00	0.00	0.00	1329.4	5.5
34	844.00	62.80	0.00	920.8	0.0
35	1284.00	187.20	0.00	89.8	0.0
38	1284.00	0.00	60.00	1498.0	117.0
39	1284.00	0.00	120.00	3722.2	25.2
40	1284.00	0.00	180.00	7456.8	0.0
41	1284.00	-91.60	0.00	80.2	359.8
42	1284.00	-187.20	0.00	0.0	263.4
43	1844.00	30.40	0.00	917.6	192.8
44	1844.00	-30.40	0.00	716.6	197.8
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-24. Concentration Measurement Results

RUN NUMBER 24
STABILITY -- NEUTRAL
WIND DIR. -- -82.5
WIND SPEED 8.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	230.1	0.0
2	172.00	0.00	0.00	868.2	0.0
3	172.00	0.00	40.00	22623.9	0.0
4	172.00	0.00	80.00	62416.7	0.0
5	172.00	30.40	0.00	880.5	0.0
6	-65.34	-249.18	4.40	0.0	0.0
7	-27.15	-287.37	4.40	0.0	0.0
8	-2.83	-263.04	4.40	0.0	0.0
9	186.39	-246.36	14.00	0.0	0.0
10	285.67	-285.67	4.40	0.0	0.0
11	183.56	-183.57	0.00	0.0	0.0
12	203.36	-203.36	25.20	0.0	0.0
13	241.83	-241.83	45.20	0.0	0.0
14	217.22	-161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	215.0	0.0
19	512.00	0.00	0.00	1836.6	0.0
20	512.00	0.00	40.00	3958.0	0.0
21	512.00	0.00	80.00	13246.3	0.0
22	512.00	0.00	120.00	24157.7	0.0
23	512.00	0.00	160.00	31863.9	0.0
24	512.00	0.00	200.00	33803.6	0.0
25	512.00	0.00	240.00	24201.4	0.0
26	512.00	0.00	280.00	12365.8	0.0
27	512.00	0.00	320.00	2694.2	0.0
28	512.00	-62.80	0.00	563.1	12.3
29	512.00	-124.00	0.00	87.0	513.3
30	512.00	-187.20	0.00	0.0	881.5
31	512.00	-264.00	0.00	0.0	59.9
32	844.00	-62.80	0.00	349.8	647.8
33	844.00	0.00	0.00	1503.2	31.2
34	844.00	62.80	0.00	270.3	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	120.0	3.0
37	1284.00	0.00	0.00	990.6	364.9
38	1284.00	0.00	60.00	1382.0	232.1
39	1284.00	0.00	120.00	3283.4	105.6
40	1284.00	0.00	180.00	7081.6	47.6
41	1284.00	-91.60	0.00	113.3	343.4
42	1284.00	-187.20	0.00	0.0	42.5
43	1844.00	30.40	0.00	347.5	170.9
44	1844.00	-30.40	0.00	234.9	166.7
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-25. Concentration Measurement Results

RUN NUMBER 25
STABILITY -- NEUTRAL
WIND DIR. -- 322.5
WIND SPEED 10.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	1319.0	0.0
2	172.00	0.00	0.00	1917.7	0.0
3	172.00	0.00	40.00	31559.2	0.0
4	172.00	0.00	80.00	75832.5	0.0
5	172.00	30.40	0.00	1461.0	0.0
6	130.00	-222.40	4.40	0.0	0.0
7	184.00	-222.40	4.40	0.0	0.0
8	184.00	-188.00	4.40	0.0	0.0
9	306.00	-42.40	14.00	1694.4	0.0
10	404.00	0.00	4.40	3785.4	0.0
11	259.60	0.00	0.00	3064.6	0.0
12	287.60	0.00	25.20	3734.6	3.0
13	342.00	0.00	45.20	5186.6	11.0
14	267.60	39.60	12.00	2841.3	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	50.7	0.0
17	512.00	124.00	0.00	91.3	0.0
18	512.00	62.80	0.00	1329.1	0.0
19	512.00	0.00	0.00	3298.1	5.0
20	512.00	0.00	40.00	5399.9	23.0
21	512.00	0.00	80.00	14182.2	192.4
22	512.00	0.00	120.00	25263.8	486.0
23	512.00	0.00	160.00	32825.3	589.2
24	512.00	0.00	200.00	31242.7	292.6
25	512.00	0.00	240.00	18151.6	31.1
26	512.00	0.00	280.00	5968.6	11.0
27	512.00	0.00	320.00	1461.0	0.0
28	512.00	-62.80	0.00	1055.1	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	974.0	3.0
33	844.00	0.00	0.00	2678.9	10.0
34	844.00	62.80	0.00	1664.0	12.0
35	1284.00	187.20	0.00	91.3	0.0
37	1284.00	0.00	0.00	1481.3	8.0
38	1284.00	0.00	60.00	2110.5	12.0
39	1284.00	0.00	120.00	4689.0	29.1
40	1284.00	0.00	180.00	8071.5	50.1
41	1284.00	-91.60	0.00	649.3	0.0
42	1284.00	-187.20	0.00	81.2	0.0
43	1844.00	30.40	0.00	1400.1	7.0
44	1844.00	-30.40	0.00	943.5	4.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-26. Concentration Measurement Results

RUN NUMBER 26
STABILITY -- NEUTRAL
WIND DIR. -- 7.5
WIND SPEED 10.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION		
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	1017.7	0.0
2	172.00	0.00	0.00	1836.4	0.0
3	172.00	0.00	40.00	40503.4	0.0
4	172.00	0.00	80.00	83358.2	0.0
5	172.00	30.40	0.00	586.2	0.0
6	249.18	-65.34	4.40	3321.2	0.0
7	287.37	-27.15	4.40	2638.3	0.0
8	263.04	-2.83	4.40	1302.1	0.0
9	246.36	186.39	14.00	0.0	8.8
10	285.67	285.67	4.40	0.0	0.0
11	183.56	183.57	0.00	0.0	0.0
13	241.83	241.83	45.20	0.0	14.3
14	161.22	217.22	12.00	0.0	0.0
16	512.00	187.20	0.00	0.0	200.8
17	512.00	124.00	0.00	97.7	742.5
18	512.00	62.80	0.00	540.5	159.6
19	512.00	0.00	0.00	2617.6	0.0
20	512.00	0.00	40.00	8624.2	0.0
21	512.00	0.00	80.00	21439.7	0.0
22	512.00	0.00	120.00	34506.8	0.0
23	512.00	0.00	160.00	36112.6	0.0
24	512.00	0.00	200.00	27505.1	0.0
25	512.00	0.00	240.00	13476.4	0.0
26	512.00	0.00	280.00	4322.5	0.0
27	512.00	0.00	320.00	945.0	0.0
28	512.00	-62.80	0.00	2443.9	0.0
29	512.00	-124.00	0.00	225.9	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
33	844.00	0.00	0.00	1947.0	147.5
34	844.00	62.80	0.00	648.0	550.0
35	1284.00	187.20	0.00	0.0	55.1
36	1284.00	91.60	0.00	336.8	266.7
37	1284.00	0.00	0.00	1515.5	224.1
38	1284.00	0.00	60.00	2115.6	174.7
39	1284.00	0.00	120.00	5599.1	108.9
40	1284.00	0.00	180.00	9754.3	58.0
41	1284.00	-91.60	0.00	754.2	6.5
42	1284.00	-187.20	0.00	147.0	0.0
43	1844.00	30.40	0.00	759.7	192.9
44	1844.00	-30.40	0.00	1018.0	95.8
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0

Table 5-27. Concentration Measurement Results

RUN NUMBER 27
STABILITY -- NEUTRAL
WIND DIR. -- 52.5
WIND SPEED 10.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	1238.7	0.0
2	172.00	0.00	0.00	1445.8	0.0
3	172.00	0.00	40.00	34812.8	0.0
4	172.00	0.00	80.00	74256.5	0.0
5	172.00	30.40	0.00	1639.4	0.0
6	222.40	130.00	4.40	0.0	0.0
7	222.40	184.00	4.40	0.0	155.3
8	188.00	184.00	4.40	0.0	63.6
9	42.40	306.00	14.00	0.0	0.0
10	-.00	404.00	4.40	0.0	0.0
11	-.00	259.60	0.00	0.0	0.0
12	-.00	287.60	25.20	0.0	0.0
13	-.00	342.00	45.20	0.0	0.0
14	-39.60	267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	405.0
16	512.00	187.20	0.00	0.0	681.8
17	512.00	124.00	0.00	0.0	188.1
18	512.00	62.80	0.00	762.3	0.0
19	512.00	0.00	0.00	2355.6	0.0
20	512.00	0.00	40.00	5126.3	0.0
21	512.00	0.00	80.00	17422.0	0.0
22	512.00	0.00	120.00	28407.2	0.0
23	512.00	0.00	160.00	36020.7	0.0
24	512.00	0.00	200.00	33185.3	0.0
25	512.00	0.00	240.00	20089.3	0.0
26	512.00	0.00	280.00	5855.3	0.0
27	512.00	0.00	320.00	1089.0	0.0
28	512.00	-62.80	0.00	1179.8	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	731.6	0.0
33	844.00	0.00	0.00	1929.8	0.0
34	844.00	62.80	0.00	1196.6	59.3
35	1284.00	187.20	0.00	0.0	397.6
36	1284.00	91.60	0.00	1078.8	185.5
37	1284.00	0.00	0.00	992.4	3.6
38	1284.00	0.00	60.00	1650.0	11.7
39	1284.00	0.00	120.00	4239.4	5.9
40	1284.00	0.00	180.00	8965.1	0.0
41	1284.00	-91.60	0.00	120.3	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	992.7	35.1
44	1844.00	-30.40	0.00	615.6	0.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-28. Concentration Measurement Results

RUN NUMBER 28
STABILITY -- NEUTRAL
WIND DIR. -- 97.5
WIND SPEED 10.00 M/S AT 62.0 M

SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	833.2	0.0
2	172.00	0.00	0.00	1752.4	0.0
3	172.00	0.00	40.00	41093.7	0.0
4	172.00	0.00	80.00	75442.6	0.0
5	172.00	30.40	0.00	1096.2	3.4
6	65.34	249.18	4.40	0.0	0.0
7	27.15	287.37	4.40	0.0	0.0
8	2.83	263.04	4.40	0.0	0.0
9	0.00	0.00	14.00	0.0	0.0
10	-285.67	285.67	4.40	0.0	0.0
11	-183.57	183.56	0.00	0.0	0.0
12	-203.37	203.36	25.20	0.0	0.0
13	-241.83	241.83	45.20	0.0	0.0
14	-217.22	161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	27.0
16	512.00	187.20	0.00	0.0	229.6
17	512.00	124.00	0.00	0.0	417.2
18	512.00	62.80	0.00	680.8	293.1
19	512.00	0.00	0.00	2736.0	47.6
20	512.00	0.00	40.00	6881.9	62.0
21	512.00	0.00	80.00	19105.5	34.6
22	512.00	0.00	120.00	31452.2	9.2
23	512.00	0.00	160.00	36601.0	3.5
24	512.00	0.00	200.00	31110.8	0.0
25	512.00	0.00	240.00	14039.4	0.0
26	512.00	0.00	280.00	4589.2	0.0
27	512.00	0.00	320.00	908.8	0.0
28	512.00	-62.80	0.00	1144.2	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	1007.5	6.4
33	844.00	0.00	0.00	2146.1	103.0
34	844.00	62.80	0.00	1035.5	316.1
35	1284.00	187.20	0.00	0.0	179.9
36	1284.00	91.60	0.00	895.2	252.9
37	1284.00	0.00	0.00	1278.9	69.4
38	1284.00	0.00	60.00	2002.9	89.5
39	1284.00	0.00	120.00	4672.9	81.7
40	1284.00	0.00	180.00	9519.6	56.9
41	1284.00	-91.60	0.00	157.0	5.4
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	1159.6	115.2
44	1844.00	-30.40	0.00	276.7	21.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-29. Concentration Measurement Results

RUN NUMBER 29
STABILITY -- NEUTRAL
WIND DIR. -- 142.5
WIND SPEED 10.00 M/S AT 62.0 M

SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	1360.7	84.7
2	172.00	0.00	0.00	2265.4	107.9
3	172.00	0.00	40.00	40204.3	245.9
4	172.00	0.00	80.00	76071.4	394.6
5	172.00	30.40	0.00	1261.8	49.7
6	-130.00	222.40	4.40	0.0	0.0
7	-184.00	222.40	4.40	0.0	0.0
8	-184.00	188.00	4.40	0.0	0.0
9	-306.00	42.40	14.00	0.0	0.0
10	-404.00	-.00	4.40	0.0	0.0
11	-259.60	-.00	0.00	0.0	0.0
12	-287.60	-.00	25.20	0.0	0.0
13	-342.00	-.00	45.20	0.0	0.0
14	-267.60	-39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	74.1	0.0
18	512.00	62.80	0.00	1271.4	10.0
19	512.00	0.00	0.00	3632.6	48.0
20	512.00	0.00	40.00	8610.8	53.0
21	512.00	0.00	80.00	24720.1	115.3
22	512.00	0.00	120.00	30770.6	155.8
23	512.00	0.00	160.00	33943.1	180.8
24	512.00	0.00	200.00	25777.6	141.5
25	512.00	0.00	240.00	12686.2	69.5
26	512.00	0.00	280.00	4417.7	13.7
27	512.00	0.00	320.00	810.0	0.0
28	512.00	-62.80	0.00	1940.7	35.8
29	512.00	-124.00	0.00	162.5	8.2
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	1581.0	13.5
33	844.00	0.00	0.00	3199.9	21.5
34	844.00	62.80	0.00	1837.6	9.5
35	1284.00	187.20	0.00	138.1	0.0
36	1284.00	91.60	0.00	1470.5	4.6
37	1284.00	0.00	0.00	1592.0	8.4
38	1284.00	0.00	60.00	2732.1	11.7
39	1284.00	0.00	120.00	6155.2	29.2
40	1284.00	0.00	180.00	10395.3	55.5
41	1284.00	-91.60	0.00	230.7	4.8
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	1376.6	4.4
44	1844.00	-30.40	0.00	909.4	0.0
45	26.95	-26.95	0.00	0.0	232.8
46	26.95	26.95	0.00	0.0	277.8
47	-26.95	-26.95	0.00	0.0	220.8
48	-26.95	26.95	0.00	0.0	239.6

Table 5-30. Concentration Measurement Results

RUN NUMBER 30
STABILITY -- NEUTRAL
WIND DIR. -- 187.5
WIND SPEED 10.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	681.5	14.3
2	172.00	0.00	0.00	2211.1	0.0
3	172.00	0.00	40.00	48155.4	0.0
4	172.00	0.00	80.00	83378.5	0.0
5	172.00	30.40	0.00	959.0	0.0
6	-249.19	65.33	4.40	0.0	0.0
7	-287.37	27.15	4.40	0.0	0.0
8	-263.04	2.83	4.40	0.0	0.0
9	-246.35	-186.40	14.00	0.0	0.0
10	-285.67	-285.67	4.40	0.0	0.0
11	-183.56	-183.57	0.00	0.0	4.8
12	-203.36	-203.37	25.20	0.0	0.0
13	-241.83	-241.83	45.20	0.0	0.0
14	-161.22	-217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	95.1	0.0
18	512.00	62.80	0.00	1743.9	0.0
19	512.00	0.00	0.00	3475.5	40.3
20	512.00	0.00	40.00	10430.1	51.1
21	512.00	0.00	80.00	22740.1	20.6
22	512.00	0.00	120.00	32174.5	11.2
23	512.00	0.00	160.00	32860.4	5.3
24	512.00	0.00	200.00	24252.1	0.0
25	512.00	0.00	240.00	10821.5	0.0
26	512.00	0.00	280.00	2871.5	0.0
27	512.00	0.00	320.00	741.3	0.0
28	512.00	-62.80	0.00	1198.3	317.5
29	512.00	-124.00	0.00	0.0	423.8
30	512.00	-187.20	0.00	0.0	253.1
31	512.00	-264.00	0.00	0.0	56.5
32	844.00	-62.80	0.00	1112.3	300.3
33	844.00	0.00	0.00	2577.1	171.3
34	844.00	62.80	0.00	1798.3	23.0
35	1284.00	187.20	0.00	173.6	0.0
36	1284.00	91.60	0.00	1429.9	35.8
37	1284.00	0.00	0.00	1475.3	186.5
38	1284.00	0.00	60.00	2720.1	140.4
39	1284.00	0.00	120.00	6062.3	94.8
40	1284.00	0.00	180.00	9714.2	55.5
41	1284.00	-91.60	0.00	668.4	111.3
42	1284.00	-187.20	0.00	88.2	50.7
43	1844.00	30.40	0.00	1328.3	92.5
44	1844.00	-30.40	0.00	935.0	62.9
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-31. Concentration Measurement Results

RUN NUMBER 31
STABILITY -- NEUTRAL
WIND DIR. -- 232.5
WIND SPEED 10.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	1295.4	0.0
2	172.00	0.00	0.00	2180.8	0.0
3	172.00	0.00	40.00	46974.3	0.0
4	172.00	0.00	80.00	79011.7	0.0
5	172.00	30.40	0.00	1140.5	0.0
6	-222.40	-130.00	4.40	0.0	0.0
7	-222.40	-184.00	4.40	0.0	0.0
8	-188.00	-184.00	4.40	0.0	0.0
9	-42.40	-306.00	14.00	0.0	0.0
10	.00	-404.00	4.40	0.0	0.0
11	.00	-259.60	0.00	0.0	0.0
12	.00	-287.60	25.20	0.0	0.0
13	.00	-342.00	45.20	0.0	0.0
14	39.60	-267.60	12.00	0.0	9.6
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	150.6	0.0
18	512.00	62.80	0.00	1490.9	0.0
19	512.00	0.00	0.00	3556.4	0.0
20	512.00	0.00	40.00	8747.4	0.0
21	512.00	0.00	80.00	22144.2	0.0
22	512.00	0.00	120.00	31587.3	0.0
23	512.00	0.00	160.00	32783.2	0.0
24	512.00	0.00	200.00	24859.2	0.0
25	512.00	0.00	240.00	10763.6	0.0
26	512.00	0.00	280.00	2261.0	0.0
27	512.00	0.00	320.00	123.3	0.0
28	512.00	-62.80	0.00	2019.6	0.0
29	512.00	-124.00	0.00	195.9	55.2
30	512.00	-187.20	0.00	0.0	472.7
31	512.00	-264.00	0.00	0.0	641.5
32	844.00	-62.80	0.00	1567.8	62.9
33	844.00	0.00	0.00	3284.1	0.0
34	844.00	62.80	0.00	1857.8	0.0
35	1284.00	187.20	0.00	81.6	0.0
37	1284.00	0.00	0.00	1519.4	130.5
38	1284.00	0.00	60.00	3075.8	61.0
39	1284.00	0.00	120.00	6131.5	21.5
40	1284.00	0.00	180.00	9733.2	5.4
41	1284.00	-91.60	0.00	208.4	217.5
42	1284.00	-187.20	0.00	103.1	178.7
43	1844.00	30.40	0.00	1405.4	111.1
44	1844.00	-30.40	0.00	1051.5	138.6
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-32. Concentration Measurement Results

RUN NUMBER 32
STABILITY -- NEUTRAL
WIND DIR. -- -82.5
WIND SPEED 10.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION		
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	933.6	0.0
2	172.00	0.00	0.00	1707.2	0.0
3	172.00	0.00	40.00	41002.0	0.0
4	172.00	0.00	80.00	74430.7	0.0
5	172.00	30.40	0.00	1414.0	0.0
6	-55.34	-249.18	4.40	0.0	0.0
7	-27.15	-287.37	4.40	0.0	0.0
8	-2.83	-263.04	4.40	0.0	0.0
9	186.39	-246.36	14.00	0.0	0.0
10	285.67	-285.67	4.40	0.0	0.0
11	183.56	-183.57	0.00	0.0	0.0
12	203.36	-203.36	25.20	0.0	0.0
13	241.83	-241.83	45.20	0.0	0.0
14	217.22	-161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	76.3	0.0
17	512.00	124.00	0.00	65.5	0.0
18	512.00	62.80	0.00	1322.0	0.0
19	512.00	0.00	0.00	3616.1	0.0
20	512.00	0.00	40.00	8461.4	0.0
21	512.00	0.00	80.00	19584.7	0.0
22	512.00	0.00	120.00	28114.0	0.0
23	512.00	0.00	160.00	32168.4	0.0
24	512.00	0.00	200.00	25707.6	0.0
25	512.00	0.00	240.00	11401.4	0.0
26	512.00	0.00	280.00	3129.3	0.0
27	512.00	0.00	320.00	201.3	0.0
28	512.00	-62.80	0.00	1460.0	3.6
29	512.00	-124.00	0.00	92.4	392.9
30	512.00	-187.20	0.00	0.0	846.2
31	512.00	-264.00	0.00	0.0	85.5
32	844.00	-62.80	0.00	1355.3	425.3
33	844.00	0.00	0.00	2926.7	12.1
34	844.00	62.80	0.00	1585.0	16.3
35	1284.00	187.20	0.00	64.5	0.0
36	1284.00	91.60	0.00	1176.7	6.2
37	1284.00	0.00	0.00	1655.8	298.2
38	1284.00	0.00	60.00	2493.1	162.2
39	1284.00	0.00	120.00	4845.2	66.9
40	1284.00	0.00	180.00	7955.8	29.1
41	1284.00	-91.60	0.00	269.4	208.7
42	1284.00	-187.20	0.00	80.7	55.4
43	1844.00	30.40	0.00	1505.3	162.2
44	1844.00	-30.40	0.00	1162.3	104.3
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-33A. Concentration Measurement Results

RUN NUMBER 33A
STABILITY -- STABLE
WIND DIR. -- 322.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	0.0	0.0
4	172.00	0.00	80.00	5966.5	0.0
5	172.00	30.40	0.00	0.0	0.0
6	130.00	-222.40	4.40	0.0	0.0
7	184.00	-222.40	4.40	0.0	0.0
8	184.00	-188.00	4.40	0.0	0.0
9	306.00	-42.40	14.00	34.9	11.8
10	404.00	0.00	4.40	97.9	1565.8
11	259.60	0.00	0.00	24.4	0.0
12	287.60	0.00	25.20	75.8	0.0
13	342.00	0.00	45.20	658.3	9724.1
14	267.60	39.60	12.00	0.0	5.2
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	6.4
19	512.00	0.00	0.00	53.6	696.4
20	512.00	0.00	40.00	669.5	5121.0
21	512.00	0.00	80.00	2381.1	359.0
22	512.00	0.00	120.00	6929.0	18.8
23	512.00	0.00	160.00	15500.8	0.0
24	512.00	0.00	200.00	22133.7	0.0
25	512.00	0.00	240.00	31142.7	0.0
26	512.00	0.00	280.00	39812.5	0.0
27	512.00	0.00	320.00	41153.6	0.0
28	512.00	-62.80	0.00	58.6	91.0
29	512.00	-124.00	0.00	0.0	4.6
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	45.1	503.4
33	844.00	0.00	0.00	83.8	1499.9
34	844.00	62.80	0.00	0.0	380.5
35	1284.00	187.20	0.00	0.0	50.4
36	1284.00	91.60	0.00	0.0	483.4
37	1284.00	0.00	0.00	90.8	1738.8
38	1284.00	0.00	60.00	1363.6	635.9
39	1284.00	0.00	120.00	2310.9	0.0
40	1284.00	0.00	180.00	4892.6	0.0
41	1284.00	-91.60	0.00	44.0	410.1
42	1284.00	-187.20	0.00	0.0	101.5
43	1844.00	30.40	0.00	71.4	1327.5
44	1844.00	-30.40	0.00	99.3	1565.6
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-34A. Concentration Measurement Results

RUN NUMBER 34A
STABILITY -- STABLE
WIND DIR. -- 7.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	0.0	0.0
4	172.00	0.00	80.00	573.0	0.0
5	172.00	30.40	0.00	0.0	0.0
6	249.18	-65.34	4.40	0.0	0.0
7	287.37	-27.15	4.40	0.0	0.0
8	263.04	-2.83	4.40	0.0	0.0
9	246.36	186.39	14.00	0.0	0.0
10	285.67	285.67	4.40	0.0	0.0
11	183.56	183.57	0.00	0.0	0.0
12	203.36	203.36	25.20	0.0	0.0
13	241.83	241.83	45.20	0.0	0.0
14	161.22	217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	6.9
20	512.00	0.00	40.00	311.9	47.4
21	512.00	0.00	80.00	1003.2	0.0
22	512.00	0.00	120.00	1949.2	0.0
23	512.00	0.00	160.00	8238.6	0.0
24	512.00	0.00	200.00	18941.3	0.0
25	512.00	0.00	240.00	31513.0	0.0
26	512.00	0.00	280.00	38784.8	0.0
27	512.00	0.00	320.00	42096.8	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	4.2
33	844.00	0.00	0.00	0.0	13.6
34	844.00	62.80	0.00	0.0	5.1
35	1284.00	187.20	0.00	0.0	95.5
36	1284.00	91.60	0.00	0.0	23.9
37	1284.00	0.00	0.00	0.0	21.4
38	1284.00	0.00	60.00	506.7	8.4
39	1284.00	0.00	120.00	1181.7	0.0
40	1284.00	0.00	180.00	2594.2	0.0
41	1284.00	-91.60	0.00	0.0	3.4
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	0.0	34.6
44	1844.00	-30.40	0.00	115.9	20.3
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-35A. Concentration Measurement Results

RUN NUMBER 35A
STABILITY -- STABLE
WIND DIR. -- 52.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	0.0	0.0
4	172.00	0.00	80.00	3066.5	0.0
5	172.00	30.40	0.00	0.0	0.0
6	222.40	130.00	4.40	0.0	0.0
7	222.40	184.00	4.40	0.0	0.0
8	188.00	184.00	4.40	0.0	0.0
9	42.40	306.00	14.00	0.0	0.0
10	-.00	404.00	4.40	0.0	0.0
11	-.00	259.60	0.00	0.0	0.0
12	-.00	287.60	25.20	0.0	0.0
13	-.00	342.00	45.20	0.0	0.0
14	-39.60	267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	951.7	0.0
21	512.00	0.00	80.00	3949.8	0.0
22	512.00	0.00	120.00	9555.0	0.0
23	512.00	0.00	160.00	19511.9	0.0
24	512.00	0.00	200.00	25648.6	0.0
25	512.00	0.00	240.00	34048.8	0.0
26	512.00	0.00	280.00	41515.0	0.0
27	512.00	0.00	320.00	41695.7	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	155.7	0.0
34	844.00	62.80	0.00	134.9	0.0
35	1284.00	187.20	0.00	0.0	56.7
36	1284.00	91.60	0.00	144.1	0.0
37	1284.00	0.00	0.00	223.2	4.2
38	1284.00	0.00	60.00	1779.7	0.0
39	1284.00	0.00	120.00	3117.3	0.0
40	1284.00	0.00	180.00	5186.6	0.0
41	1284.00	-91.60	0.00	0.0	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	294.0	3.4
44	1844.00	-30.40	0.00	242.0	3.7
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-36A. Concentration Measurement Results

RUN NUMBER 36A
STABILITY -- STABLE
WIND DIR. -- 97.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	0.0	0.0
4	172.00	0.00	80.00	2536.4	0.0
5	172.00	30.40	0.00	0.0	0.0
6	65.34	249.18	4.40	0.0	0.0
7	27.15	287.37	4.40	0.0	0.0
8	2.83	263.04	4.40	0.0	0.0
9	-186.39	246.35	14.00	0.0	0.0
10	-285.67	285.67	4.40	0.0	0.0
11	-183.57	183.56	0.00	0.0	0.0
12	-203.37	203.36	25.20	0.0	0.0
13	-241.83	241.83	45.20	0.0	0.0
14	-217.22	161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	7.1
17	512.00	124.00	0.00	0.0	61.3
18	512.00	62.80	0.00	0.0	21.4
19	512.00	0.00	0.00	0.0	6.3
20	512.00	0.00	40.00	822.6	7.6
21	512.00	0.00	80.00	2542.2	0.0
22	512.00	0.00	120.00	6350.9	0.0
23	512.00	0.00	160.00	14488.2	0.0
24	512.00	0.00	200.00	23186.9	0.0
25	512.00	0.00	240.00	33697.6	0.0
26	512.00	0.00	280.00	40673.0	0.0
27	512.00	0.00	320.00	40239.3	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	214.5	7.7
34	844.00	62.80	0.00	0.0	35.9
35	1284.00	187.20	0.00	0.0	444.3
36	1284.00	91.60	0.00	199.0	243.4
37	1284.00	0.00	0.00	296.0	13.9
38	1284.00	0.00	60.00	1188.8	11.6
39	1284.00	0.00	120.00	2364.0	0.0
40	1284.00	0.00	180.00	5414.7	0.0
41	1284.00	-91.60	0.00	0.0	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	391.0	201.9
44	1844.00	-30.40	0.00	280.8	8.4
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-37A. Concentration Measurement Results

RUN NUMBER 37A
STABILITY -- STABLE
WIND DIR. -- 142.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	726.4	6.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	0.0	0.0
4	172.00	0.00	80.00	1604.6	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-130.00	222.40	4.40	0.0	0.0
7	-184.00	222.40	4.40	0.0	0.0
8	-184.00	188.00	4.40	0.0	0.0
9	-306.00	42.40	14.00	0.0	0.0
10	-404.00	-.00	4.40	0.0	0.0
11	-259.60	-.00	0.00	0.0	0.0
12	-287.60	-.00	25.20	0.0	0.0
13	-342.00	-.00	45.20	0.0	0.0
14	-267.60	-39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	512.1	6.9
21	512.00	0.00	80.00	1741.5	15.1
22	512.00	0.00	120.00	4315.3	40.8
23	512.00	0.00	160.00	12298.4	109.9
24	512.00	0.00	200.00	21833.4	183.1
25	512.00	0.00	240.00	32554.3	262.5
26	512.00	0.00	280.00	39961.6	299.9
27	512.00	0.00	320.00	37884.8	268.8
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	0.0	0.0
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
38	1284.00	0.00	60.00	1316.5	10.4
39	1284.00	0.00	120.00	1947.1	16.0
40	1284.00	0.00	180.00	4704.9	35.2
41	1284.00	-91.60	0.00	0.0	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	-30.40	0.00	0.0	0.0
44	1844.00	-30.40	0.00	216.3	0.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-38A. Concentration Measurement Results

RUN NUMBER 38A
STABILITY -- STABLE
WIND DIR. -- 187.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	115.8
2	172.00	0.00	0.00	0.0	32.4
3	172.00	0.00	40.00	0.0	37.0
4	172.00	0.00	80.00	1316.2	5.6
5	172.00	30.40	0.00	0.0	14.8
6	-249.19	65.33	4.40	0.0	0.0
7	-287.37	27.15	4.40	0.0	0.0
8	-263.04	2.83	4.40	0.0	0.0
9	-246.35	-186.40	14.00	0.0	0.0
10	-285.67	-285.67	4.40	0.0	0.0
11	-183.56	-183.57	0.00	0.0	0.0
12	-203.36	-203.37	25.20	0.0	0.0
13	-241.83	-241.83	45.20	0.0	0.0
14	-161.22	-217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	5.3
18	512.00	62.80	0.00	30.5	9.2
19	512.00	0.00	0.00	51.3	91.9
20	512.00	0.00	40.00	809.5	1360.9
21	512.00	0.00	80.00	1828.4	122.2
22	512.00	0.00	120.00	3713.7	0.0
23	512.00	0.00	160.00	10384.9	0.0
24	512.00	0.00	200.00	20056.0	0.0
25	512.00	0.00	240.00	31556.2	0.0
26	512.00	0.00	280.00	40522.4	0.0
27	512.00	0.00	320.00	42751.9	0.0
28	512.00	-62.80	0.00	111.4	584.3
29	512.00	-124.00	0.00	34.3	762.2
30	512.00	-187.20	0.00	0.0	162.8
31	512.00	-264.00	0.00	0.0	6.8
32	844.00	-62.80	0.00	108.6	1140.0
33	844.00	0.00	0.00	104.6	455.1
34	844.00	62.80	0.00	46.6	100.5
35	1284.00	187.20	0.00	0.0	14.3
36	1284.00	91.60	0.00	41.1	74.6
38	1284.00	0.00	60.00	912.3	1096.1
39	1284.00	0.00	120.00	1950.6	3.9
40	1284.00	0.00	180.00	3195.5	0.0
41	1284.00	-91.60	0.00	108.4	1586.5
42	1284.00	-187.20	0.00	38.5	1061.3
43	1844.00	30.40	0.00	101.6	300.2
44	1844.00	-30.40	0.00	151.8	1111.1
45	26.95	-26.95	0.00	0.0	9.5
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-39A. Concentration Measurement Results

RUN NUMBER 39A
STABILITY -- STABLE
WIND DIR. -- 232.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	0.0	0.0
4	172.00	0.00	80.00	5112.4	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-222.40	-130.00	4.40	0.0	0.0
7	-222.40	-184.00	4.40	0.0	0.0
8	-188.00	-184.00	4.40	0.0	0.0
9	-42.40	-306.00	14.00	0.0	0.0
10	.00	-404.00	4.40	0.0	0.0
11	.00	-259.60	0.00	0.0	0.0
12	.00	-287.60	25.20	0.0	0.0
13	.00	-342.00	45.20	0.0	0.0
14	39.60	-267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	1029.8	0.0
21	512.00	0.00	80.00	4170.4	0.0
22	512.00	0.00	120.00	10054.7	0.0
23	512.00	0.00	160.00	18234.7	0.0
24	512.00	0.00	200.00	25702.5	0.0
25	512.00	0.00	240.00	37576.5	0.0
26	512.00	0.00	280.00	44880.2	0.0
27	512.00	0.00	320.00	43090.5	0.0
28	512.00	-62.80	0.00	174.2	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	10.0
32	844.00	-62.80	0.00	169.5	3.6
33	844.00	0.00	0.00	173.9	0.0
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
37	1284.00	0.00	0.00	255.1	0.0
38	1284.00	0.00	60.00	1748.3	0.0
39	1284.00	0.00	120.00	3101.3	0.0
40	1284.00	0.00	180.00	5905.1	0.0
41	1284.00	-91.60	0.00	232.7	10.9
42	1284.00	-187.20	0.00	147.5	197.8
43	1844.00	30.40	0.00	252.1	0.0
44	1844.00	-30.40	0.00	324.8	7.8
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-40A. Concentration Measurement Results

RUN NUMBER 40A
STABILITY -- STABLE
WIND DIR. -- -82.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	0.0	0.0
4	172.00	0.00	80.00	6911.6	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-65.34	-249.18	4.40	0.0	0.0
7	-27.15	-287.37	4.40	0.0	0.0
8	-2.83	-263.04	4.40	0.0	0.0
9	186.39	-246.36	14.00	0.0	0.0
10	285.67	-285.67	4.40	0.0	0.0
11	183.56	-183.57	0.00	0.0	0.0
12	203.36	-203.36	25.20	0.0	0.0
13	241.83	-241.83	45.20	0.0	0.0
14	217.22	-161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	1117.5	0.0
21	512.00	0.00	80.00	3348.7	0.0
22	512.00	0.00	120.00	8108.1	0.0
23	512.00	0.00	160.00	15823.3	0.0
24	512.00	0.00	200.00	24640.5	0.0
25	512.00	0.00	240.00	35941.1	0.0
26	512.00	0.00	280.00	41927.6	0.0
27	512.00	0.00	320.00	40212.7	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	186.2	4.0
33	844.00	0.00	0.00	202.8	0.0
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
37	1284.00	0.00	0.00	262.2	0.0
38	1284.00	0.00	60.00	1813.8	422.5
39	1284.00	0.00	120.00	3508.8	5.6
40	1284.00	0.00	180.00	7597.0	0.0
41	1284.00	-91.60	0.00	257.3	33.9
42	1284.00	-187.20	0.00	0.0	93.1
43	1844.00	30.40	0.00	252.5	0.0
44	1844.00	-30.40	0.00	375.9	24.7
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-41. Concentration Measurement Results

RUN NUMBER 41
STABILITY -- STABLE
WIND DIR. -- 322.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	2020000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	765.5	0.0
4	172.00	0.00	80.00	26342.6	0.0
5	172.00	30.40	0.00	0.0	0.0
6	130.00	-222.40	4.40	0.0	0.0
7	184.00	-222.40	4.40	0.0	0.0
8	184.00	-188.00	4.40	0.0	0.0
9	306.00	-42.40	14.00	662.3	0.0
10	404.00	0.00	4.40	1355.1	513.1
11	259.60	0.00	0.00	463.8	0.0
12	287.60	0.00	25.20	1112.8	0.0
13	342.00	0.00	45.20	4043.7	2782.1
14	267.60	39.60	12.00	340.8	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	727.3	183.5
20	512.00	0.00	40.00	3484.4	2672.6
21	512.00	0.00	80.00	10233.7	1115.9
22	512.00	0.00	120.00	22175.9	317.6
23	512.00	0.00	160.00	27820.6	28.9
24	512.00	0.00	200.00	35881.3	0.0
25	512.00	0.00	240.00	44952.2	0.0
26	512.00	0.00	280.00	42887.2	0.0
27	512.00	0.00	320.00	21697.1	0.0
28	512.00	-62.80	0.00	332.7	3.5
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	378.7	26.9
33	844.00	0.00	0.00	1041.0	371.5
34	844.00	62.80	0.00	597.3	241.0
35	1284.00	187.20	0.00	0.0	19.3
36	1284.00	91.60	0.00	699.9	300.1
37	1284.00	0.00	0.00	1108.0	411.9
38	1284.00	0.00	60.00	4037.2	736.5
39	1284.00	0.00	120.00	7002.2	114.0
40	1284.00	0.00	180.00	14351.1	30.2
41	1284.00	-91.60	0.00	372.5	48.8
42	1284.00	-187.20	0.00	0.0	9.3
43	1844.00	30.40	0.00	1365.1	614.6
44	1844.00	-30.40	0.00	777.6	216.6
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-42. Concentration Measurement Results

RUN NUMBER 42
STABILITY -- STABLE
WIND DIR. -- 7.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	1043.7	0.0
4	172.00	0.00	80.00	24153.8	0.0
5	172.00	30.40	0.00	0.0	0.0
6	249.18	-65.34	4.40	466.2	0.0
7	287.37	-27.15	4.40	348.4	0.0
8	263.04	-2.83	4.40	0.0	0.0
9	246.36	186.39	14.00	0.0	0.0
10	285.67	285.67	4.40	0.0	0.0
11	183.56	183.57	0.00	0.0	0.0
12	203.36	203.36	25.20	0.0	0.0
13	241.83	241.83	45.20	0.0	0.0
14	161.22	217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	379.6	0.0
20	512.00	0.00	40.00	2441.2	0.0
21	512.00	0.00	80.00	10405.7	0.0
22	512.00	0.00	120.00	21131.0	0.0
23	512.00	0.00	160.00	26426.7	0.0
24	512.00	0.00	200.00	34203.9	0.0
25	512.00	0.00	240.00	43103.0	0.0
26	512.00	0.00	280.00	44237.3	0.0
27	512.00	0.00	320.00	25820.2	0.0
28	512.00	-62.80	0.00	302.4	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	292.4	0.0
33	844.00	0.00	0.00	601.7	4.1
34	844.00	62.80	0.00	401.2	3.8
35	1284.00	187.20	0.00	0.0	42.6
36	1284.00	91.60	0.00	461.7	8.0
37	1284.00	0.00	0.00	646.3	5.6
38	1284.00	0.00	60.00	4218.3	15.4
39	1284.00	0.00	120.00	6600.6	0.0
40	1284.00	0.00	180.00	12561.2	0.0
41	1284.00	-91.60	0.00	281.0	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	872.5	8.4
44	1844.00	-30.40	0.00	558.5	3.9
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-43. Concentration Measurement Results

RUN NUMBER 43
STABILITY -- STABLE
WIND DIR. -- 52.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	968.9	0.0
4	172.00	0.00	80.00	21308.9	0.0
5	172.00	30.40	0.00	0.0	0.0
6	222.40	130.00	4.40	0.0	0.0
7	222.40	184.00	4.40	0.0	0.0
8	188.00	184.00	4.40	0.0	0.0
9	42.40	306.00	14.00	0.0	0.0
10	-.00	404.00	4.40	0.0	0.0
11	-.00	259.60	0.00	0.0	0.0
12	-.00	287.60	25.20	0.0	0.0
13	-.00	342.00	45.20	0.0	0.0
14	-39.60	267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	555.1	0.0
20	512.00	0.00	40.00	2451.7	0.0
21	512.00	0.00	80.00	10016.2	0.0
22	512.00	0.00	120.00	20969.9	0.0
23	512.00	0.00	160.00	25347.8	0.0
24	512.00	0.00	200.00	33333.6	0.0
25	512.00	0.00	240.00	41767.4	0.0
26	512.00	0.00	280.00	42268.4	0.0
27	512.00	0.00	320.00	25326.6	0.0
28	512.00	-62.80	0.00	507.1	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	321.1	0.0
33	844.00	0.00	0.00	634.7	0.0
34	844.00	62.80	0.00	664.8	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	621.7	0.0
37	1284.00	0.00	0.00	696.8	0.0
38	1284.00	0.00	60.00	4142.5	3.9
39	1284.00	0.00	120.00	6106.3	0.0
40	1284.00	0.00	180.00	12044.9	0.0
41	1284.00	-91.60	0.00	396.6	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	922.3	0.0
44	1844.00	-30.40	0.00	586.8	0.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-44. Concentration Measurement Results

RUN NUMBER 44
STABILITY -- STABLE
WIND DIR. -- 97.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	1131.3	0.0
4	172.00	0.00	80.00	30998.0	0.0
5	172.00	30.40	0.00	0.0	0.0
6	65.34	249.18	4.40	0.0	0.0
7	27.15	287.37	4.40	0.0	0.0
8	2.83	263.04	4.40	0.0	0.0
9	-186.39	246.35	14.00	0.0	0.0
10	-285.67	285.67	4.40	0.0	0.0
11	-183.57	183.56	0.00	0.0	0.0
12	-203.37	203.36	25.20	0.0	0.0
13	-241.83	241.83	45.20	0.0	0.0
14	-217.22	161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	23.2
17	512.00	124.00	0.00	0.0	73.2
18	512.00	62.80	0.00	0.0	14.3
19	512.00	0.00	0.00	706.6	0.0
20	512.00	0.00	40.00	3396.4	3.1
21	512.00	0.00	80.00	11142.3	0.0
22	512.00	0.00	120.00	18986.5	0.0
23	512.00	0.00	160.00	22386.8	0.0
24	512.00	0.00	200.00	30506.7	0.0
25	512.00	0.00	240.00	39396.8	0.0
26	512.00	0.00	280.00	44563.4	0.0
27	512.00	0.00	320.00	35558.9	0.0
28	512.00	-62.80	0.00	342.3	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	397.9	0.0
33	844.00	0.00	0.00	896.1	0.0
34	844.00	62.80	0.00	573.0	8.3
35	1284.00	187.20	0.00	0.0	305.3
36	1284.00	91.60	0.00	582.3	17.7
37	1284.00	0.00	0.00	957.6	0.0
38	1284.00	0.00	60.00	4404.1	0.0
39	1284.00	0.00	120.00	7027.0	0.0
40	1284.00	0.00	180.00	12204.6	0.0
41	1284.00	-91.60	0.00	353.3	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	1185.8	0.0
44	1844.00	-30.40	0.00	608.6	0.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-45. Concentration Measurement Results

RUN NUMBER 45
STABILITY -- STABLE
WIND DIR. -- 142.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	1203.6	0.0
4	172.00	0.00	80.00	24982.2	67.5
5	172.00	30.40	0.00	0.0	0.0
6	-130.00	222.40	4.40	0.0	0.0
7	-184.00	222.40	4.40	0.0	0.0
8	-184.00	188.00	4.40	0.0	0.0
9	-306.00	42.40	14.00	0.0	0.0
10	-404.00	-.00	4.40	0.0	0.0
11	-259.60	-.00	0.00	0.0	0.0
12	-287.60	-.00	25.20	0.0	0.0
13	-342.00	-.00	45.20	0.0	0.0
14	-267.60	-39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	333.2	0.0
20	512.00	0.00	40.00	2553.0	20.4
21	512.00	0.00	80.00	9951.9	79.8
22	512.00	0.00	120.00	20729.1	175.2
23	512.00	0.00	160.00	23997.5	194.5
24	512.00	0.00	200.00	30445.4	212.2
25	512.00	0.00	240.00	39695.9	243.9
26	512.00	0.00	280.00	44270.8	276.6
27	512.00	0.00	320.00	34070.6	204.3
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	245.3	0.0
33	844.00	0.00	0.00	506.4	0.0
34	844.00	62.80	0.00	260.0	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	284.0	0.0
37	1284.00	0.00	0.00	620.1	0.0
38	1284.00	0.00	60.00	3873.3	35.0
39	1284.00	0.00	120.00	5979.4	53.1
40	1284.00	0.00	180.00	10139.0	74.3
41	1284.00	-91.60	0.00	225.5	0.0
42	1284.00	-187.20	0.00	0.0	0.0
43	1844.00	30.40	0.00	803.2	3.7
44	1844.00	-30.40	0.00	467.2	0.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	21.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	6.0

Table 5-46. Concentration Measurement Results

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RUN NUMBER 46
STABILITY -- STABLE
WIND DIR. -- 187.5
WIND SPEED    6.00  M/S AT    62.0  M
SOURCE DESIGNATION                      TOWER       STACK
SOURCE FLOW RATE (CFM)              20200000.0    128000.0
SOURCE GAS TEMPERATURE (C)              52.0        22.0
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TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	2234.0	0.0
4	172.00	0.00	80.00	36749.8	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-249.19	65.33	4.40	0.0	0.0
7	-287.37	27.15	4.40	0.0	0.0
8	-263.04	2.83	4.40	0.0	0.0
9	-246.35	-186.40	14.00	0.0	0.0
10	-285.67	-285.67	4.40	0.0	0.0
11	-183.56	-183.57	0.00	0.0	0.0
12	-203.36	-203.37	25.20	0.0	0.0
13	-241.83	-241.83	45.20	0.0	0.0
14	-161.22	-217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	321.9	0.0
20	512.00	0.00	40.00	3078.2	97.1
21	512.00	0.00	80.00	9139.9	84.4
22	512.00	0.00	120.00	15535.9	18.4
23	512.00	0.00	160.00	22084.2	0.0
24	512.00	0.00	200.00	31948.1	0.0
25	512.00	0.00	240.00	40026.9	0.0
26	512.00	0.00	280.00	43445.5	0.0
27	512.00	0.00	320.00	31989.5	0.0
28	512.00	-62.80	0.00	435.7	32.7
29	512.00	-124.00	0.00	0.0	37.2
30	512.00	-187.20	0.00	0.0	22.3
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	627.0	117.5
33	844.00	0.00	0.00	645.4	36.4
34	844.00	62.80	0.00	0.0	5.9
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	9.9
37	1284.00	0.00	0.00	849.2	117.7
38	1284.00	0.00	60.00	3531.9	618.2
39	1284.00	0.00	120.00	6594.7	145.1
40	1284.00	0.00	180.00	13246.8	8.7
41	1284.00	-91.60	0.00	738.6	355.9
42	1284.00	-187.20	0.00	0.0	270.4
43	1844.00	30.40	0.00	1130.3	218.8
44	1844.00	-30.40	0.00	982.8	458.4
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-47. Concentration Measurement Results

RUN NUMBER 47
STABILITY -- STABLE
WIND DIR. -- 232.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	2511.8	0.0
4	172.00	0.00	80.00	34779.5	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-222.40	-130.00	4.40	0.0	0.0
7	-222.40	-184.00	4.40	0.0	0.0
8	-188.00	-184.00	4.40	0.0	0.0
9	-42.40	-306.00	14.00	0.0	0.0
10	.00	-404.00	4.40	0.0	0.0
11	.00	-259.60	0.00	0.0	0.0
12	.00	-287.60	25.20	0.0	0.0
13	.00	-342.00	45.20	0.0	0.0
14	39.60	-267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	550.3	0.0
20	512.00	0.00	40.00	2984.4	0.0
21	512.00	0.00	80.00	8906.6	0.0
22	512.00	0.00	120.00	16358.6	0.0
23	512.00	0.00	160.00	23184.6	0.0
24	512.00	0.00	200.00	33943.6	0.0
25	512.00	0.00	240.00	42587.4	0.0
26	512.00	0.00	280.00	46711.6	0.0
27	512.00	0.00	320.00	32518.6	0.0
28	512.00	-62.80	0.00	336.6	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	16.4
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	673.2	0.0
34	844.00	62.80	0.00	245.5	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	250.9	0.0
37	1284.00	0.00	0.00	873.1	0.0
38	1284.00	0.00	60.00	4471.1	12.9
39	1284.00	0.00	120.00	7114.2	0.0
40	1284.00	0.00	180.00	13279.0	0.0
41	1284.00	-91.60	0.00	559.3	0.0
42	1284.00	-187.20	0.00	226.7	196.3
43	1844.00	30.40	0.00	1098.2	0.0
44	1844.00	-30.40	0.00	849.2	4.2
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-48. Concentration Measurement Results

RUN NUMBER 48
STABILITY -- STABLE
WIND DIR. -- -82.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION		
SOURCE FLOW RATE (CFM)	20200000.0	120000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	978.8	0.0
4	172.00	0.00	80.00	33921.8	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-65.34	-249.18	4.40	0.0	0.0
7	-27.15	-287.37	4.40	0.0	0.0
8	-2.83	-263.04	4.40	0.0	0.0
9	186.39	-246.36	14.00	0.0	0.0
10	285.67	-285.67	4.40	0.0	0.0
11	183.56	-183.57	0.00	0.0	0.0
12	203.36	-203.36	25.20	0.0	0.0
13	241.83	-241.83	45.20	0.0	0.0
14	217.22	-161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	320.9	0.0
20	512.00	0.00	40.00	3147.1	0.0
21	512.00	0.00	80.00	13735.6	0.0
22	512.00	0.00	120.00	25841.6	0.0
23	512.00	0.00	160.00	28241.8	0.0
24	512.00	0.00	200.00	36390.7	0.0
25	512.00	0.00	240.00	41874.8	0.0
26	512.00	0.00	280.00	34490.0	0.0
27	512.00	0.00	320.00	15568.0	0.0
28	512.00	-62.80	0.00	237.3	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	420.4	0.0
33	844.00	0.00	0.00	671.4	0.0
34	844.00	62.80	0.00	311.1	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	389.4	0.0
37	1284.00	0.00	0.00	892.7	0.0
38	1284.00	0.00	60.00	4670.7	187.7
39	1284.00	0.00	120.00	8130.5	18.1
40	1284.00	0.00	180.00	15870.6	0.0
41	1284.00	-91.60	0.00	474.7	10.7
42	1284.00	-187.20	0.00	0.0	58.2
43	1844.00	30.40	0.00	1134.3	0.0
44	1844.00	-30.40	0.00	848.9	38.1
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-49. Concentration Measurement Results

RUN NUMBER 49

STABILITY -- UNSTABLE
WIND DIR. -- 322.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	156.2	0.0
4	172.00	0.00	80.00	4094.0	0.0
5	172.00	30.40	0.00	0.0	0.0
6	130.00	-222.40	4.40	0.0	0.0
7	184.00	-222.40	4.40	0.0	0.0
8	184.00	-188.00	4.40	0.0	0.0
9	306.00	-42.40	14.00	0.0	7.4
10	404.00	0.00	4.40	0.0	6.3
11	259.60	0.00	0.00	0.0	0.0
12	287.60	0.00	25.20	0.0	0.0
13	342.00	0.00	45.20	0.0	16.0
14	267.60	39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	0.0	11.3
21	512.00	0.00	80.00	0.0	101.6
22	512.00	0.00	120.00	0.0	316.2
23	512.00	0.00	160.00	53.8	692.5
24	512.00	0.00	200.00	116.9	550.2
25	512.00	0.00	240.00	597.5	219.8
26	512.00	0.00	280.00	1124.8	148.9
27	512.00	0.00	320.00	1889.2	55.6
28	512.00	-62.80	0.00	0.0	44.2
29	512.00	-124.00	0.00	0.0	23.2
30	512.00	-187.20	0.00	0.0	8.7
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	0.0	0.0
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
37	1284.00	0.00	0.00	0.0	0.0
38	1284.00	0.00	60.00	0.0	12.2
39	1284.00	0.00	120.00	0.0	44.0
40	1284.00	0.00	180.00	0.0	95.8
41	1284.00	-91.60	0.00	0.0	0.0
43	1844.00	30.40	0.00	388.1	0.0
44	1844.00	-30.40	0.00	64.6	5.9
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-50. Concentration Measurement Results

RUN NUMBER 50
STABILITY -- UNSTABLE
WIND DIR. -- 7.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	394.9	0.0
4	172.00	0.00	80.00	4043.3	0.0
5	172.00	30.40	0.00	0.0	0.0
6	249.18	-65.34	4.40	0.0	0.0
7	287.37	-27.15	4.40	0.0	0.0
8	263.04	-2.83	4.40	0.0	0.0
9	246.36	186.39	14.00	0.0	5.8
10	285.67	285.67	4.40	0.0	0.0
12	203.36	203.36	25.20	0.0	0.0
13	241.83	241.83	45.20	0.0	0.0
14	161.22	217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	145.5
18	512.00	62.80	0.00	0.0	1398.0
19	512.00	0.00	0.00	0.0	399.5
20	512.00	0.00	40.00	0.0	566.5
21	512.00	0.00	80.00	197.9	274.9
22	512.00	0.00	120.00	388.2	111.1
23	512.00	0.00	160.00	625.1	74.3
24	512.00	0.00	200.00	1422.0	12.9
25	512.00	0.00	240.00	1297.9	0.0
26	512.00	0.00	280.00	1351.4	0.0
27	512.00	0.00	320.00	1668.9	0.0
28	512.00	-62.80	0.00	0.0	28.9
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	504.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	429.1
33	844.00	0.00	0.00	0.0	310.7
34	844.00	62.80	0.00	0.0	41.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
37	1284.00	0.00	0.00	121.6	15.5
38	1284.00	0.00	60.00	122.2	45.3
39	1284.00	0.00	120.00	197.1	137.0
40	1284.00	0.00	180.00	585.3	185.9
41	1284.00	-91.60	0.00	193.2	46.3
42	1284.00	-187.20	0.00	133.1	35.7
43	1844.00	30.40	0.00	423.6	4.1
44	1844.00	-30.40	0.00	342.6	10.7
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-51. Concentration Measurement Results

RUN NUMBER 51
STABILITY -- UNSTABLE
WIND DIR. -- 52.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	CONCENTRATIONS (PPM) STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	1634.5	0.0
4	172.00	0.00	80.00	9000.7	0.0
5	172.00	30.40	0.00	0.0	0.0
6	222.40	130.00	4.40	0.0	401.6
7	222.40	184.00	4.40	0.0	19.5
8	188.00	184.00	4.40	0.0	58.0
9	42.40	306.00	14.00	0.0	22.1
10	-.00	404.00	4.40	0.0	0.0
11	-.00	259.60	0.00	0.0	0.0
12	-.00	287.60	25.20	0.0	0.0
13	-.00	342.00	45.20	0.0	0.0
14	-39.60	267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	32.7
17	512.00	124.00	0.00	0.0	208.9
18	512.00	62.80	0.00	0.0	659.4
19	512.00	0.00	0.00	0.0	575.0
20	512.00	0.00	40.00	0.0	646.6
21	512.00	0.00	80.00	0.0	464.2
22	512.00	0.00	120.00	0.0	324.2
23	512.00	0.00	160.00	180.2	121.5
24	512.00	0.00	200.00	919.9	52.3
25	512.00	0.00	240.00	1606.7	11.6
26	512.00	0.00	280.00	2473.3	0.0
27	512.00	0.00	320.00	3395.8	0.0
28	512.00	-62.80	0.00	0.0	127.5
29	512.00	-124.00	0.00	0.0	46.8
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	290.1
33	844.00	0.00	0.00	0.0	112.0
34	844.00	62.80	0.00	0.0	35.5
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
37	1284.00	0.00	0.00	0.0	8.8
38	1284.00	0.00	60.00	201.6	36.1
39	1284.00	0.00	120.00	534.1	72.0
40	1284.00	0.00	180.00	841.9	113.7
41	1284.00	-91.60	0.00	0.0	11.6
42	1284.00	-187.20	0.00	288.4	50.2
43	1844.00	30.40	0.00	1316.1	5.2
44	1844.00	-30.40	0.00	1469.7	6.7
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-52. Concentration Measurement Results

RUN NUMBER 52
STABILITY -- UNSTABLE
WIND DIR. -- 97.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION		
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	1023.0
2	172.00	0.00	0.00	0.0	870.1
3	172.00	0.00	40.00	1256.4	1054.1
4	172.00	0.00	80.00	8792.5	998.5
5	172.00	30.40	0.00	0.0	897.2
6	65.34	249.18	4.40	0.0	0.0
7	27.15	287.37	4.40	0.0	0.0
8	2.83	263.04	4.40	0.0	0.0
9	-186.39	246.35	14.00	0.0	0.0
10	-285.67	285.67	4.40	0.0	0.0
11	-183.57	183.56	0.00	0.0	0.0
12	-203.37	203.36	25.20	0.0	0.0
13	-241.83	241.83	45.20	0.0	0.0
14	-217.22	161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	6.0
19	512.00	0.00	0.00	0.0	46.2
20	512.00	0.00	40.00	0.0	85.5
21	512.00	0.00	80.00	0.0	107.9
22	512.00	0.00	120.00	299.9	178.3
23	512.00	0.00	160.00	1261.8	187.7
24	512.00	0.00	200.00	2716.0	145.9
25	512.00	0.00	240.00	3220.8	132.1
26	512.00	0.00	280.00	3533.7	131.1
27	512.00	0.00	320.00	4742.5	92.1
28	512.00	-62.80	0.00	0.0	27.9
29	512.00	-124.00	0.00	0.0	46.2
30	512.00	-187.20	0.00	0.0	94.8
31	512.00	-264.00	0.00	0.0	233.1
32	844.00	-62.80	0.00	0.0	15.2
33	844.00	0.00	0.00	0.0	25.1
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
37	1284.00	0.00	0.00	240.0	0.0
38	1284.00	0.00	60.00	509.7	9.5
39	1284.00	0.00	120.00	1626.3	15.3
40	1284.00	0.00	180.00	2498.0	33.5
41	1284.00	-91.60	0.00	0.0	4.3
42	1284.00	-187.20	0.00	300.9	3.0
43	1844.00	-30.40	0.00	2224.2	14.4
44	1844.00	-30.40	0.00	2092.9	13.0
45	26.95	-26.95	0.00	0.0	120.9
46	26.95	26.95	0.00	0.0	24.7
47	-26.95	-26.95	0.00	0.0	72.7
48	-26.95	26.95	0.00	0.0	0.0

Table 5-53. Concentration Measurement Results

RUN NUMBER 53
STABILITY -- UNSTABLE
WIND DIR. -- 142.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	53.2
2	172.00	0.00	0.00	0.0	13.5
3	172.00	0.00	40.00	974.4	13.0
4	172.00	0.00	80.00	5550.9	14.0
5	172.00	30.40	0.00	0.0	3.0
6	-130.00	222.40	4.40	0.0	0.0
7	-184.00	222.40	4.40	0.0	0.0
8	-184.00	188.00	4.40	0.0	0.0
9	-306.00	42.40	14.00	0.0	0.0
10	-404.00	-.00	4.40	0.0	0.0
11	-259.60	-.00	0.00	0.0	0.0
12	-287.60	-.00	25.20	0.0	0.0
13	-342.00	-.00	45.20	0.0	0.0
14	-267.60	-39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	4.8
20	512.00	0.00	40.00	0.0	7.0
21	512.00	0.00	80.00	469.3	7.0
22	512.00	0.00	120.00	1652.6	10.8
23	512.00	0.00	160.00	3000.5	12.3
24	512.00	0.00	200.00	5727.7	17.6
25	512.00	0.00	240.00	8439.4	19.2
26	512.00	0.00	280.00	11348.2	29.7
27	512.00	0.00	320.00	14522.1	50.4
28	512.00	-62.80	0.00	0.0	4.9
29	512.00	-124.00	0.00	0.0	25.8
30	512.00	-187.20	0.00	0.0	34.8
31	512.00	-264.00	0.00	0.0	79.8
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	0.0	0.0
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	568.4	0.0
36	1284.00	91.60	0.00	909.1	0.0
37	1284.00	0.00	0.00	981.8	0.0
38	1284.00	0.00	60.00	2212.1	9.2
39	1284.00	0.00	120.00	4541.0	16.0
40	1284.00	0.00	180.00	5955.6	23.7
41	1284.00	-91.60	0.00	908.4	4.3
42	1284.00	-187.20	0.00	661.6	10.2
43	1844.00	30.40	0.00	2482.4	8.9
44	1844.00	-30.40	0.00	2246.7	8.4
45	26.95	-26.95	0.00	253.9	21.6
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	33.3
48	-26.95	26.95	0.00	0.0	0.0

Table 5-54. Concentration Measurement Results

RUN NUMBER 54
STABILITY -- UNSTABLE
WIND DIR. -- 187.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	38.8
2	172.00	0.00	0.00	0.0	65.8
3	172.00	0.00	40.00	5182.9	67.3
4	172.00	0.00	80.00	16158.7	27.4
5	172.00	30.40	0.00	0.0	14.3
6	-249.19	65.33	4.40	0.0	0.0
7	-287.37	27.15	4.40	0.0	0.0
8	-263.04	2.83	4.40	0.0	0.0
9	-246.35	-186.40	14.00	0.0	0.0
10	-285.67	-285.67	4.40	0.0	0.0
11	-183.56	-183.57	0.00	0.0	0.0
12	-203.36	-203.37	25.20	0.0	0.0
13	-241.83	-241.83	45.20	0.0	0.0
14	-161.22	-217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	6.6
20	512.00	0.00	40.00	0.0	3.3
21	512.00	0.00	80.00	271.9	3.5
22	512.00	0.00	120.00	1487.0	3.2
23	512.00	0.00	160.00	4444.4	3.7
24	512.00	0.00	200.00	6680.9	8.3
25	512.00	0.00	240.00	10698.6	10.4
26	512.00	0.00	280.00	14912.2	31.4
27	512.00	0.00	320.00	19231.1	37.1
28	512.00	-62.80	0.00	0.0	9.8
29	512.00	-124.00	0.00	0.0	23.5
30	512.00	-187.20	0.00	284.6	22.4
31	512.00	-264.00	0.00	557.8	40.6
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	0.0	0.0
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	1253.3	0.0
36	1284.00	91.60	0.00	1867.7	7.5
37	1284.00	0.00	0.00	2194.2	8.3
38	1284.00	0.00	60.00	3538.0	4.9
39	1284.00	0.00	120.00	6234.2	9.9
40	1284.00	0.00	180.00	7175.4	19.9
41	1284.00	-91.60	0.00	2381.5	7.4
42	1284.00	-187.20	0.00	2223.5	8.6
43	1844.00	30.40	0.00	1676.6	11.8
44	1844.00	-30.40	0.00	1348.6	5.6
45	26.95	-26.95	0.00	906.5	78.4
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	47.9
48	-26.95	26.95	0.00	0.0	0.0

Table 5-55A. Concentration Measurement Results

RUN NUMBER 55A
STABILITY -- UNSTABLE
WIND DIR. -- 232.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	2613.7	14.6
4	172.00	0.00	80.00	18475.5	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-222.40	-130.00	4.40	0.0	0.0
7	-222.40	-184.00	4.40	0.0	0.0
8	-188.00	-184.00	4.40	0.0	0.0
9	-42.40	-306.00	14.00	0.0	0.0
10	.00	-404.00	4.40	0.0	0.0
11	.00	-259.60	0.00	0.0	0.0
13	.00	-342.00	45.20	0.0	0.0
14	39.60	-267.60	12.00	0.0	5.7
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	0.0	0.0
21	512.00	0.00	80.00	0.0	0.0
22	512.00	0.00	120.00	0.0	0.0
23	512.00	0.00	160.00	364.7	0.0
24	512.00	0.00	200.00	569.9	0.0
25	512.00	0.00	240.00	829.2	0.0
26	512.00	0.00	280.00	1376.0	0.0
27	512.00	0.00	320.00	3290.3	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	61.2
30	512.00	-187.20	0.00	0.0	317.4
31	512.00	-264.00	0.00	0.0	2225.9
32	844.00	-62.80	0.00	338.4	34.0
34	844.00	62.80	0.00	0.0	29.4
35	1284.00	187.20	0.00	0.0	0.0
36	1284.00	91.60	0.00	0.0	0.0
37	1284.00	0.00	0.00	0.0	0.0
38	1284.00	0.00	60.00	0.0	0.0
39	1284.00	0.00	120.00	0.0	5.7
40	1284.00	0.00	180.00	0.0	7.7
41	1284.00	-91.60	0.00	0.0	10.1
42	1284.00	-187.20	0.00	0.0	126.7
43	1844.00	30.40	0.00	0.0	0.0
44	1844.00	-30.40	0.00	0.0	0.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-56. Concentration Measurement Results

RUN NUMBER 56
STABILITY -- UNSTABLE
WIND DIR. -- -82.5
WIND SPEED 4.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION		
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	510.1	0.0
4	172.00	0.00	80.00	14278.5	0.0
5	172.00	30.40	0.00	0.0	0.0
6	-65.34	-249.18	4.40	0.0	0.0
7	-27.15	-287.37	4.40	0.0	0.0
8	-2.83	-263.04	4.40	0.0	0.0
9	186.39	-246.36	14.00	0.0	0.0
10	285.67	-285.67	4.40	0.0	0.0
11	183.56	-183.57	0.00	0.0	0.0
12	203.36	-203.36	25.20	0.0	0.0
13	241.83	-241.83	45.20	0.0	0.0
14	217.22	-161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	0.0	0.0
18	512.00	62.80	0.00	0.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	0.0	0.0
21	512.00	0.00	80.00	0.0	0.0
22	512.00	0.00	120.00	0.0	0.0
23	512.00	0.00	160.00	1200.9	0.0
24	512.00	0.00	200.00	3490.2	0.0
25	512.00	0.00	240.00	4758.5	6.4
26	512.00	0.00	280.00	5850.0	3.3
27	512.00	0.00	320.00	7551.7	28.0
28	512.00	-62.80	0.00	0.0	36.7
29	512.00	-124.00	0.00	322.9	561.8
30	512.00	-187.20	0.00	313.0	585.5
31	512.00	-264.00	0.00	0.0	283.6
32	844.00	-62.80	0.00	0.0	21.4
33	844.00	0.00	0.00	0.0	3.0
34	844.00	62.80	0.00	0.0	0.0
35	1284.00	187.20	0.00	506.2	0.0
36	1284.00	91.60	0.00	724.4	0.0
37	1284.00	0.00	0.00	641.2	0.0
38	1284.00	0.00	60.00	1299.3	0.0
39	1284.00	0.00	120.00	3399.5	23.4
40	1284.00	0.00	180.00	4609.7	35.3
41	1284.00	-91.60	0.00	248.4	7.5
42	1284.00	-187.20	0.00	0.0	15.6
43	1844.00	30.40	0.00	3864.0	21.7
44	1844.00	-30.40	0.00	3604.5	8.5
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-57. Concentration Measurement Results

RUN NUMBER 57
STABILITY -- UNSTABLE
WIND DIR. -- 322.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	52.4	0.0
2	172.00	0.00	0.00	738.6	0.0
3	172.00	0.00	40.00	8596.7	0.0
4	172.00	0.00	80.00	36639.4	0.0
5	172.00	30.40	0.00	1947.2	0.0
6	130.00	-222.40	4.40	0.0	0.0
7	184.00	-222.40	4.40	0.0	0.0
8	184.00	-188.00	4.40	0.0	0.0
9	306.00	-42.40	14.00	332.2	0.0
10	404.00	0.00	4.40	634.2	3.6
11	259.60	0.00	0.00	472.9	0.0
12	287.60	0.00	25.20	618.2	0.0
13	342.00	0.00	45.20	948.2	45.2
14	267.60	39.60	12.00	981.2	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	98.4	18.6
17	512.00	124.00	0.00	881.0	31.1
18	512.00	62.80	0.00	846.0	16.8
20	512.00	0.00	40.00	906.8	19.3
21	512.00	0.00	80.00	3035.6	64.3
22	512.00	0.00	120.00	5428.8	187.2
23	512.00	0.00	160.00	8519.4	329.4
24	512.00	0.00	200.00	11505.9	274.1
25	512.00	0.00	240.00	13798.2	209.3
26	512.00	0.00	280.00	13447.4	85.1
27	512.00	0.00	320.00	14168.9	48.0
28	512.00	-62.80	0.00	90.7	39.3
29	512.00	-124.00	0.00	0.0	27.1
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	632.0	4.9
33	844.00	0.00	0.00	686.0	4.4
34	844.00	62.80	0.00	627.8	0.0
35	1284.00	187.20	0.00	1110.0	0.0
36	1284.00	91.60	0.00	1845.9	3.4
37	1284.00	0.00	0.00	1192.5	3.5
38	1284.00	0.00	60.00	2857.6	13.0
39	1284.00	0.00	120.00.	4245.3	20.7
40	1284.00	0.00	180.00	5012.0	27.2
41	1284.00	-91.60	0.00	1250.0	4.3
42	1284.00	-187.20	0.00	1162.0	9.7
43	1844.00	30.40	0.00	2855.5	8.2
44	1844.00	-30.40	0.00	2909.9	9.8
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-58. Concentration Measurement Results

RUN NUMBER 58
STABILITY -- UNSTABLE
WIND DIR. -- 7.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	6607.4	0.0
4	172.00	0.00	80.00	36537.9	0.0
5	172.00	30.40	0.00	313.4	0.0
6	249.18	-65.34	4.40	206.2	0.0
7	207.37	-27.15	4.40	299.6	0.0
8	263.04	-2.83	4.40	402.8	0.0
9	246.36	186.39	14.00	0.0	8.7
10	285.67	285.67	4.40	0.0	0.0
11	183.56	183.57	0.00	0.0	0.0
12	203.36	203.36	25.20	0.0	0.0
13	241.83	241.83	45.20	0.0	3.6
14	161.22	217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	200.2	192.2
17	512.00	124.00	0.00	340.5	732.0
18	512.00	62.80	0.00	289.0	314.5
19	512.00	0.00	0.00	0.0	14.5
20	512.00	0.00	40.00	689.3	26.3
21	512.00	0.00	80.00	4250.5	57.9
22	512.00	0.00	120.00	9970.9	74.1
23	512.00	0.00	160.00	14236.6	25.6
24	512.00	0.00	200.00	15878.4	49.7
25	512.00	0.00	240.00	14789.4	26.5
26	512.00	0.00	280.00	14419.4	32.6
27	512.00	0.00	320.00	15631.7	11.8
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	5.3
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	6.7
33	844.00	0.00	0.00	219.7	34.9
34	844.00	62.80	0.00	161.3	53.4
35	1284.00	187.20	0.00	0.0	4.1
36	1284.00	91.60	0.00	818.2	8.7
37	1284.00	0.00	0.00	444.6	4.4
38	1284.00	0.00	60.00	2252.0	16.4
39	1284.00	0.00	120.00	3993.9	31.5
40	1284.00	0.00	180.00	5719.3	46.2
41	1284.00	-91.60	0.00	488.4	6.1
42	1284.00	-187.20	0.00	782.1	3.7
43	1844.00	30.40	0.00	1981.1	9.8
44	1844.00	-30.40	0.00	2109.7	7.1
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-59. Concentration Measurement Results

RUN NUMBER 59
STABILITY -- UNSTABLE
WIND DIR. -- 52.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION		
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	0.0	0.0
3	172.00	0.00	40.00	3499.4	0.0
4	172.00	0.00	80.00	40248.3	0.0
5	172.00	30.40	0.00	247.9	0.0
6	222.40	130.00	4.40	0.0	937.0
7	222.40	184.00	4.40	0.0	733.7
8	188.00	184.00	4.40	0.0	528.6
9	42.40	306.00	14.00	0.0	0.0
10	-.00	404.00	4.40	0.0	0.0
11	-.00	259.60	0.00	0.0	0.0
12	-.00	287.60	25.20	0.0	0.0
13	-.00	342.00	45.20	0.0	0.0
14	-39.60	267.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	13.4
16	512.00	187.20	0.00	0.0	676.6
17	512.00	124.00	0.00	185.7	1026.2
18	512.00	62.80	0.00	187.7	209.7
19	512.00	0.00	0.00	0.0	8.1
20	512.00	0.00	40.00	1029.0	10.5
21	512.00	0.00	80.00	3908.1	3.5
22	512.00	0.00	120.00	8457.3	4.2
23	512.00	0.00	160.00	14870.5	4.3
24	512.00	0.00	200.00	18865.4	3.8
25	512.00	0.00	240.00	20452.8	6.3
26	512.00	0.00	280.00	20338.7	0.0
27	512.00	0.00	320.00	20345.0	0.0
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	0.0	5.3
34	844.00	62.80	0.00	0.0	79.0
35	1284.00	187.20	0.00	0.0	13.4
36	1284.00	91.60	0.00	320.6	27.9
37	1284.00	0.00	0.00	340.0	0.0
38	1284.00	0.00	60.00	1188.4	7.6
39	1284.00	0.00	120.00	3109.8	20.2
40	1284.00	0.00	180.00	6319.3	33.7
41	1284.00	-91.60	0.00	309.2	0.0
42	1284.00	-187.20	0.00	250.1	0.0
43	1844.00	30.40	0.00	1264.1	0.0
44	1844.00	-30.40	0.00	1351.8	0.0
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-60. Concentration Measurement Results

RUN NUMBER 60
STABILITY -- UNSTABLE
WIND DIR. -- 97.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	29.8
2	172.00	0.00	0.00	0.0	48.1
3	172.00	0.00	40.00	5433.1	57.2
4	172.00	0.00	80.00	43790.4	45.4
5	172.00	30.40	0.00	249.8	127.2
6	65.34	249.18	4.40	0.0	0.0
7	27.15	287.37	4.40	0.0	0.0
8	2.83	263.04	4.40	0.0	0.0
9	-186.39	246.35	14.00	0.0	0.0
10	-285.67	285.67	4.40	0.0	0.0
11	-183.57	183.56	0.00	0.0	0.0
12	-203.37	203.36	25.20	0.0	0.0
13	-241.83	241.83	45.20	0.0	0.0
14	-217.22	161.22	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	8.6
17	512.00	124.00	0.00	0.0	30.2
18	512.00	62.80	0.00	0.0	65.9
19	512.00	0.00	0.00	0.0	87.8
20	512.00	0.00	40.00	959.2	68.0
21	512.00	0.00	80.00	4403.4	96.1
22	512.00	0.00	120.00	12399.0	70.0
23	512.00	0.00	160.00	16617.8	82.0
24	512.00	0.00	200.00	18489.5	79.6
25	512.00	0.00	240.00	19034.7	102.0
26	512.00	0.00	280.00	18631.8	114.7
27	512.00	0.00	320.00	17844.9	118.3
28	512.00	-62.80	0.00	0.0	5.2
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	0.0	4.6
34	844.00	62.80	0.00	0.0	10.4
35	1284.00	187.20	0.00	0.0	3.7
36	1284.00	91.60	0.00	0.0	0.0
37	1284.00	0.00	0.00	230.6	0.0
38	1284.00	0.00	60.00	1149.9	5.2
39	1284.00	0.00	120.00	3616.2	12.4
40	1284.00	0.00	180.00	6721.1	24.5
41	1284.00	-91.60	0.00	316.5	0.0
42	1284.00	-187.20	0.00	254.2	0.0
43	1844.00	30.40	0.00	1296.3	5.7
44	1844.00	-30.40	0.00	1496.5	6.8
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-61. Concentration Measurement Results

RUN NUMBER 61
STABILITY -- UNSTABLE
WIND DIR. -- 142.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	3.7
2	172.00	0.00	0.00	0.0	35.7
3	172.00	0.00	40.00	10110.8	26.5
4	172.00	0.00	80.00	37037.6	19.0
5	172.00	30.40	0.00	880.9	118.8
6	-130.00	222.40	4.40	0.0	0.0
7	-184.00	222.40	4.40	0.0	0.0
8	-184.00	188.00	4.40	0.0	0.0
9	-306.00	42.40	14.00	0.0	0.0
10	-404.00	-.00	4.40	0.0	0.0
11	-259.60	-.00	0.00	0.0	0.0
12	-287.60	-.00	25.20	0.0	0.0
13	-342.00	-.00	45.20	0.0	0.0
14	-267.60	-39.60	12.00	0.0	0.0
15	512.00	264.00	0.00	0.0	7.3
16	512.00	187.20	0.00	0.0	18.9
17	512.00	124.00	0.00	0.0	31.6
18	512.00	62.80	0.00	0.0	6.9
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	1279.6	3.5
21	512.00	0.00	80.00	4938.2	13.2
22	512.00	0.00	120.00	9808.8	15.5
23	512.00	0.00	160.00	12999.4	27.0
24	512.00	0.00	200.00	15476.6	34.0
25	512.00	0.00	240.00	14503.0	39.0
26	512.00	0.00	280.00	14112.9	57.8
27	512.00	0.00	320.00	14546.9	58.8
28	512.00	-62.80	0.00	0.0	0.0
29	512.00	-124.00	0.00	0.0	0.0
30	512.00	-187.20	0.00	0.0	0.0
31	512.00	-264.00	0.00	0.0	0.0
32	844.00	-62.80	0.00	0.0	0.0
33	844.00	0.00	0.00	0.0	0.0
34	844.00	62.80	0.00	358.2	3.0
35	1284.00	187.20	0.00	304.8	3.8
36	1284.00	91.60	0.00	419.1	0.0
37	1284.00	0.00	0.00	697.6	0.0
38	1284.00	0.00	60.00	1944.3	10.3
39	1284.00	0.00	120.00	3881.4	10.6
40	1284.00	0.00	180.00	5699.1	21.1
41	1284.00	-91.60	0.00	670.7	0.0
42	1284.00	-187.20	0.00	415.9	0.0
43	1844.00	30.40	0.00	1503.4	6.5
44	1844.00	-30.40	0.00	1546.1	10.2
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	56.7
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	54.2

Table 5-62. Concentration Measurement Results

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RUN NUMBER 62
STABILITY -- UNSTABLE
WIND DIR. -- 187.5
WIND SPEED    6.00  M/S AT    62.0  M
SOURCE DESIGNATION                 TOWER        STACK
SOURCE FLOW RATE (CFM)          20200000.0    128000.0
SOURCE GAS TEMPERATURE (C)            52.0        22.0
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TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	795.8
2	172.00	0.00	0.00	0.0	604.9
3	172.00	0.00	40.00	5594.7	345.2
4	172.00	0.00	80.00	43771.2	151.7
5	172.00	30.40	0.00	791.7	200.6
6	-249.19	65.33	4.40	0.0	0.0
7	-287.37	27.15	4.40	0.0	0.0
8	-263.04	2.83	4.40	0.0	0.0
9	-246.35	-186.40	14.00	0.0	0.0
10	-285.67	-285.67	4.40	0.0	0.0
11	-183.56	-183.57	0.00	0.0	0.0
12	-203.36	-203.37	25.20	0.0	0.0
13	-241.83	-241.83	45.20	0.0	0.0
14	-161.22	-217.22	12.00	0.0	0.0
15	512.00	264.00	0.00	269.6	5.7
16	512.00	187.20	0.00	594.5	39.7
17	512.00	124.00	0.00	1076.9	88.1
18	512.00	62.80	0.00	314.8	156.6
19	512.00	0.00	0.00	938.2	160.3
20	512.00	0.00	40.00	2174.1	149.9
21	512.00	0.00	80.00	4949.7	130.0
22	512.00	0.00	120.00	8855.3	124.5
23	512.00	0.00	160.00	12155.4	101.7
24	512.00	0.00	200.00	14290.5	105.0
25	512.00	0.00	240.00	15402.3	77.3
26	512.00	0.00	280.00	15647.1	66.4
27	512.00	0.00	320.00	14659.7	62.7
28	512.00	-62.80	0.00	355.5	156.4
29	512.00	-124.00	0.00	0.0	181.0
30	512.00	-187.20	0.00	0.0	143.2
31	512.00	-264.00	0.00	0.0	132.1
32	844.00	-62.80	0.00	592.9	49.5
33	844.00	0.00	0.00	907.9	54.7
34	844.00	62.80	0.00	724.6	60.5
35	1284.00	187.20	0.00	757.1	10.3
36	1284.00	91.60	0.00	926.9	15.0
37	1284.00	0.00	0.00	1300.7	16.9
38	1284.00	0.00	60.00	2661.0	36.0
39	1284.00	0.00	120.00	4651.1	34.6
40	1284.00	0.00	180.00	5743.3	34.1
41	1284.00	-91.60	0.00	1341.9	24.7
42	1284.00	-187.20	0.00	1198.7	24.3
43	1844.00	30.40	0.00	2841.1	18.2
44	1844.00	-30.40	0.00	2864.1	19.7
45	26.95	-26.95	0.00	0.0	25.4
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	23.4
48	-26.95	26.95	0.00	0.0	0.0

Table 5-63. Concentration Measurement Results

RUN NUMBER 63
STABILITY -- UNSTABLE
WIND DIR. -- 232.5
WIND SPEED 6.00 M/S AT 62.0 M

	TOWER	STACK
SOURCE DESIGNATION	TOWER	STACK
SOURCE FLOW RATE (CFM)	20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)	52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	0.0	0.0
2	172.00	0.00	0.00	282.9	0.0
3	172.00	0.00	40.00	7508.5	0.0
4	172.00	0.00	80.00	28168.0	0.0
5	172.00	30.40	0.00	524.0	0.0
6	-222.40	-130.00	4.40	0.0	0.0
7	-222.40	-184.00	4.40	0.0	0.0
8	-188.00	-184.00	4.40	0.0	0.0
9	-42.40	-306.00	14.00	0.0	0.0
10	.00	-404.00	4.40	0.0	0.0
11	.00	-259.60	0.00	0.0	0.0
12	.00	-287.60	25.20	0.0	2.0
13	.00	-342.00	45.20	0.0	66.5
14	39.60	-267.60	12.00	0.0	11.6
15	512.00	264.00	0.00	0.0	0.0
16	512.00	187.20	0.00	0.0	0.0
17	512.00	124.00	0.00	756.5	0.0
18	512.00	62.80	0.00	800.0	0.0
19	512.00	0.00	0.00	0.0	0.0
20	512.00	0.00	40.00	2597.3	0.0
21	512.00	0.00	80.00	4940.5	0.0
22	512.00	0.00	120.00	7258.6	0.0
23	512.00	0.00	160.00	10558.0	0.0
24	512.00	0.00	200.00	11448.5	0.0
25	512.00	0.00	240.00	13422.4	0.0
26	512.00	0.00	280.00	15100.0	0.0
27	512.00	0.00	320.00	15441.0	0.0
28	512.00	-62.80	0.00	374.0	25.1
29	512.00	-124.00	0.00	711.5	92.7
30	512.00	-187.20	0.00	0.0	159.1
31	512.00	-264.00	0.00	0.0	339.8
32	844.00	-62.80	0.00	1596.7	19.0
33	844.00	0.00	0.00	1567.9	12.9
34	844.00	62.80	0.00	684.4	4.3
35	1284.00	187.20	0.00	1186.1	0.0
36	1284.00	91.60	0.00	1757.2	0.0
37	1284.00	0.00	0.00	1807.2	4.0
38	1284.00	0.00	60.00	3071.2	3.1
39	1284.00	0.00	120.00	4516.1	8.7
40	1284.00	0.00	180.00	5239.8	4.3
41	1284.00	-91.60	0.00	1693.0	13.4
42	1284.00	-187.20	0.00	1674.3	31.7
43	1844.00	30.40	0.00	2490.4	2.9
44	1844.00	-30.40	0.00	2740.8	9.5
45	26.95	-26.95	0.00	0.0	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0

Table 5-64. Concentration Measurement Results

RUN NUMBER 64
STABILITY -- UNSTABLE
WIND DIR. -- -82.5
WIND SPEED 6.00 M/S AT 62.0 M

		TOWER	STACK
SOURCE DESIGNATION			
SOURCE FLOW RATE (CFM)		20200000.0	128000.0
SOURCE GAS TEMPERATURE (C)		52.0	22.0

TUBE NO.	X (M)	Y (M)	Z (M)	CONCENTRATIONS (PPM) TOWER	STACK
1	172.00	-30.40	0.00	533.2	0.0
2	172.00	0.00	0.00	711.0	0.0
3	172.00	0.00	40.00	9102.8	0.0
4	172.00	0.00	80.00	28766.8	0.0
5	172.00	30.40	0.00	1114.4	0.0
6	-65.34	-249.18	4.40	0.0	0.0
7	-27.15	-287.37	4.40	0.0	0.0
8	-2.83	-263.04	4.40	0.0	0.0
9	186.39	-246.36	14.00	0.0	0.0
10	285.67	-285.67	4.40	0.0	11.8
11	183.56	-183.57	0.00	0.0	0.0
12	203.36	-203.36	25.20	0.0	0.0
13	241.83	-241.83	45.20	0.0	64.8
14	217.22	-161.22	12.00	456.8	0.0
15	512.00	264.00	0.00	81.5	0.0
16	512.00	187.20	0.00	813.5	0.0
17	512.00	124.00	0.00	2496.8	0.0
18	512.00	62.80	0.00	1401.4	16.2
19	512.00	0.00	0.00	1075.9	59.2
20	512.00	0.00	40.00	4250.1	48.0
21	512.00	0.00	80.00	8377.2	46.3
22	512.00	0.00	120.00	12012.3	0.0
23	512.00	0.00	160.00	13198.3	0.0
24	512.00	0.00	200.00	13918.9	0.0
25	512.00	0.00	240.00	13906.4	0.0
26	512.00	0.00	280.00	13977.4	0.0
27	512.00	0.00	320.00	14613.4	0.0
28	512.00	-62.80	0.00	1051.4	195.2
29	512.00	-124.00	0.00	1016.3	492.1
30	512.00	-187.20	0.00	198.8	716.8
31	512.00	-264.00	0.00	797.9	496.8
32	844.00	-62.80	0.00	1867.9	41.5
33	844.00	0.00	0.00	2073.5	29.0
34	844.00	62.80	0.00	1896.4	10.2
35	1284.00	187.20	0.00	1435.7	0.0
36	1284.00	91.60	0.00	1737.3	0.0
37	1284.00	0.00	0.00	2522.6	2.4
38	1284.00	0.00	60.00	3886.8	7.5
39	1284.00	0.00	120.00	5157.9	11.1
40	1284.00	0.00	180.00	5568.9	17.7
41	1284.00	-91.60	0.00	2513.1	14.4
42	1284.00	-187.20	0.00	2207.9	24.1
43	1844.00	30.40	0.00	3239.9	0.0
44	1844.00	-30.40	0.00	2942.5	0.0
45	26.95	-26.95	0.00	650.7	0.0
46	26.95	26.95	0.00	0.0	0.0
47	-26.95	-26.95	0.00	0.0	0.0
48	-26.95	26.95	0.00	0.0	0.0