Physical modeling of Atmospheric Transport of Stack Emissions at Kahe Electrical Generating Plant (Units 9, 10, 11, 12, 13, and 14) Oahu, Hawaii
Volume I

by

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ABSTRACT

A topographic model with a scale of 1:650, of the Kahe Electrical Generating Plant (located on the island of Oahu, Hawaii) was tested in a wind tunnel in order to determine the nature of atmospheric transport of stack emissions for Units 9, 10, 11, 12, 13 and 14. Both oil and coal fired units were considered. The heights and configuration of the stacks were varied as were wind velocity and direction. Ground-level concentrations of tracer gas were measured for each combination of conditions. Plume geometry and behavior were observed and recorded by means of still photographs and movies.

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LIST OF SYMBOLS

Symbol	Definition	Units
A	Hot film calibration constant	(-)
B	Hot film calibration constant	(-)
C_p	Specific heat at constant pressure	$(m^2 s^{-2} {}^oK^{-1})$
CF	Calibration factor	(μv-s/ppm)
d	Diameter of hot film or displacement height	(m)
D	Stack diameter	(m)
e	rms error	(varies)
E	Hot-film voltage	(V)
Ec	Eckert number $\left[u_o^2/(C_{p_o} \Delta T_o)\right]$	(-)
F_L	Lagrangian spectral function	(s)
Fr	Stack Froude number $\left[\frac{u_s}{\sqrt{g\gamma D}}\right]$	(-)
g	Acceleration due to gravity	(ms^{-2})
Gr	Grashof number $\left[\frac{gd^3(T_w-T_g)}{\nu_g^2 T_g}\right]$	(-)
h	Height of stack	(m)
$i_{x,y,z}$	Turbulence intensity in x, y, or z direction [u'/u, v'/u, w'/u]	(-)
I	Current through wire or integrated value	(varies)
k	Thermal conductivity	$(Wm^{-1} {}^oK^{-1})$
k_s	Uniform sand grain height	(m)

Symbol	Definition	Units
P	Pressure	(mb)
Pr	Prandtl number $\left[\frac{\nu_o \rho_o C_{p_o}}{k_o}\right]$	(-)
Q	Emission rate	(g/s)
Q'	Zero order moment of concentration	(m/ppm)
R	Velocity ratio $[u_s/u_\infty]$	(-)
R_c	Hot resistance at calibration conditions	(Ω)
Re	Reynolds number $\left[\frac{L_o u_o}{\nu_o}\right]$	(-)
R_H	Film hot resistance	(Ω)
Ri	Richardson number $\frac{g}{T}\left[\frac{\frac{\partial \theta}{\partial z}}{\frac{\partial u}{\partial z}^2}\right]$	(-)
R_m	Universal gas constant	($m^2/s^2 {}^\circ K$)
Ro	Rossby number $\left[\frac{L_o \Omega_o}{u_o}\right]$	(-)
$R(\tau)$	Autocorrelation	(-)
t,τ,ξ	Time or time scales	(s)
T,θ	Temperature or potential temperature	(°K)
t_1	Center of gravity of autocorrelation curve	(s)
t_o	Integral time scale	(s)
u,v,w	Velocities	(m/s)
$u*$	Friction velocity	(m/s)
V	Volume flow	($m^3 s^{-1}$)

Subscripts

Symbol	Definition
a	Pertaining to ambient conditions
BG	Pertaining to background data
c	Pertaining to calibration temperature
g	Pertaining to gas
h	Pertaining to reference height h
i,j,k	Tensor or summation indices
i	Pertaining to tracer i
m	Model
n	Pertaining to power law
o	General reference quantity or initial condition
p	Prototype
r	Reference quantity
s	Pertaining to stack exit conditions
SO_2	Pertaining to SO_2 concentrations
w	Pertaining to hot wire
z_o	Pertaining to logarithmic law
∞	Free stream

Superscripts

'	Root-mean-square of quantity
*	Dimensionless parameter

Greek Symbols

Symbol	Definition	Units
δ	Kronecker delta tensor	(-)
ε	Tensor permutation tensor	(-)
χ	Concentration	(ppm)
χ_o	Source strength	(ppm)
γ	Density ratio $\left[\frac{\rho_a - \rho_s}{\rho_a}\right]$	(-)
Λ	Length scale	(m)
μ	Dynamic viscosity	($gm^{-2}s^{-1}$)
ν	Kinematic viscosity	(m^2s^{-1})
Ω	Angular velocity	(s^{-1})
ϕ^*	Dissipation term	(-)
ρ	Density	(gm^{-3})
σ_z, σ_y	Vertical and horizontal standard deviation of concentration distribution	(m)

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1. INTRODUCTION

Hawaiian Electric Company, Inc. operates a power generating facility on the island of Oahu, which is known as the Kahe Electrical Generating Plant (KEGP). The plant is located west of Honolulu and adjacent to the ocean (see Figure 3-1). Due to increased demand for electricity, additional generating facilities are needed at the site. However, prior to construction, it must be demonstrated that National Ambient Air Quality Standards will not be exceeded.

The purpose of this study was to determine ground-level concentrations of sulfur dioxide emanating from proposed units of the KEGP, namely Units 9, 10, 11, 12, 13, and 14. This was accomplished through the use of physical modeling in the environmental wind tunnel facility at Colorado State University. Subsequently, a test plan was designed for a 1:650 model of the KEGP, its local surroundings, and the proposed units. For selected directions of gradient wind, the atmospheric transport of stack emissions in the vicinity of the KEGP was investigated. Concentrations of tracer gas (simulating sulfur dioxide releases at the plant site) were sampled over the model surface. Overall plume geometry and behavior were observed and recorded by photographing smoke released at the plant site.

This report discusses the criteria necessary for simulating plume transport and diffusion, the experimental methods, and the results of the velocity, concentration, and visual measurements.

The results of the concentration measurements for all test runs have been tabulated in Volume II (under separate cover). Color motion pictures and still photographs were utilized to record plume behavior and are on file at Colorado State University and Stearns-Roger, Inc.

2. WIND-TUNNEL SIMILARITY REQUIREMENTS

2.1 General

The basic equations governing atmospheric and plume motion (conservation of mass, momentum and energy) may be expressed in the following dimensionless form (Cermak, 1974; Snyder 1972):

$$\frac{\partial \rho^*}{\partial t^*} + \frac{\partial(\rho^* u^*_i)}{\partial x^*_i} = 0, \tag{2.1.1}$$

$$\frac{\partial u^*_i}{\partial t^*} + u^*_j \frac{\partial u^*_i}{\partial x^*_j} - \left[\frac{L_o \Omega_o}{u_o}\right] 2\varepsilon_{ijk}\Omega^*_j u^*_k =$$

$$-\frac{\partial p^*}{\partial x^*_i} - \left[\frac{\Delta T_o L_o g_o}{T_o u_o{}^2}\right] \Delta T^* g^* \delta_{i3}$$

$$+\left[\frac{\nu_o}{u_o L_o}\right] \frac{\partial^2 u^*_i}{\partial x^*_k \partial x^*_k} + \frac{\partial}{\partial x^*_j} (\overline{-u'^*_i u'^*_j}) \tag{2.1.2}$$

and

$$\frac{\partial T^*}{\partial t^*} + u^*_i \frac{\partial T^*}{\partial x^*_i} = \left[\frac{k_o}{\rho_o C_{p_o} \nu_o}\right] \left[\frac{\nu_o}{L_o u_o}\right] \frac{\partial^2 T^*}{\partial x^*_k \partial x^*_k}$$

$$+ \frac{\partial}{\partial x^*_i}(\overline{-\theta'^* u'^*_i}) + \left[\frac{\nu_o}{u_o L_o}\right] \left[\frac{u_o{}^2}{C_{p_o} (\Delta T)_o}\right] \phi^*. \tag{2.1.3}$$

The dependent and independent variables have been made dimensionless (indicated by an asterisk) by choosing appropriate reference values.

For exact similarity, the bracketed quantities and boundary conditions must be the same in the wind tunnel and in the plume as they are in the corresponding full-scale case. The complete set of requirements for similarity is:

1) Undistorted geometry

2) Equal Rossby number: $Ro = u_o/(L_o \Omega_o)$

3) Equal gross Richardson number: $Ri = \Delta T_o g L_o / T_o u_o^2$

4) Equal Reynolds number: $Re = u_o L_o / \nu_o$

5) Equal Prandtl number: $Pr = (\nu_o \rho_o C_{p_o}) / k_o$

6) Equal Eckert number: $Ec = u_o^2 / \left[C_{p_o} (\Delta T)_o \right]$

7) Similar surface-boundary conditions

8) Similar approach-flow characteristics

All of the above requirements cannot be simultaneously satisfied in the model and prototype. However, some of the quantities are not important for the simulation of many flow conditions. The parameters which can be neglected for this study and those which are important will now be discussed in detail.

2.2 Parameters Not Equal for Model and Prototype

For this study equal Reynolds number for model and prototype is not possible since the length scaling is 1:650 and unreasonably high wind tunnel and stack exit speeds would be required. As will be discussed, this inequality is not a serious limitation.

The Reynolds number related to the stack exit is defined by

$$Re_s = \frac{u_s D}{\nu_s} .$$

Hoult and Weil (1972) reported that plumes appear to be fully turbulent for exit Reynolds numbers greater than 300. Their experimental data show that the plume trajectories are similar for Reynolds numbers above this critical value. In fact, the trajectories appear similar down to $Re_s = 28$ if only the buoyancy dominated portion of the plume trajectory is considered. Hoult and Weil's study was in a laminar cross flow (water tank) with low ambient turbulence levels and hence the rise and dispersion of the plume would be predominantly dominated by the plume's own self-generated turbulence. These arguments for Reynolds number independence only apply to plumes in low ambient turbulence or to the initial stage of plume rise where the plume's self-generated turbulence dominates.

For similarity in the region dominated by ambient turbulence consider Taylor's (1921) relation for diffusion in a stationary homogeneous turbulence

$$\sigma_z^2(t) = \overline{2w'^2} \int_0^t \int_0^t R(\xi)d\xi dt \qquad (2.2.1)$$

which can be simplified to (see Csanady, 1973)

$$\sigma_z^2(t) \cong \overline{w'^2 t^2} \cong i_z^2 x^2 \qquad (2.2.2)$$

for short travel times; or,

$$\sigma_z^2(t) = \overline{2w'^2} t_o (t - t_1); \qquad (2.2.3)$$

for long travel times where

$$t_o = \int_0^\infty R(\tau)d\tau \qquad (2.2.4)$$

is an integral time scale and

$$t_1 = \frac{1}{t_o} \int_0^\infty \tau R(\tau)d\tau \qquad (2.2.5)$$

is the center of gravity of the autocorrelations curve. Hence for geometric similarity at short travel times,

$$\frac{\left[\sigma_z^2\right]_m}{\left[\sigma_z^2\right]_p} = \frac{\left[L^2\right]_m}{\left[L^2\right]_p} = \frac{\left[i_z^2 x^2\right]_m}{\left[i_z^2 x^2\right]_p}$$

or,

$$\left[i_z\right]_m = \left[i_z\right]_p . \qquad (2.2.6)$$

For similarity at long travel times

$$\frac{L_m^2}{L_p^2} = \frac{\left[\sigma_z^2\right]_m}{\left[\sigma_z^2\right]_p} = \frac{\left[\overline{w'^2}t_o(t-t_1)\right]_m}{\left[\overline{w'^2}t_o(t-t_1)\right]_p}$$

$$= \frac{\left[i_z^2\right]_m}{\left[i_z^2\right]_p} \quad \frac{\left[t_o(t-t_1)/u^2\right]_m}{\left[t_o(t-t_o)/u^2\right]_p} = \frac{\left[Li_z^2\ \Lambda\right]_m}{\left[Li_z^2\ \Lambda\right]_p}$$

if it is assumed that $t_o << t$, $t_o/u = \Lambda$ and $t/u = L$. Thus the turbulence length scales must scale as the ratio of the model to prototype length scaling if $(i_z)_m = (i_z)_p$ or,

$$\frac{L_m}{L_p} = \frac{\Lambda_m}{\Lambda_p} \tag{2.2.7}$$

An alternate way of evaluating the similarity requirement is by putting 2.2.1 in spectral form or (Snyder, 1972),

$$\sigma_z^2 = \overline{w'^2}t^2 \int_0^\infty F_L(n) \left[\frac{\sin \pi nt}{\pi nt}\right]^2 dn = \overline{w'^2}t^2 I \tag{2.2.8}$$

where

$$I = \int_0^\infty F_L(n) \left[\frac{\sin \pi nt}{\pi nt}\right]^2 dn$$

F_L = Lagrangian spectral function

The quantity in brackets is a filter function, the form of which can be seen in Pasquill (1974). In brief, for $n > \frac{1}{t}$ the filter function is very small, and for $n < \frac{1}{10t}$ virtually unity.

For geometric similarity of the plume, the following must be true:

$$\frac{L_m^2}{L_p^2} = \frac{\left[\sigma_z^2\right]_m}{\left[\sigma_z^2\right]_p} = \frac{\left[\overline{w'^2}t^2 I\right]_m}{\left[\overline{w'^2}t^2 I\right]_p} = \frac{\left[L^2 i_z^2\right]_m}{\left[L^2 i_z^2\right]_p}$$

or

$$\frac{\left[i_z^2 I\right]_m}{\left[i_z^2 I\right]_p} = 1 \tag{2.2.9}$$

If $\left[i_z\right]_m = \left[i_z\right]_p$ the requirement is $I_m = I_p$. For short travel times the filter function is essentially equal to one; hence, $I_m = I_p = 1$, and the same similarity requirement as previously deduced for short travel times is obtained (equation 2.2.6).

For long travel times the larger scales (smaller frequencies) of turbulence progressively dominate the dispersion process. If the spectra in the model and prototype are of a similar shape then similarity would be achieved. However for a given turbulent flow, a decrease in the ambient Reynolds number (hence wind velocity) decreases the range (or energy) of the high frequency end of the spectrum. Fortunately, due to the nature of the filter function, the high frequency (small wavelength) components do not contribute significantly to the dispersion. There would be, however, some critical Reynolds number below which too much of the high frequency turbulence is lost. If a study is run with a Reynolds number in this range similarity may be impaired.

To evaluate whether geometric similarity of the plumes was achieved for this study the σ_y and σ_z values obtained in the wind tunnel were compared with those quoted as being representative of atmospheric dispersion rates (Pasquill, 1976). If the model σ_y and σ_z values compare well for the corresponding atmospheric flow the inference is that Reynolds number independence was achieved.

The ambient flow field affects the plume trajectories and consequently similarity of this field between model and prototype is required. The mean flow field will become independent of Reynolds number if the flow is fully turbulent. The critical Reynolds number for this criteria to be met is based on the work of Nikuradse as summarized by Schlichting (1968) and Sutton (1953) and is given by

$$(Re)_{k_s} = \frac{k_s u^*}{\nu} > 75$$

or assuming $k_s = 30\ z_o$

$$Re_{z_o} = \frac{z_o u^*}{\nu} > 2.5\ .$$

In this relation k_s is a uniform sand grain height and z_o is the surface roughness factor.

The Rossby number Ro is a quantity which indicates the effect of the earth's rotation on the flow field. In the wind tunnel equal Rossby numbers between model and prototype cannot be achieved. The effect of the earth's rotation becomes significant if the distance scale is large. Snyder (1972) puts a conservative cutoff point at 5 km for diffusion studies. He states that for length scales above this value the Rossby number should be considered. For this particular study, the maximum range over which the plume is transported is 5 km in the horizontal and approximately 1 km in the vertical. Hence, the earth's rotation may affect plume transport for similar full scale conditions but was neglected for this study.

When equal Richardson numbers are achieved, equality of the Eckert number between model and prototype cannot be attained. This is not a serious compromise since the Eckert number is equivalent to a Mach number squared. Consequently, the Eckert number is small compared to unity for laboratory and atmospheric flows.

2.3 Parameters Equal for Model and Prototype

Since air is the transport medium in the wind tunnel and the atmosphere, near equality of the Prandtl number is assured.

Equality of plume transport will be assured if the following conditions are met (Snyder, 1979):

1) Fix effluent Reynolds number as large as possible--preferably above 300.

2) Match the following parameters in model and prototype

$$R = \frac{u_s}{u_\infty}$$

$$Fr = \frac{u_s}{\sqrt{g\gamma D}}$$

$$\gamma = \frac{\rho_a - \rho_s}{\rho_a}$$

$$\lambda = D/h$$

Implementing the above scaling criteria would give the following relation between model and prototype velocities:

$$(u_\infty)_m = (u_\infty)_p \left(\frac{D_m}{D_p}\right)^{1/2}$$

and for

$$D_m/D_p = 1{:}650$$

$$(u_\infty)_m = 0.0392\ (u_\infty)_p \quad .$$

The range of ambient free-stream velocities to be simulated is 5.6 to 22.2 m/s or 0.29 to 0.87 m/s in the wind tunnel. Since the tunnel is hard to control at these low speeds and Reynolds number effects may become important, a distorted scaling technique was employed. The technique involved neglecting the plume buoyancy, thus requiring equality of only the velocity ratio (R). An alternate technique of relaxing the density ratio (γ) equality was also considered but the wind tunnel speeds were still found to be less than 1 m/s.

The justification for neglecting plume buoyancy (Fr = ∞) is:

1) the wind tunnel speeds can be set at any reasonable value--maintained at approximately 3 m/s for all tests,
2) the stack Reynolds numbers can be maintained at values exceeding 300 for all of the tests,
3) atmospheric turbulence will quickly dominate the rise since the ambient turbulence intensity levels are high (> 10%) in the wake of the terrain, and
4) the assumption is conservative in that the plume rise will be less resulting in higher ground level concentrations than if buoyancy were simulated.

In summary the following scaling criteria were applied for this study:

1) $R_m = R_p$; $R = u_s/u_\infty$.
2) $Re_s > 300$; $Re_s = \dfrac{u_s D}{\nu_s}$
3) $Re_{z_o} > 2.5$; $Re_{z_o} = \dfrac{u^* z_o}{\nu_a}$
4) Similar geometric dimensions.
5) Equality of dimensionless boundary conditions.

3. EXPERIMENTAL METHODS

3.1 General

A 1:650 model of the Kahe Electrical Generating Plant and the 63° and 153° wind directions were constructed to study the transport and diffusion of effluent emitted from proposed new units under neutral atmospheric conditions. Figure 3-1 shows the terrain areas modeled and associated wind directions. A total of six new generating units were considered (Units 9, 10, 11, 12, 13, and 14). The location of these potential new units is shown in Figure 3-2.

Each test was conducted in a similar manner. Measurements of wind speed and tracer concentrations were made at various locations to document the flow pattern. The tracer concentration measurements were made at ground-level to establish the expected maximum values. Measurements of ground-level concentration were also made with and without the upwind terrain present for several plant configurations to establish the GEP stack height. A series of tests were also run with a flat tunnel--referred to as "Atmospheric Dispersion Comparability Tests"--to document the characteristics of the wind tunnel. The parameters associated with each run are in Table 3-1 and Volume II Table of Contents.

A complete discussion of the experimental techniques follows.

3.2 Scale Models and Test Facility

Construction of the scale topographic model entailed the use of laminated styrofoam sheets cut along corresponding contours. United States Geological Survey maps were photographed and projected to provide the contour patterns. Ground-level sampling taps were installed at various locations for both the 63° and 153° wind directions. For the 153° wind direction the sampling tap locations are shown in Figure 3-3. For runs 50 to 79 for the 63° wind directions, the tap locations are given in Figure 3-4; and for runs 80 to 91, the locations are given in Figure 3-5.

The power plant buildings were modeled from drawings supplied by Stearns-Roger, Inc. The model of Units 9, 10, 11, and 12 is shown in Figure 3-6, and associated operating parameters for all studied units are given in Table 3-2.

The complete model (including the power generating plants and topographic relief) were placed in the Environmental Wind Tunnel shown in Figure 3-7 for testing of neutral flow conditions.

3.3 Gas Tracer Technique

- Test Procedure

The test procedure consisted of: 1) setting the proper tunnel wind speed, 2) releasing a metered mixture of source gas of the required density (that of air) from the release stacks, 3) withdrawing samples of air from the tunnel at the locations designated, and 4) analyzing the samples with a flame ionization gas chromatograph (FIGC). Photographs of the sampling system and gas chromatograph are shown in Figure 3-8. The samples were drawn into each syringe over a 300 s (approximate) time and consecutively injected into the FIGC.

The procedure for analyzing air samples from the tunnel was as follows: 1) a 2 cc sample volume drawn from the wind tunnel is introduced into the flame ionization detector (FID), 2) the output from the electrometer (in microvolts) is sent to the Hewlett-Packard 3380 Integrator, 3) the output signal is analyzed by the HP 3380 to obtain the proportional amount of hydrocarbons present in the sample, 4) the record is integrated and the methane, ethane, propane, or butane concentration is appropriately determined by multiplying the integrated signal (μv-s) time by a calibration factor (ppm/μv-s), 5) a summary of the integrator analysis--gas retention time and integrated area (μv-s)--is printed out on the integrator at the wind tunnel, 6) the integrated values and associated run information are tabulated on a form, 7) the integrated values for each tracer are key punched into a computer along with pertinent run information, and 8) the computer program converts the raw data to a normalized prototype concentration (NC) and equivalent full-scale SO_2 concentration (χ_{SO_2}) and the results are printed out in report format (see Volume II).

The integrated values are converted as follows:

$$NC = \left(\frac{\chi u_\infty}{\chi_o V}\right)_m \frac{L_m^2}{L_p^2} \qquad (3.3.1)$$

$$\chi_{SO_2} = NC * \left(\frac{\chi_o V}{u_\infty}\right)_p \qquad (3.3.2)$$

where

NC = normalized prototype concentration (m^{-2})

$(\chi)_m$ = $[(I - I_{BG})CF]_i$

$(\chi_o)m$ = tracer gas source strength in ppm

I = integrated value of sample for tracer i

I_{BG} = integrated value for background sample

CF_i = calibration factor for tracer i

L = model (m) and full-scale (p) length scales

u_∞ = model (m) and full-scale (p) free stream velocities (m/s)

$(\chi_o)_p$ = full-scale source strength (ppm) at local temperature and pressure

V = model (m) and full-scale (p) volume flow rates (m^3/s)

The calibration factor was obtained by introducing a known quantity, χ_s, of tracer i in the FIGC and recording the integrated value, I_s, in μv-s.

The CF_i value is then

$$CF_i = \left[\frac{\chi_s(\text{ppm})}{I_s(\mu\text{v-s})}\right]_i \cdot$$

Calibrations were obtained at the beginning and end of each measurement period. The tracer gas mixtures were supplied by Scientific Gas Products.

- Gas Chromatograph

The FID operates on the principle that the electrical conductivity of a gas is directly proportional to the concentration of charged particles within the gas. The ions in this case are formed by the effluent gas being mixed in the FID with hydrogen and then burned in air. 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 3380 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 increases above this zero shift in proportion to the degree of ionization or correspondingly the amount of tracer gas present. Since the chromatograph[1] used in this study features a temperature control on the flame and electrometer, there is very low zero drift. In case of any zero drift, the HP 3380 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.

[1]A Hewlett Packard 5700 gas chromatograph was used in this study (shown in in Figure 3-8).

• Sampling System

The tracer gas sampling system shown in Figure 3-7 consists of a series of fifty 50 cc syringes mounted between two circular aluminum plates. A variable-speed motor raises a third plate which in turn raises 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 300 s.

The sampler was periodically calibrated to insure proper function of each of the check valve and tubing assemblies. The sampler intake was connected to short sections of tygon tubing which led to a sampling manifold. The manifold, in turn, was connected to a gas cylinder having a known concentration of tracer (~200 ppm propane). The gas was turned on and a valve on the manifold opened to release the pressure produced in the manifold. The manifold was allowed to flush for ~1 min. Normal sampling procedures were carried out to insure exactly the same procedure as when taking a sample from the tunnel. Each sample was then analyzed for methane, ethane, propane and butane. Methane, ethane and butane were analyzed to insure that the tygon had not absorbed these hydrocarbons and was not "gassing" them off. 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. A typical sampler calibration is shown in Figure 3-9.

- Center of Mass and Variance

The concentration data for the Atmospheric Dispersion Comparability Tests (ADCT) were computer processed to obtain the center of mass ($\bar{z}$) and the standard deviation (σ_z or σ_y). The parameters were determined by numerically integrating the following equations over the height (and width, where appropriate) of the concentration profiles:

$$Q' = \int_0^\infty \chi dz \qquad (3.3.3)$$

$$\bar{z} = \left(\frac{1}{Q'}\right) \int_0^\infty z\chi dz \qquad (3.3.4)$$

$$\sigma_z^2 = \left(\frac{1}{Q'}\right) \int_0^\infty (z - \bar{z})^2 \chi dz \qquad (3.3.5)$$

The numerical integration was obtained using the trapezoidal rule.

- Averaging Time

To determine the averaging time for the predicted concentrations from wind-tunnel experiments the dispersion parameters -- σ_y and σ_z -- for the undisturbed flow in the wind-tunnel were compared to those used for numerical modeling studies in the atmosphere. The dispersion rates used in the atmosphere are referred to as the Pasquill-Gifford curves and are given in Turner (1970) and modified values are given in Pasquill (1974, 1976). The results of this comparison as discussed in Section 4 showed that the σ_y and σ_z values in the wind tunnel compare (when multiplied by the length scaling factor 650) with those expected for the atmosphere. Hence, the method used for converting numerical model predictions to different averaging times should also be used for converting the wind-tunnel tests.

The EPA guideline series for evaluating new stationary sources (Budney, 1977) conservatively assumes that the Pasquill-Gifford σ_y and σ_z values represent 1-hour average values. To convert to a 3-hour value, multiply by 0.9 ± 0.1, and if aerodynamic disturbances are a problem, the factor should be as high as 1.

Generally, steady-state average concentrations measured in the wind tunnel are thought to correspond to a 10- or 15-minute average in the atmosphere (Snyder, 1979). This line of reasoning is based on the observed energy spectrum of the wind in the atmosphere. This spectrum shows a null in the frequency range from 1 to 3 cycles per hour. Frequencies below this null represent meandering of the wind, diurnal fluctuations, and passage of weather systems and cannot be simulated in the wind tunnel. The frequencies above this null represent the fluctuations due to roughness, buildings, and other local effects and are well simulated in the tunnel. This part of the spectrum will be simulated in the tunnel as long as the wind direction and speed characteristics remain stationary in the atmosphere, which is typically 10 to 15 minutes. At many locations, however, persistent winds of three or more hours may occur. For these cases, the wind tunnel averaging time would correspond to the atmospheric averaging time. For the more typical cases, the wind-tunnel results would have to be corrected for the large-scale motion using power law relations such as given by Hino (1968) or Turner (1970).

3.4 Velocity Profiles

- General

A single film sensor was used to obtain profiles of mean and longitudinal turbulence intensity for each series of tests. The measurements were performed to 1) monitor and set flow conditions, 2) document the flow conditions in the wind tunnel, and 3) for use in calculating surface roughness, power law exponent, and Reynolds stress. Instrumentation used for this portion of the study included 1) a Thermo-Systems, Inc. (TSI) 1050 series anemometer, 2) a TSI Model 1210 hot-film sensor, 3) a type 120 Equibar pressure meter and pitot tube, and 4) a TSI Model 1125 calibrator for velocity calibration. Temperature measurements were obtained using the same hot-film with TSI constant current temperature module. The variation in wire resistance versus temperature was obtained prior to measurement.

The techniques used to obtain the velocity data with this assortment of equipment and data processing techniques will be discussed in more detail.

- Hot-film Anemometry

The transducer used for measuring velocities for this study was a 1210 hot-film sensor. The sensor consists of a platinum film on a single quartz fiber. The diameter of the sensor is 0.0025 cm. The sensor has the capacity of resolving one component of velocity in turbulent flow fields.

The basic theory of operation is based on the physical principle that the heat transfer from the wire equals the heat supplied to the wire by the anemometer or in equation form (see Hinze, 1975).

$$I^2R_w = \pi \ell k_g (T_w - T_g) Nu \qquad (3.4.1)$$

where I = current through wire

k_g = heat conductivity of gas

ℓ = length of wire

T_w = temperature of wire

T_g = temperature of gas

Nu = Nusselt number $= F(Re, Pr, Gr\ \frac{T_w - T_g}{T_g}, \frac{\ell}{d})$

$Re = \frac{ud}{\nu_g}$

$Pr = \frac{C_p \mu_g}{k_g}$

$Gr = \frac{g d^3 (T_w - T_g)}{\nu_g^2 T_g}$

d = diameter of wire

R_w = operating resistance of wire

For most wind-tunnel applications, an empirical equation evolved by Kramers as reported in Hinze (1975) is adequate for representing Nu for a Reynolds number range $0.01 < Re < 1000$, or

$$Nu = 0.42\ Pr^{0.2} + 0.56\ Pr^{0.33} Re^{0.5} \qquad (3.4.2)$$

Free convection from the wire can be neglected for $Re > 0.5$ when:

$$Gr\ Pr < 10^{-4}$$

Alternately, buoyancy may be neglected when:

$$Gr < Re^3$$

The temperature dependence of the resistance of the wire is assumed to follow the ensuing relation:

$$R_w = R_o\left[1 + b_1(T_w-T_o) + b_2(T_w-T_o)^2 + \ldots\right]$$

where b_1 are temperature coefficients. Normally the higher order terms are neglected and:

$$R_w = R_o\left[1 + b_1(T_w-T_o)\right]$$

Substituting the appropriate relations yields the following equation:

$$\frac{I^2R_w}{R_w-R_c} = A + B(\rho_c u)^n$$

where

R_c = resistance of wire at calibration temperature

ρ_c = density of air at calibration temperature

$$A = \frac{\pi \ell k_f}{b_1 R_o}\, 0.42(Pr)^{0.2}$$

$$B = \frac{\pi \ell k_f}{b_1 R_o}\, 0.57(Pr)^{0.33}\left(\frac{d}{\mu}\right)^{0.5}$$

For this study, A, B, and n were obtained by calibrating the wire over a range of known velocities and determining A, B, and n by a least-squares analysis. Since the calibration temperature of the wire is nearly equal to the temperature in the wind tunnel, no corrections for temperature were applied. Hence, the following equation was used to calculate the instantaneous velocity:

$$u = \left[\frac{\frac{I^2\,R_w}{R_w-R_c} - A}{B}\right]^{1/n} \tag{3.4.3}$$

Calibration of the hot film was performed with the Model 1125 TSI calibrator and a type 120 Equibar pressure meter where the following relation applies:

$$u = \sqrt{\frac{2\Delta P R_m T_a}{P_a}}$$

A calibration was performed at the beginning of each day's measurement.

After the wire was calibrated, the desired flow condition was set in the wind tunnel. The free stream velocity was monitored with the MKS Baratron* and pitot tube. Once the desired condition at the reference height was obtained, the pressure meter setting was recorded and used to set and monitor the tunnel conditions for all remaining tests. During all subsequent velocity and concentration measurements, care was taken to ensure the pressure meter reading remained constant.

- Data Collection

The manner of collecting the data was as follows:

1. The hot-film probe was attached to a carriage.
2. The bottom height of the profile was set to the desired initial height.
3. A vertical distribution of velocity was obtained using a vertically traversing mechanism which gave a voltage output corresponding to the height of the wire above the ground.
4. The signals from the anemometer and potentiometer device indicating height were fed directly to a Hewlett-Packard Series 1000 Real Time Executive Data Acquisition System.

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*For the preliminary tests, a Datametric Mass Flowmeter was used.

5. Samples were stored digitally in the computer at a rate of approximately 200 samples per second, and

6. The computer program converted each voltage into a velocity (m/s) using the equation:

$$u = \left[\frac{\dfrac{E^2}{R_H(R_H-R_c)} - A}{B}\right]^{1/n}$$

At this point the program computes several useful quantities using the following equations:

$$\bar{u} = \frac{1}{N}\sum_{i=1}^{N} u_i \qquad (3.4.4)$$

$$\overline{u'^2} = \frac{1}{N-1}\sum_{i=1}^{N} (u_i - \bar{u})^2 \qquad (3.4.5)$$

where N is the number of velocities considered (a 30-second average was taken, hence, 6000 samples were obtained). The mean velocity and turbulence intensity at each measurement height were stored on a file in addition to being returned to the operator at the wind tunnel on a remote terminal.

3.5 Flow Visualization

The purpose of this phase of the study is to visually assess the transport of the plumes released from the stacks. The data collected consist of a series of photographs of the smoke emitted from the stacks for the different tests.

The smoke was produced by passing compressed air through a container of titanium tetrachloride located outside the wind tunnel and transported through the tunnel wall by means of a tygon tube terminating at the stack inlets. The plume was illuminated with high intensity lamps, and a visible record was obtained by means of black and white photographs taken with two supergraphic cameras (lens focal length 127 mm) and color slides taken with a Canon F1 camera (focal length 28 mm). The shutter speed for the black and white photographs was 1/2 of a second and for the color slides 1/2 of a second. Two supergraphic cameras were spaced 1.91 m apart with camera axis perpendicular to the wind flow axis. In this manner, the complete plume trajectory out to 6 km full-scale could be photographed.

A series of 16 mm motion pictures was taken of all tests. A Bolex movie camera was used with a speed of 24 frames per second. The movies consisted of taking an initial close-up of the smoke release after which the camera was panned from the model stack(s) to approximately 6 km downwind in the prototype.

4. ATMOSPHERIC DISPERSION COMPARABILITY TEST (ADCT)

4.1 Description of Model and Tests

For these tests, the Colorado State University Environmental Wind Tunnel was used. The fully developed boundary layer was simulated following techniques recommended by Counihan (1969). At the beginning of the test section, a 7.6 cm trip was positioned, followed by 2 m high spires to achieve maximum boundary layer thickness. The spires were spaced at 91.4 cm center to center. Counihan (1969) showed that with semi-elliptic spires and a 6° wedge, a fully developed boundary layer can be achieved within five to six boundary layer heights. The spire trip arrangement can be seen in Figure 4-1. The desired boundary layer height is 92 cm (giving a 600 m full-scale simulated depth at a 1:650 scale reduction). Hence, the boundary layer should be fully developed within 4.6 to 5.5 m. On the surface of the tunnel 2.54 cm high, uniformly spaced roughness was placed. This configuration was chosen to give a full-scale z_o value close to 1 m.

For the GEP tests, the stack was to be positioned approximately 10 m downwind of the spires. Hence, velocity and concentration measurements were taken for the ADCT relative to this location. The stack for the ADCT was 15.4 cm high with an 0.77 cm inside diameter. The exit velocity was always set to be 1.5 times the exit velocity at stack top.

Vertical and lateral profiles of concentration through the plume centerline at quarter intervals between the source and the planned study area were obtained. The vertical profiles were repeated for three wind speeds to check Reynolds number independence of the results and the invariability of the results with different test conditions.

Ground level concentrations were taken to compare with the standard Gaussian diffusion equation.

4.2 Vertical Profile of Mean Temperature

One vertical profile of the mean temperature $\overline{T}(^{o}K)$ was taken at the stack location for the tunnel setup discussed in Section 4.1. The mean temperature profile shown in Figure 4-2a indicates a highly uniform isothermal layer representative of a neutral atmosphere.

4.3 Vertical Profile of Intensity of Turbulent Temperature Fluctuations

One vertical profile of intensivy of turbulent temperature fluctuations was taken at the stack location and is shown in Figure 4-2b. Temperature fluctuations are on the order of 0.1 percent or less. The distribution of turbulent temperature fluctuations is shown to be uniform and low throughout the layer indicative of a neutral boundary layer.

4.4 Vertical Profiles of Mean Velocity

Three velocity profiles shown in Figure 4-3a were taken at the stack location to test for Reynolds number independence. The velocity profiles at free stream velocities of 83.1, 214.3, and 327.0 cm/s show no significant dependence over the range of Reynolds numbers used in these tests.

4.5 Vertical Profiles of Turbulence Intensity

Associated with the mean velocity profiles discussed above are corresponding vertical profiles of longitudinal turbulence intensity. The three turbulence intensity profiles taken at the stack location for free stream velocities of 83.1, 214.3, and 327.0 cm/s show no significant change, indicating that Reynolds number independence was achieved.

No measurements of vertical turbulence intensity were taken during this testing.

4.6 Evaluation of Mean Velocity Profiles

The surface roughness factor (z_o), displacement height (d), friction velocity (u^*), turbulent Reynolds number (Re_{z_o}), power law exponent (n), and corresponding rms errors for the logarithmic and power law regressions --e_{z_o} and e_n respectively--were determined for each profile by fitting the data by a least-squares formula using the following basic equations:

$$\frac{u}{u^*} = 2.5 \,\ln \frac{z-d}{z_o} \qquad \text{for} \qquad d < z < 100 \text{ m} + d$$

and

$$\frac{u}{u_\infty} = \left(\frac{z}{z_\infty}\right)^n . \qquad \text{for} \qquad z_\infty \geq z.$$

The results are given in Table 4-1. From the table average values of 1.587 cm and 0.28 for z_o and n are observed. The average ratio of $\frac{u^*}{u_\infty} = 0.129$. The computed estimates of Re_{z_o} range from 183. to 330.--well above the critical value of 2.5 to insure fully turbulent flow.

If z_o is scaled to full scale, a value of 10.3 m is obtained. Counihan (1975) presents the following formula for computing $\frac{u^{*2}}{u_\infty^2}$ from z_o:

$$\frac{u^{*2}}{u_\infty^2} = 2.75 \times 10^{-3} + 6 \times 10^{-4} \log_{10} z_o$$

This gives a value of 0.068 for the expected $\frac{u^*}{u_\infty}$. From Table 4-1, the value of $\frac{u^*}{u_\infty}$ is 0.129 in poor agreement with expectation. Counihan's (1975) results showed large scatter, however, and few results are available for field z_o of 10 m. The expected power law index can be predicted from Counihan (1975) as follows:

$$n = 0.096 \log_{10} z_o + 0.016 \,(\log_{10} z_o)^2 + 0.24$$

which gives an expected n of 0.26 in comparison to an average observed value of 0.28--good agreement. The boundary thickness observed in all profiles present a range between 50 and 70 cm. The desired thickness is 92 cm to simulate a 600 m full-scale value.

4.7 Horizontal and Vertical Concentration Distributions

Figures 4-4 to 4-6 show the vertical concentration distributions for respective free stream velocities of 1, 2, and 3 m/s. Also tabulated in the figures are the σ_z and $\bar{z}$ values computed by integration as described in Section 3.3 as well as the downwind and lateral distance. The horizontal concentration distributions are shown in Figure 4-7. All dimensions are given in prototype values.

4.8 Ground-Level Longitudinal Profile

As another test of the similarity of the wind tunnel and atmospheric dispersion in the absence of buildings or other large roughness features, ground-level measurements of concentration in the tunnel were made downwind of the 15.4 cm (100 m full-scale) stack. The ground sampling grid for the cases with a wind speed of 1.0, 2.0, and 3.0 m/s is shown in Figure 4-8.

Figure 4-9 shows the maximum $\frac{\chi u_a}{Q}$ at each horizontal array location plotted versus downwind distance. For comparison the Pasquill-Gifford C and D curves from Turner (1970) are plotted. For all plots and experimental data, h is assumed to be 100 m--the height of the stack. This is approximately true since the exit velocity is 1.5 times the ambient velocity at stack top. From the figure it is evident that the observed concentrations are higher than either of the Pasquill C or D curves. The implications of this result will be discussed in the next section.

4.9 Evaluation of Dispersion Comparability

To determine whether the wind-tunnel dispersion parameters (σ_y and σ_z) agree with those for the atmosphere, the vertical and horizontal concentration profiles were analyzed to determine σ_y and σ_z as discussed in Section 3.3.

The model values were then scaled to the prototype values by multiplying by the length scaling factor of 650.

The atmospheric values for σ_y and σ_z are often assumed to follow the Pasquill-Gifford curves as given in Turner (1970). However, Pasquill (1974, 1976) has recommended a different method for computing these parameters. For σ_y Pasquill recommends the following formula for sampling times up to one hour:

$$\sigma_y = i_y x f(x)$$

where f(x) is defined as follows:

x(km)	0.1	0.2	0.4	1.0	2.0	4.0
f(x)	0.8	0.7	0.65	0.6	0.5	0.4

He gives the following equations for σ_z:

$$\sigma_z = 0.038x^{0.72} \text{ for } z_o = 10 \text{ cm}$$

and

$$\sigma_z = 0.050x^{0.68} \text{ for } z_o = 100 \text{ cm}$$

where x is in km and the constants were derived from Pasquill (1974) for the indicated surface roughness.

Figure 4-10 shows the expected σ_y dispersion rates for the atmosphere with i_y equal to 0.14 in comparison to that observed in the wind tunnel. As can be seen, the results from the wind tunnel seem to follow the curve for $i_y = 0.14$ quite closely. In close the observed values are higher than the calculated curve while at the far distance the values are slightly lower. In general, the results tend to confirm that the horizontal dispersion is similar to the atmosphere for a $i_y = 0.14$. The i_y value was not measured for the tests, but the i_x was. From Figure 4-3 it is evident that $i_x = 0.18$ at stack top. Counihan (1975) reports that a typical ratio of i_x to i_y is 1.37. Using this ratio, an estimated value of $i_y = 0.13$ for the wind tunnel. This agrees well with the value determined to give a good fit to the dispersion results.

Figure 4-11 shows the σ_z values observed in the wind tunnel in comparison to those predicted for a surface roughness of 10 to 100 cm. In general, the results tend to fall above the 100 cm line suggesting that the roughness is more than 100 cm. At the farthest distance, the σ_z values are between the 10 and 100 cm surface roughness curves. In general, the results of both curves suggest that the dispersion in the wind tunnel is similar to the atmosphere for a surface roughness greater than 100 cm and a i_y of 0.14.

The EPA recommends (Huber, 1979) that the wind tunnel be shown to be comparable with Pasquill-Gifford C and D curves. These curves were developed assuming $z_o = 3$ cm and $i_y = 0.17$ and 0.26 respectively. It is evident that the major reason for the disagreement between the observations discussed in 4.9 and the Pasquill C and D curves in Figure 4-9 are the assumed values for z_o and i_y. The i_y values in Turner are higher than often observed for neutral conditions. Pasquill (1974) reports on data collected at Porton, England, where i_y ranged from 0.08 to 0.28. The value of i_y increased with increasing instability. Low values were for neutral stability. Also shown in Figure 4-9 is a comparison of the observed $\frac{\chi u_a}{Q}$ with that predicted using the σ_y variation for $i_y = 0.14$, the σ_z values for a 100 cm roughness, and the following equation:

$$\frac{\chi u_a}{Q} = \frac{1}{\pi \sigma_y \sigma_z} \exp \left[-\frac{1}{2} \left(\frac{h}{\sigma_z} \right)^2 \right] .$$

As can be seen, the wind-tunnel data agree acceptably with this prediction. Hence, the ground-level results in the wind-tunnel can be said to be representative of a neutral atmosphere if the neutral atmosphere has a i_y of 0.14 and the surface roughness is close to 100 cm.

5. TESTS FOR THE 63° WIND DIRECTION

5.1 Description of the Model and Tests

For the 63° wind direction, the region shown in Figure 3-1 was modeled. For "terrain in" runs, the entire model was placed in the wind tunnel test section. The spire-trip arrangement was identical to the arrangement described in Section 4.1. The only change made in the "terrain out" runs was the replacement of the terrain upwind of the power plant by roughness elements as shown in Figure 5-1.

5.2 Vertical Profiles of Mean Velocity

- No Upwind Terrain

Three vertical profiles of mean velocity were taken at increasing distances downwind of the stack. Table 5-1 contains the locations and identifying names of the profiles used in the associated graph. This table also contains the parameters of the best fit curves described in Section 4.6.

The profiles are graphed in Figure 5-2. As the distance downwind increases the relative wind speed increases near ground level. The boundary layer appears to extend to 60-100 cm.

- Upwind Terrain Present

Three vertical profiles of mean velocity were taken with the upwind terrain in place. The profile identifications, location, and curve fitting parameters are given in Table 5.2. The profiles are plotted in Figure 5-3. The only independent parameter not held constant in these profiles was the free stream velocity. The relative velocity is invariant above a height of 80-100 cm. This implies the boundary layer extends to this height at the stack. This agrees with the desired height of 90 cm discussed in Section 4.1.

5.3 Vertical Profiles of Turbulence Intensity

- No Upwind Terrain

Associated with the velocity profiles discussed in Section 5.2 are vertical profiles of longitudinal turbulence intensity. The profiles are shown in Figure 5-2. As distance downwind increases, the turbulence intensity near ground level increases.

- Upwind Terrain Present

Turbulence intensity profiles in this case are given in Figure 5.3. The invariance of the profiles with increasing wind speed demonstrates Reynolds number independence over the range of speeds studied.

5.4 Ground-Level Concentration Measurements

For these tests a tracer was released from various stacks. The stacks employed in each run are listed in the Table of Contents of Volume II and Table 3-1.

The profiles of maximum measured concentration downwind of the release point are shown in Figures 5-4 to 5-11 for selected test results. The profiles are presented for both the terrain in and terrain out cases on the same graph for ease of comparison. The peak values and associated distances downwind are given in Table 5-3. For a 21 cm (136.5 m) stack, the addition of the upwind terrain consistently moved the peak concentration toward the stack. For example, at Unit 9 the peak moved from more than 7.1 m (4.6 km) without the terrain present to 1.8 m (1.2 km) with the terrain (see Figure 5-4). Similar results can be observed for units 10, 11, and 12 in Figures 5-5 to 5-7, respectively.

At reduced free stream velocities, the peaks occur farther downwind. This can be seen in Figure 5-6 for Unit 11. The peaks without the upwind terrain occur at 7.1 m, 4.9 m, and 4.9 m (4.6 km, 3.2 km, and 3.2 km) for respective windspeeds of 1.5 m/s, 3.0 m/s and 4.5 m/s (9.1 m/s, 18.1 m/s and 27.2 m/s) while the distances downwind when the upwind terrain is present are 2.3 m, 2.0 m and 2.0 m (1.5 km, 1.3 km and 1.3 km). At Unit 12 the peaks move from 5.8 m (3.8 km) to 2.2 m (1.4 km), Figure 5-7. Also note that the magnitudes of the peak values for Units 11 and 12 are significantly higher when the upwind terrain is included.

If all stack heights are increased to 28 cm (182 m), the peaks occur farther downwind and are smaller. The effect of including the upwind terrain still decreases the distance downwind to the peaks. For example, at Unit 9, Figure 5-8, the peak moves from 5.8 m (3.8 km) to 1.8 m (1.2 km); similarly for Units 10 to 12 in Figures 5-8 to 5-11. The reduction in the magnitude of the peak farther downwind is more noticeable when the stack is increased from 21 cm to 28 cm. The results for Units 11 and 12 (Figures 5-9 and 5-10) show that the peaks are beyond the sample grid -- 6.9 m (4.5 km) downwind of the stack -- when terrain is absent. When the upwind terrain was included the peaks occurred 1 to 2 m (.6 to 1.3 km) downwind of the source.

5.5 Flow Visualization

The visualization of plume dispersion was performed to qualitatively assess the downwash effects of the upwind terrain. Figures 5-12 and 5-13 show the visualization with and without upwind terrain for representative test cases. The terrain causes the plume to be mixed to the ground more quickly and spreads it more in the vertical. The increase in stack height tends to maintain the plume above the ground for a longer time. This can be seen by comparing Figures 5-12 a) and 5-13 a). These results agree qualitatively with those obtained by concentration measurements.

6. TESTS FOR THE 153° WIND DIRECTION

6.1 Description of the Model and Tests

For the 153° wind direction the region shown in Figure 3-1 was modeled. The test runs are similar to those taken for the 63° wind direction. Tests were run with and without the upwind terrain present. When the upwind terrain was removed a smooth approach was put in place. A photograph of the tunnel set-up with the terrain is shown in Figure 6-1.

6.2 Vertical Profiles of Mean Velocity

- No Upwind Terrain

Four vertical profiles of mean velocity were taken, two downwind and two lateral to the stack location as shown in Figure 6-2. Table 6-1 contains the locations and the names of the profiles used in subsequent graphs. This table also contains the parameters of the best fit curves described in Section 4.6.

The profiles taken downwind of the stack at two wind speeds are compared in Figure 6-3 and are very similar for both wind speeds. The profiles at two wind speeds taken lateral to the stack over the ocean are compared in Figure 6-4 and are almost identical to each other. All four profiles are compared in Figure 6-5.

- Upwind Terrain Present

Ten vertical profiles of mean velocity were taken when the upwind terrain was in place. For a list of profile identifications, locations, and curve fitting parameters see Table 6-2 and Figure 6-2.

The profiles lateral to the stack over the ocean are compared in Figure 6-6 for various wind speeds and downwind locations. The profiles taken upwind of the power plants under study, shown in Figure 6-7, also show an invariance with wind speed and a decrease in velocity near the surface due to the upwind topography.

Comparing the profiles across the tunnel, Figure 6-8 shows variation in the wind speeds near ground level. This is a terrain-induced variation. Similarly, as the distance downwind of the stack increases, the terrain induces variations in the relative velocities at reduced heights. As seen in Figure 6-9, the difference extends to approximately 60 cm.

6.3 Vertical Profile of Turbulence Intensity

- No Upwind Terrain

Associated with the mean velocity profiles discussed in Section 6.2 are corresponding vertical profiles of longitudinal turbulence intensity. The four profiles taken with no upwind terrain, compared in Figures 6-3 and 6-4 are independent of wind velocity which implies Reynolds number independence. The profiles in Figure 6-5 show a fairly homogeneous boundary layer.

- Upwind Terrain Present

Turbulence intensity profiles in this case are given in Figures 6-6 to 6-9. In general, the turbulence intensity near ground level has increased downwind of the stack. This shows the effect of the local terrain on the flow field. The turbulence intensity has nearly doubled near ground level with the inclusion of the upwind terrain.

6.4 Ground Level Concentration Measurements

For these tests, a tracer was released from various stacks. The stacks used in each run are listed in the Table of Contents of Volume II and Table 3-4. The data obtained from the measurements are also given in Volume II.

The profiles of maximum concentration downwind of the release point are shown in Figures 6-10 to 6-19. The profiles are presented with both the terrain-in and terrain-out in a single graph for comparison.

The first series of profiles are for a 2 cm (136.5 m) stack with a 141 MW output. The peaks, similar to the results for the 63° wind direction, move toward the stack when the upwind terrain is added.

For Unit 9, without terrain, the peaks occurred beyond the grid. When the terrain was included, the peaks were found between 0.8 and 2 km (Figure 6-10). For Unit 10 (Figure 6-11), the only peak within the sample region was found for a 3.0 m/s wind velocity with the terrain in. The peak occurred 1.3 km downwind of Unit 10.

The peaks for both terrain in and out occurred within the sampling grid for Units 11 and 12, Figures 6-12 and 6-13. The concentrations were found to be higher when the upwind terrain was excluded. The inclusion of the terrain moved the peaks from beyond 2 km downwind to within 1.5 km of the release point.

When the stacks are increased to 28 cm (182 m), the peak concentrations occur farther downwind. In all cases, the terrain-in concentrations are found to be larger than the terrain-out concentrations, however, in no case was the peak found for the terrain-out case. See Figures 6-14 to 6-17.

In Figures 6-18 and 6-19, the results for Unit 9 with a 90 MW output are shown. With the 21 cm (136.5 m) and 28 cm (182 m) stacks, the distances downwind to the peaks lie at 1.4 km and 1.9 km respectively for all the different wind speeds with the terrain in; the distance for the terrain-out peaks lies near 2.2 km for both cases.

6.5 Flow Visualization

The visualization of plume dispersion was performed to qualitatively assess the effects of the upwind terrain on the plume's dispersion characteristics. Figures 6-20 and 6-21 show the visualization with and without upwind terrain for representative test cases. Addition of the terrain clearly enhances the dispersion of the plume as shown in Figures 6-20 and 6-21. In addition, an increase in plume rise is noticed with the upwind terrain present.

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TABLES

Table 3.1. Model and Prototype Parameters for Each Test.

Run	MW/Unit	Wind Dir. Terrain	Model					Prototype		
			Free Stream (m/s)	Vol.Flow $\times 10^{-3}$ (m^3/s)	S.Strength $\times 10^4$ (ppm)	Release Ht.(cm)	Stack Dia. (cm)	Vol.Flow (m^3/s)	S.Strength (ppm)	Free Stream (m/s)
7	141/9	153°/IN	1.5	0.190	15	21	.55	235.92	33.64	4.41
	141/10		1.5	0.190	10	21	.55	242.57	51.20	4.41
	141/11		1.5	0.190	10	21	.55	242.57	51.20	4.41
8	141/9		1.5	0.095	15	21	.55	235.97	33.64	8.82
	141/10		1.5	0.095	10	21	.55	235.97	33.64	8.82
	141/11		1.5	0.095	10	21	.55	242.57	51.20	9.07
	141/12		1.5	0.095	10	21	.55	242.57	51.20	9.07
9	141/9		3.0	0.095	15	21	.55	235.97	33.64	17.64
	141/10		3.0	0.095	10	21	.55	235.97	33.64	17.64
	141/11		3.0	0.095	10	21	.55	242.57	51.20	18.13
	141/12		3.0	0.095	10	21	.55	242.57	51.20	18.13
10	141/9		4.5	0.095	15	21	.55	235.97	33.64	26.46
	141/10		4.5	0.095	10	21	.55	235.97	33.64	26.46
	141/11		4.5	0.095	10	21	.55	242.57	51.20	27.20
	141/12		4.5	0.095	10	21	.55	242.57	51.20	27.20
11	141/9		1.5	0.095	15	28	.55	235.97	33.64	8.82
	141/10		1.5	0.095	10	28	.55	235.97	33.64	8.92
	141/11		1.5	0.095	10	28	.55	242.57	51.20	9.07
	141/12		1.5	0.095	10	28	.55	242.57	51.20	9.07
12	141/9		3.0	0.095	15	28	.55	235.97	33.64	17.64
	141/10		3.0	0.095	10	28	.55	235.97	33.64	17.64
	141/11		3.0	0.095	10	28	.55	242.57	51.20	18.13
	141/12		3.0	0.095	10	28	.55	242.57	51.20	18.13
13	141/9		4.5	0.095	15	28	.55	235.97	33.64	26.46
	141/10		4.5	0.095	10	28	.55	235.97	33.64	26.46
	141/11		4.5	0.095	10	28	.55	242.57	51.20	27.20
	141/12		4.5	0.095	10	28	.55	242.57	51.20	27.20

Run	MW/Unit	Wind Dir. Terrain	Model					Prototype		
			Free Stream (m/s)	Vol.Flow $\times 10^{-3}$ (m^3/s)	S.Strength $\times 10^4$ (ppm)	Release Ht.(cm)	Stack Dia. (cm)	Vol.Flow (m^3/s)	S.Strength (ppm)	Free Stream (m/s)
14	60/12		1.5	0.0417	10	21	.38	111.3	33.64	9.48
15	60/12		3.0	0.0417	10	21	.38	111.3	33.64	18.95
16	60/12		4.5	0.0417	10	21	.38	111.3	33.64	28.43
14	70/13		1.5	0.3167	15	3.45	.93	749.00	16.46	8.40
15	70/13		3.0	0.3167	15	3.45	.93	749.00	16.46	16.79
16	70/13		4.5	0.3167	15	3.45	.93	749.00	16.46	25.19
14	22/14		1.5	0.534	10	3.85	.41	124.27	21.35	8.26
15	22/14		3.0	0.534	10	3.85	.41	124.27	21.35	16.52
16	22/14		4.5	0.534	10	3.85	.41	124.27	21.35	24.79
17	60/12	(missing)								
18	60/12	"								
19	60/12	"								
20	90/12		1.5	0.070	10	21	.47	154.19	33.64	7.82
21	90/12		3.0	0.070	10	21	.47	154.19	33.64	15.64
22	90/12		4.5	0.070	10	21	.47	154.19	33.64	23.46
20	40/14		1.5	0.0617	15	4.80	.70	138.61	22.56	7.98
21	40/14		3.0	0.0617	15	4.80	.70	138.61	22.56	15.95
22	40/14		4.5	0.0617	15	4.80	.70	138.61	22.56	23.93
23	90/12		1.5	0.070	15	28	.47	154.19	33.64	7.82
24	90/12		3.0	0.070	15	28	.47	154.19	33.64	15.64
25	90/12		4.5	0.070	15	28	.47	154.19	33.64	23.46
26	170/12	(missing)								
27	170/12	"								
28	170/12	"								
29	170/12		1.5	0.1417	15	28	.63	292.40	51.20	7.33
30	170/12		3.0	0.1417	15	28	.63	292.40	51.20	14.65
31	170/12		4.5	0.1417	15	28	.63	292.40	51.20	21.98

Run	MW/Unit	Wind Dir. Terrain	Model					Prototype		
			Free Stream (m/s)	Vol.Flow $x10^{-3}$ (m^3/s)	S.Strength $x10^4$ (ppm)	Release Ht(cm)	Stack Dia. (cm)	Vol.Flow (m^3/s)	S.Strength (ppm)	Free Stream (m/s)
32	223/12		1.5	0.1533	15	21	.70	434.29	51.20	10.06
33	223/12		3.0	0.1533	15	21	.70	434.29	51.20	20.12
34	223/12		4.5	0.1533	15	21	.70	434.29	51.20	30.17
35	223/12		1.5	0.1533	15	28	.70	434.29	51.20	10.06
36	223/12		3.0	0.1533	15	28	.70	434.29	51.20	20.12
37	223/12		4.5	0.1533	15	28	.70	434.29	51.20	30.17
38	141/9	153°/OUT	1.5	0.095	15	21	.55	235.97	33.64	8.82
	141/10		1.5	0.095	10	21	.55	235.97	33.64	8.82
	141/11		1.5	0.095	10	21	.55	242.57	51.20	9.07
	141/12		1.5	0.095	10	21	.55	242.57	51.20	9.07
39	141/9		3.0	0.095	15	21	.55	235.97	33.64	17.64
	141/10		3.0	0.095	10	21	.55	235.97	33.64	17.64
	141/11		3.0	0.095	10	21	.55	242.57	51.20	18.13
	141/12		3.0	0.095	10	21	.55	242.57	51.20	18.13
40	141/9		4.5	0.095	15	21	.55	235.97	33.64	26.46
	141/10		4.5	0.095	10	21	.55	235.97	33.64	26.46
	141/11		4.5	0.095	10	21	.55	242.57	51.20	27.20
	141/12		4.5	0.095	10	21	.55	242.57	51.20	27.20
41	141/9		1.5	0.095	15	28	.55	235.97	33.64	8.82
	141/10		1.5	0.095	10	28	.55	235.97	33.64	8.82
	141/11		1.5	0.095	10	28	.55	242.57	51.20	9.07
	141/12		1.5	0.095	10	28	.55	242.57	51.20	9.07
42	141/9		3.0	0.095	15	28	.55	235.97	33.64	17.64
	141/10		3.0	0.095	10	28	.55	235.97	33.64	17.64
	141/11		3.0	0.095	10	28	.55	242.57	51.20	18.13
	141/12		3.0	0.095	10	28	.55	242.57	51.20	18.13
43	141/9		4.5	0.095	15	28	.55	235.97	33.64	26.46
	141/10		4.5	0.095	10	28	.55	235.97	33.64	26.46
	141/11		4.5	0.095	10	28	.55	242.57	51.20	27.20
	141/12		4.5	0.095	10	28	.55	242.57	51.20	27.20

Run	MW/Unit	Wind Dir. Terrain	Model					Prototype		
			Free Stream (m/s)	Vol.Flow $\times 10^{-3}$ (m^3/s)	S.Strength $\times 10^4$ (ppm)	Release Ht. (cm)	Stack Dia. (cm)	Vol.Flow (m^3/s)	S.Strength (ppm)	Free Stream (m/s)
44	90/12		1.5	0.070	15	21	.47	154.19	33.64	7.82
45	90/12		3.0	0.070	15	21	.47	154.19	33.64	15.64
46	90/12		4.5	0.070	15	21	.47	154.19	33.64	23.46
47	90/12		1.5	0.070	15	28	.47	154.19	33.64	7.82
48	90/12		3.0	0.070	15	28	.47	154.19	33.64	15.64
49	90/12		4.5	0.070	15	28	.47	154.19	33.64	23.46
50	141/9	063°/IN	1.5	0.095	16	21	.55	235.97	33.64	8.82
	141/10		1.5	0.095	10	21	.55	235.97	33.64	8.82
	141/11		1.5	0.095	10	21	.55	242.57	51.20	9.07
	141/12		1.5	0.095	4	21	.55	242.57	51.20	9.07
51	141/9		3.0	0.095	16	21	.55	235.97	33.64	17.64
	141/10		3.0	0.095	10	21	.55	235.97	33.64	17.64
	141/11		3.0	0.095	10	21	.55	242.57	51.20	18.13
	141/12		3.0	0.095	4	21	.55	242.57	51.20	18.13
52	141/9		4.5	0.095	16	21	.55	235.97	33.64	26.46
	141/10		4.5	0.095	10	21	.55	235.97	33.64	26.46
	141/11		4.5	0.095	10	21	.55	242.57	51.20	27.20
	141/12		4.5	0.095	4	21	.55	242.57	51.20	27.20
53	141/9		1.5	0.095	16	28	.55	235.97	33.64	8.82
	141/10		1.5	0.095	10	28	.55	235.97	33.64	8.82
	141/11		1.5	0.095	10	28	.55	242.57	51.20	9.07
	141/12		1.5	0.095	4	28	.55	242.57	51.20	9.07
54	141/9		3.0	0.095	16	28	.55	235.97	33.64	17.64
	141/10		3.0	0.095	10	28	.55	235.97	33.64	17.64
	141/11		3.0	0.095	10	28	.55	242/57	51.20	18.13
	141/12		3.0	0.095	4	28	.55	242.57	51.20	18.13

Run	MW/Unit	Wind Dir. Terrain	Model					Prototype		
			Free Stream (m/s)	Vol.Flow $\times 10^{-3}$ (m^3/s)	S.Strength $\times 10^4$ (ppm)	Release Ht. (cm)	Stack Dia. (cm)	Vol.Flow (m^3/s)	S.Strength (ppm)	Free Stream (m/s)
55	141/9		4.5	0.095	16	28	.55	235.97	33.64	26.46
	141/10		4.5	0.095	10	28	.55	235.97	33.64	26.46
	141/11		4.5	0.095	10	28	.55	242.57	51.20	27.20
	141/12		4.5	0.095	4	28	.55	242.57	51.20	27.20
56	60/12		1.5	0.0417	16	21	.38	111.3	33.64	9.48
57	60/12		3.0	0.0417	16	21	.38	111.3	33.64	18.95
58	60/12		4.5	0.0417	16	21	.38	111.3	33.64	28.43
56	70/13		1.5	0.3167	10	3.45	.93	749.00	16.46	8.40
57	70/13		3.0	0.3167	10	3.45	.93	749.00	16.46	16.79
58	70/13		4.5	0.3167	10	3.45	.93	749.00	16.46	25.19
56	22/14		1.5	0.0534	10	3.85	.41	124.27	21.35	8.31
57	22/14		3.0	0.0534	10	3.85	.41	124.27	21.35	16.62
58	22/14		4.5	0.0534	10	3.85	.41	124.27	21.35	24.93
62	90/12		1.5	0.070	10	21	.47	154.19	33.64	7.82
63	90/12		3.0	0.070	10	21	.47	154.19	33.64	15.64
64	90/12		4.5	0.070	10	21	.47	154.19	33.64	23.46
62	40/14		1.5	0.0617	16	4.80	.70	138.61	22.56	7.98
63	40/14		3.0	0.0617	16	4.80	.70	138.61	22.56	15.95
64	40/14		4.5	0.0617	16	4.80	.70	138.61	22.56	23.93
65	90/12		1.5	0.070	15	28	.47	154.19	33.64	7.82
66	90/12		3.0	0.070	15	28	.47	154.19	33.64	15.64
67	90/12		4.5	0.070	15	28	.47	154.19	33.64	23.46
68	170/12		1.5	0.1417	16	21	.63	292.40	51.20	7.33
69	170/12		3.0	0.1417	16	21	.63	292.40	51.20	14.65
70	170/12		4.5	0.1417	16	21	.63	292.40	51.20	21.98
71	170/12		1.5	0.1417	15	28	.63	292.40	51.20	7.33
72	170/12		3.0	0.1417	15	28	.63	292.40	51.20	14.65
73	170/12		4.5	0.1417	15	28	.63	292.40	51.20	21.98

Run	MW/Unit	Wind Dir. Terrain	Model					Prototype		
			Free Stream (m/s)	Vol.Flow $\times 10^{-3}$ (m^3/s)	S.Strength $\times 10^4$ (ppm)	Release Ht. (cm)	Stack Dia. (cm)	Vol.Flow (m^3/s)	S.Strength (ppm)	Free Stream (m/s)
74	223/12		1.5	0.1533	15	21	.70	434.29	51.20	10.06
75	223/12		3.0	0.1533	15	21	.70	434.29	51.20	20.12
76	223/12		4.5	0.1533	15	21	.70	434.29	51.20	30.17
77	223/12		1.5	0.1533	16	28	.70	434.29	51.20	10.06
78	223/12		3.0	0.1533	16	28	.70	434.29	51.20	20.12
79	223/12		4.5	0.1533	16	28	.70	434.29	51.20	30.17
80	141/9	063°/OUT	1.5	0.095	15.6	21	.55	235.97	33.64	8.82
	141/10		1.5	0.095	10	21	.55	235.97	33.64	8.82
81	141/9		3.0	0.095	15.6	21	.55	235.97	33.64	17.64
	141/10		3.0	0.095	10	21	.55	235.97	33.64	17.64
82	141/9		4.5	0.095	15.6	21	.55	235.97	33.64	26.46
	141/10		4.5	0.095	10	21	.55	235.97	33.64	26.46
83	141/9		1.5	0.095	16	28	.55	235.97	33.64	8.82
	141/10		1.5	0.095	10	28	.55	235.97	33.64	8.82
84	141/9		3.0	0.095	15.6	28	.55	235.97	33.64	17.64
	141/10		3.0	0.095	10	28	.55	235.97	33.64	17.64
85	141/9		4.5	0.095	15.6	28	.55	235.97	33.64	26.46
	141/10		4.5	0.095	10	28	.55	235.97	33.64	26.46
86	141/11		1.5	0.095	16	21	.55	242.57	51.20	9.07
	90/12		1.5	0.070	10	21	.47	154.19	33.64	7.82
87	141/11		3.0	0.095	16	21	.55	242.57	51.20	18.13
	90/12		3.0	0.070	10	21	.47	154.19	33.64	15.64
88	141/11		4.5	0.095	16	21	.55	242.57	51.20	27.20
	90/12		4.5	0.070	10	21	.47	154.19	33.64	23.46
89	141/11		1.5	0.095	16	28	.55	242.57	51.20	9.07
	90/12		1.5	0.070	10	28	.47	154.19	33.64	7.82

Run	MW/Unit	Wind Dir. Terrain	Model					Prototype		
			Free Stream (m/s)	Vol.Flow $\times 10^{-3}$ (m^3/s)	S.Strength $\times 10^4$ (ppm)	Release Ht. (cm)	Stack Dia. (cm)	Vol.Flow (m^3/s)	S.Strength (ppm)	Free Stream (m/s)
90	141/11		3.0	0.095	16	28	.55	242.57	51.20	18.13
	90/12		3.0	0.070	10	28	.47	154.19	33.64	15.64
91	141/11		4.5	0.095	16	28	.55	242.57	51.20	27.20
	90/12		4.5	0.070	10	28	.47	154.19	33.64	23.46

Table 3-2. Full-Scale Test Parameters for Kahe Power Plant Study

Unit/MW/Type	Volume Flow (m^3/s)	SO_2 Source Strength (ppm)	SO_2 Emission Rate (g/s)	Stack Diameter (m)	Exit Temperature (°K)
9/141/Oil	235.97	33.64	21.12	3.58	355.3
10/141/Oil	235.97	33.64	21.12	3.58	355.3
11/141/Coal	242.57	51.20	33.05	3.58	355.3
12/141/Coal	242.57	51.20	33.05	3.58	355.3
12/60/Oil	111.30	33.64	9.97	2.47	355.3
12/90/Oil	154.19	33.64	13.80	3.06	355.3
12/170/Coal	292.40	51.20	39.84	4.10	355.3
12/223/Coal	434.29	51.20	59.17	4.55	355.3
13/70/Gas Turbine	749.00	16.46	30.32	6.37	799.8
14/22/Diesel	124.27	21.35	7.06	2.87	588.6
14/40/Diesel	138.61	22.56	8.32	2.89	621.9

Table 4-1. Summary of Mean Velocity Profile Data for Reynolds Number Independence Test

File Name	x (cm)	y (cm)	z (cm)	z_o (cm)	u^* (cm/s)	d (cm)	Re_{z_o}	n	u_∞ (cm/s)	$\frac{u^*}{u_\infty}$	e_n	e_{z_o}
KAHE 5	0	0	0	2.3119	13.526	-4.0500	208.472	0.2659	85.94	0.1574	7.254	2.423
KAHE 6	0	0	0	1.1686	23.512	-2.0000	183.174	0.2911	214.32	0.1097	14.408	4.678
KAHE 7	0	0	0	1.2556	39.434	-1.9250	330.089	0.2893	327.00	0.1206	26.597	8.923

Table 5-1. Summary of Mean Velocity Profile Data With No Upwind Terrain Present and Mean Wind from 63°

File Name	x (cm)	y (cm)	z (cm)	z_o (cm)	u^* (cm/s)	d (cm)	Re_{z_o}	n	u_∞ (cm/s)	$\frac{u^*}{u_\infty}$	e_n	e_{z_o}
KAHE 30	0	0	0.94	1.4754	43.610	-2.4500	428.95	0.2436	307.69	0.1417	26.681	9.103
KAHE 31	304.8	0	0	0.0046	10.990	-1.0438	0.337	0.1319	299.33	0.0367	5.512	3.307
KAHE 32	579.1	0	0	0.0007	10.006	-0.2828	0.047	0.1138	318.16	0.0314	4.971	2.916

Table 5-2. Summary of Mean Velocity Profile Data With Upwind Terrain Present and Mean Wind from 63°

File Name	x (cm)	y (cm)	z (cm)	z_o (cm)	u^* (cm/s)	d (cm)	Re_{z_o}	n	u_∞ (cm/s)	$\frac{u^*}{u_\infty}$	e_n	e_{z_o}
KAHE 16	0	0	0.94	5.7797	14.560	-22.1250	561.016	0.2827	163.77	0.0889	12.578	2.593
KAHE 17	0	0	0.94	5.2083	29.035	-16.5000	1008.153	0.2936	301.27	0.0964	24.529	5.148
KAHE 18								0.2862	461.20		40.216	

Table 5-3. Peak Concentration Location Downwind of Stacks for the 63° Wind Direction and 141 MW Units.

Stack Height (m)	Unit	Full-Scale Wind Velocity (m/s)	Terrain In: $\left[\frac{\chi u_\infty}{Q}\right]_{max}$ ($m^{-2} \times 10^7$)	Terrain In: Distance Downwind (km)	Terrain Out: $[\chi u_\infty/Q]_{max}$ ($m^{-2} \times 10^7$)	Terrain Out: Distance Downwind (km)
136.5	9	8.82	100	1.22	97	4.59*
	10	8.82	138	1.26	81	3.88
		17.64	159	1.26	143	2.41
		26.46	174	1.26	176	2.41
	11	9.07	139	1.49	104	4.64*
		18.13	197	1.27	151	3.15
		27.20	212	1.27	169	3.15
	12	7.82	226	1.34	117	4.71*
		15.64	228	1.34	185	3.22
		23.46	268	1.34	216	2.48
182.0	9	8.82	96	1.44	54	4.59*
		17.64	126	1.22	91	3.84
		26.46	129	1.22	123	3.84
	10	8.82	116	1.76*	53	4.63*
		17.64	161	1.48	74	3.88
		26.46	180	1.26	87	3.88
	11	9.07	106	1.49	56	4.64*
		18.13	163	1.49	105	4.64*
		27.20	178	1.27	117	4.64*
	12	7.82	137	1.84*	53	4.71*
		15.64	181	1.84*	71	4.71*
		23.46	199	1.34	105	2.48

*Maximum occurred beyond the end of the sample grid.

Table 6-1. Summary of Mean Velocity Profile Data With No Upwind Terrain Present and Mean Wind from 153°

File Name	x (cm)	y (cm)	z (cm)	z_o (cm)	u^* (cm/s)	d (cm)	Re_{z_o}	n	u_∞ (cm/s)	$\frac{u^*}{u_\infty}$	e_n	e_{z_o}
KAHE 12	25.4	+ 6.4	0.70	0.3024	24.531	-1.1438	49.454	0.1678	270.14	0.0908	17.247	6.642
KAHE 13	25.4	+ 6.4	0.70	0.1214	20.684	-0.5250	16.740	0.1872	316.09	0.0654	13.922	3.096
KAHE 14	0	-114.3	0	0.0003	10.369	0.2125	0.021	0.0971	319.86	0.0324	7.577	3.889
KAHE 15	0	-114.3	0	0.0008	10.955	-0.0010	0.058	0.0922	305.19	0.0359	6.967	2.867

Table 6-2. Summary of Mean Velocity Profile Data With Upwind Terrain Present and Mean Wind from 153°

File Name	x (cm)	y (cm)	z (cm)	z_o (cm)	u^* (cm/s)	d (cm)	Re_{z_o}	n	u_∞ (cm/s)	$\frac{u^*}{u_\infty}$	e_n	e_{z_o}
KAHE 01	0	-114.3	0	0.0019	5.855	0.1038	0.0742	0.1032	149.20	0.0392	5.186	5.255
KAHE 02	0	-114.3	0	0.0016	11.920	-0.0688	0.1271	0.0957	305.35	0.0390	7.826	3.726
KAHE 03	0	-114.3	0	0.0001	13.273	0.2550	0.0088	0.0953	474.52	0.0280	8.483	4.623
KAHE 04	25.4	+ 6.4	0.70	0.3434	9.379	-2.4250	21.472	0.2352	147.47	0.0636	8.118	2.241
KAHE 06	25.4	+ 6.4	0.70					0.2793	292.50		20.154	
KAHE 07	25.4	+ 6.4	0.70	1.0332	35.084	-4.1500	241.659	0.2721	454.50	0.0772	22.925	3.467
KAHE 08	379.7	+ 12.7	0.70	0.0009	8.900	0.0963	0.0534	0.1343	290.55	0.0306	4.130	2.217
KAHE 09	379.7	-114.3	0	0.0003	9.076	0.4600	0.0182	0.1085	289.90	0.0313	8.690	2.074
KAHE 10	170.2	+114.3	0	0.0014	10.086	0.0416	0.0941	0.1009	263.77	0.0382	7.566	2.405
KAHE 11	175.3	+ 20.3	0.70	0.0000	5.472	0.4750	0.0000	0.876	284.44	0.0192	8.641	4.466

FIGURES

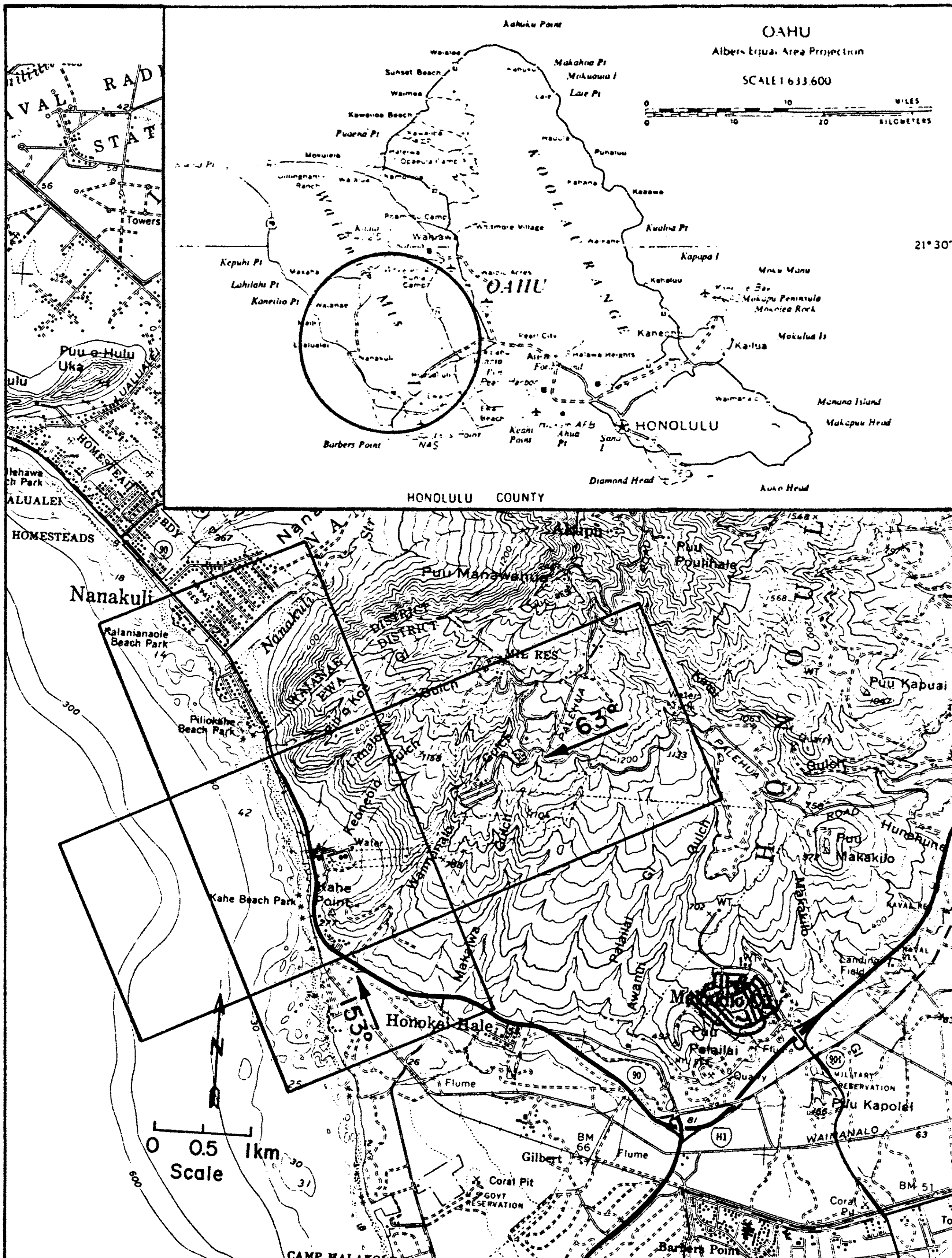


Figure 3-1. Areas Modeled for the 63° and 153° Wind-Tunnel Studies

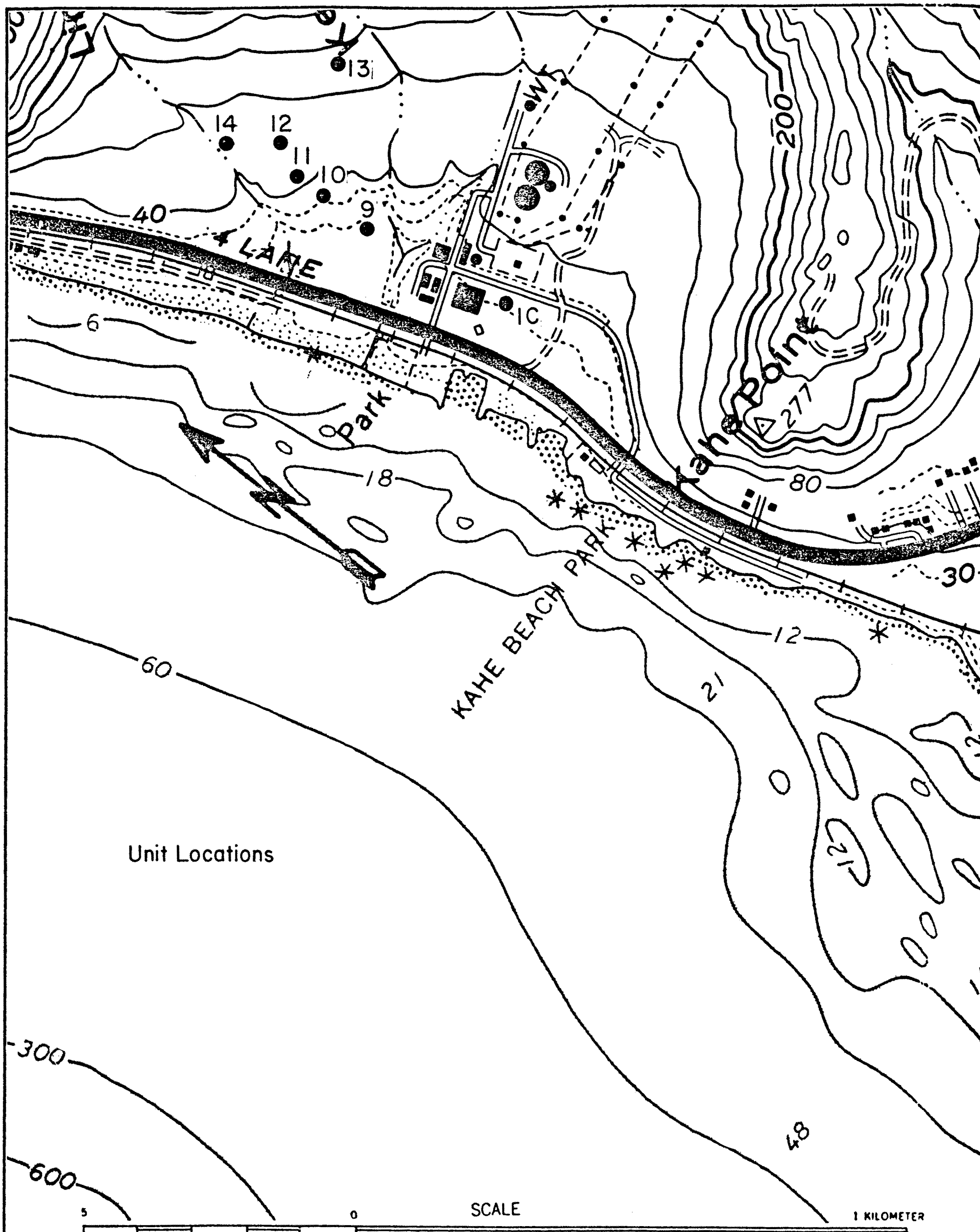


Figure 3-2. Location of Units 9, 10, 11, 12, 13 and 14 for Kahe Tests

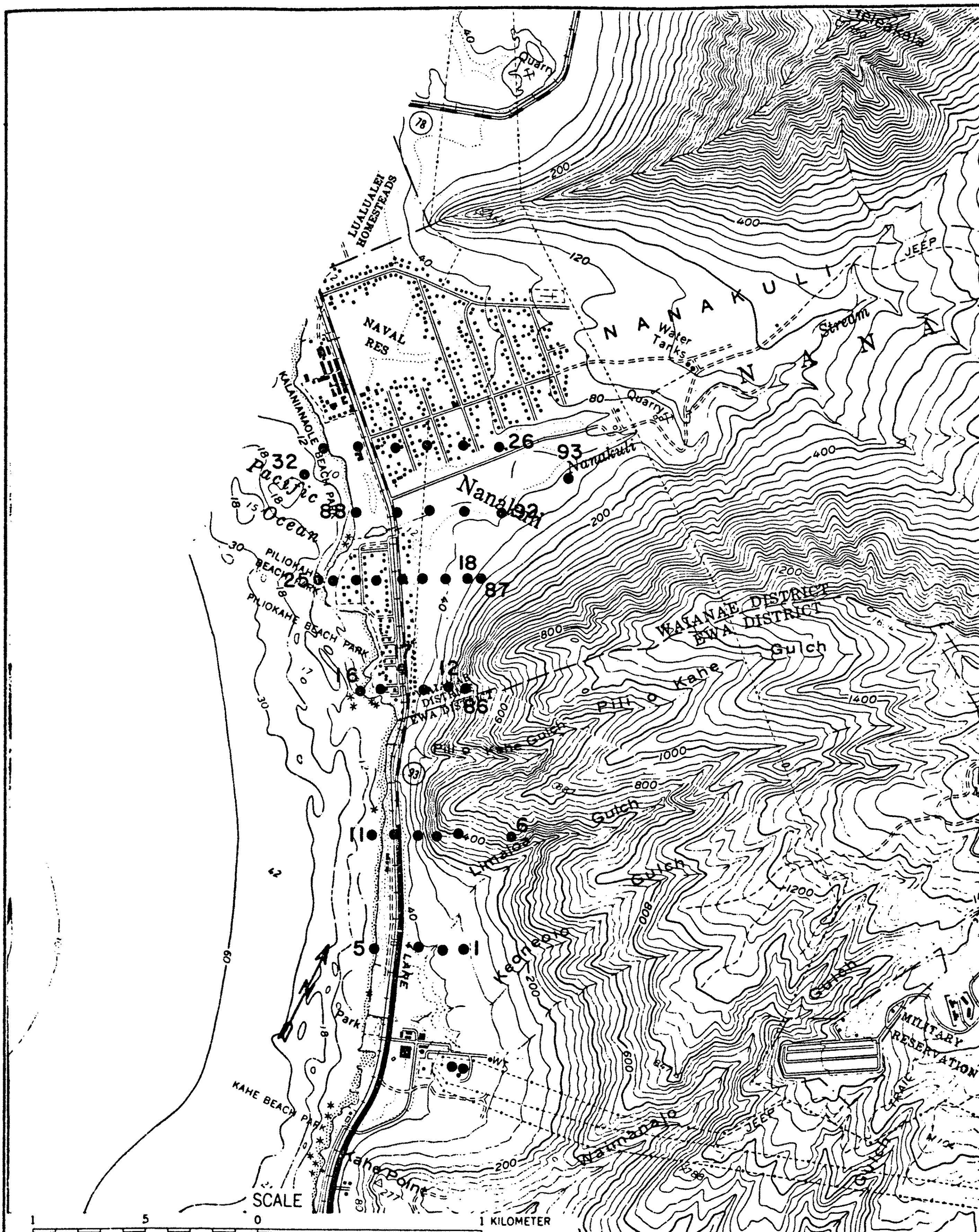


Figure 3-3. 153° Wind Direction Ground-Level Sampling Locations

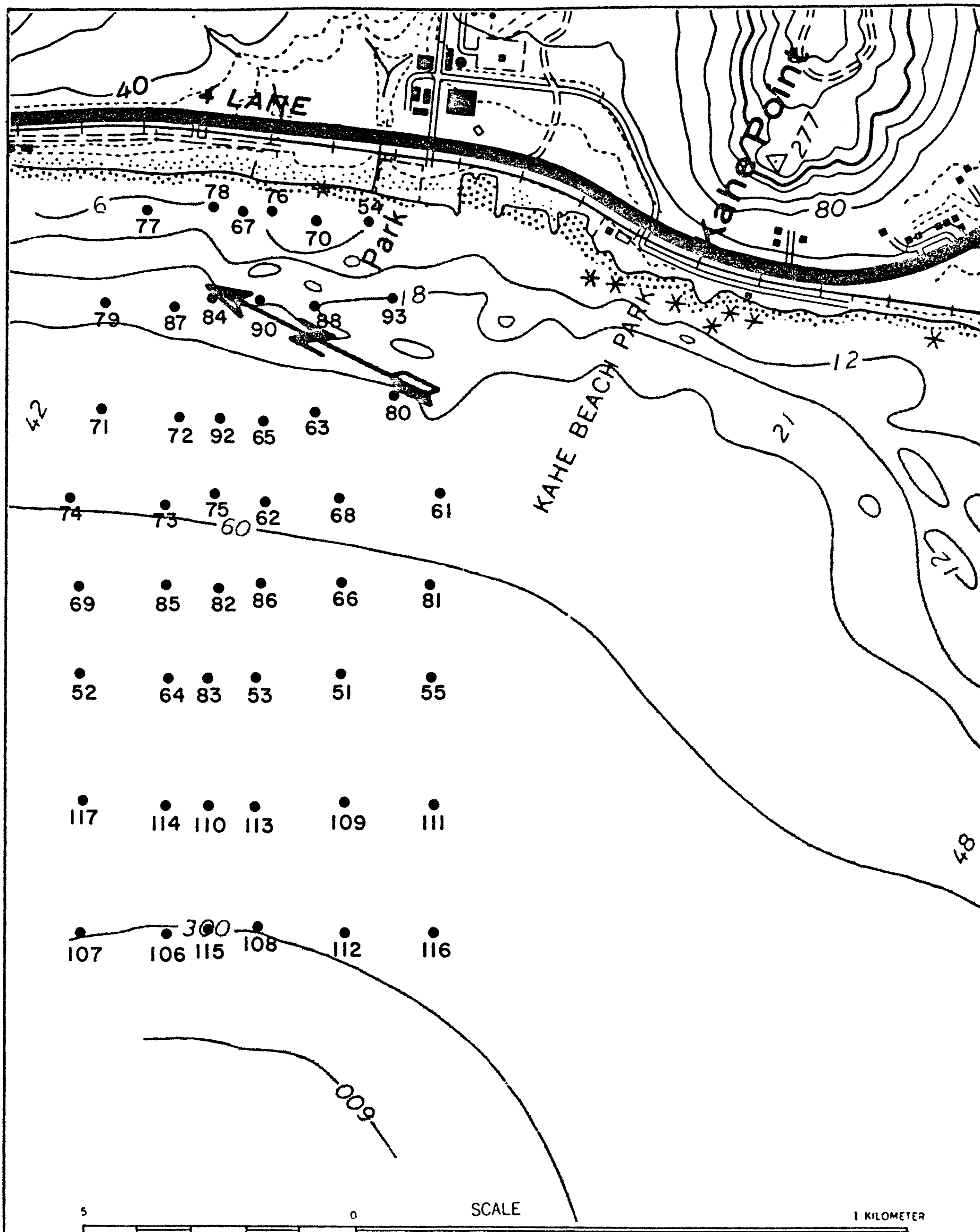


Figure 3-4. 63° Wind Direction Ground-Level Sampling Locations for Runs 50-79.

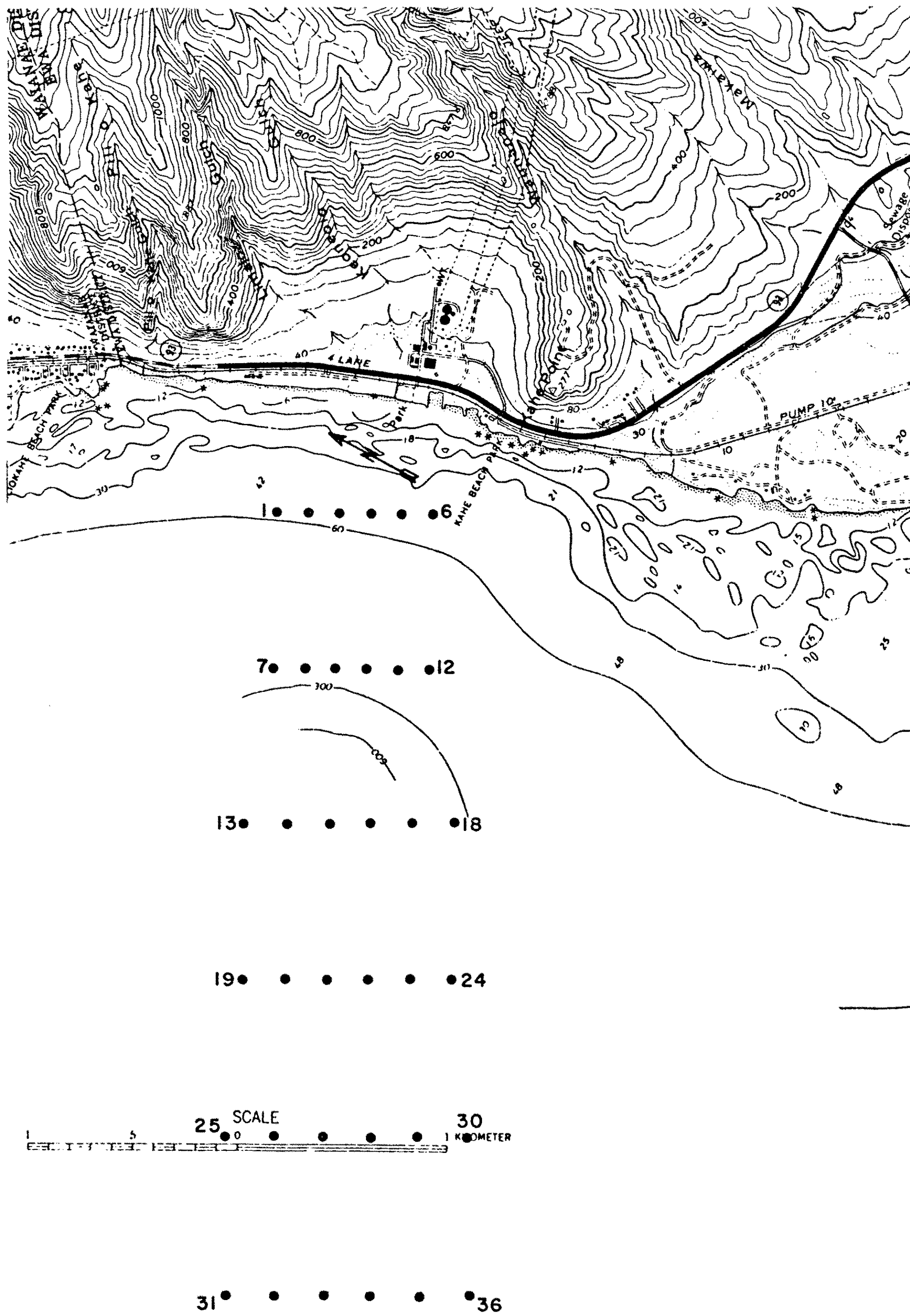


Figure 3-5. 63° Wind Direction Ground-Level Sampling Locations for Runs 80-91.

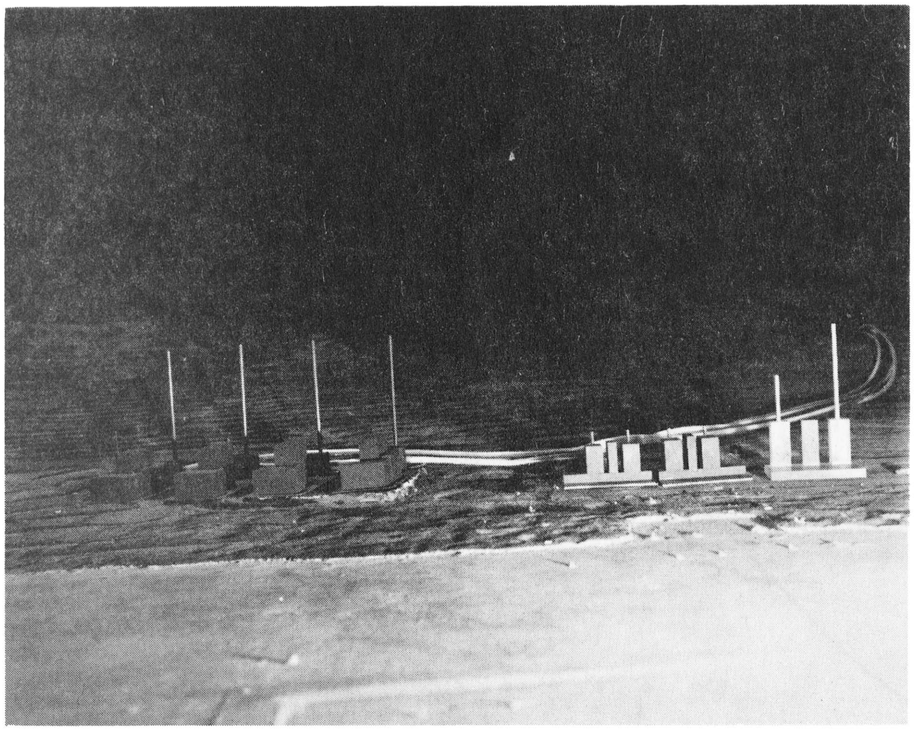


Figure 3-6. Photograph of Model Units 9, 10, 11 and 12 (left side of picture)

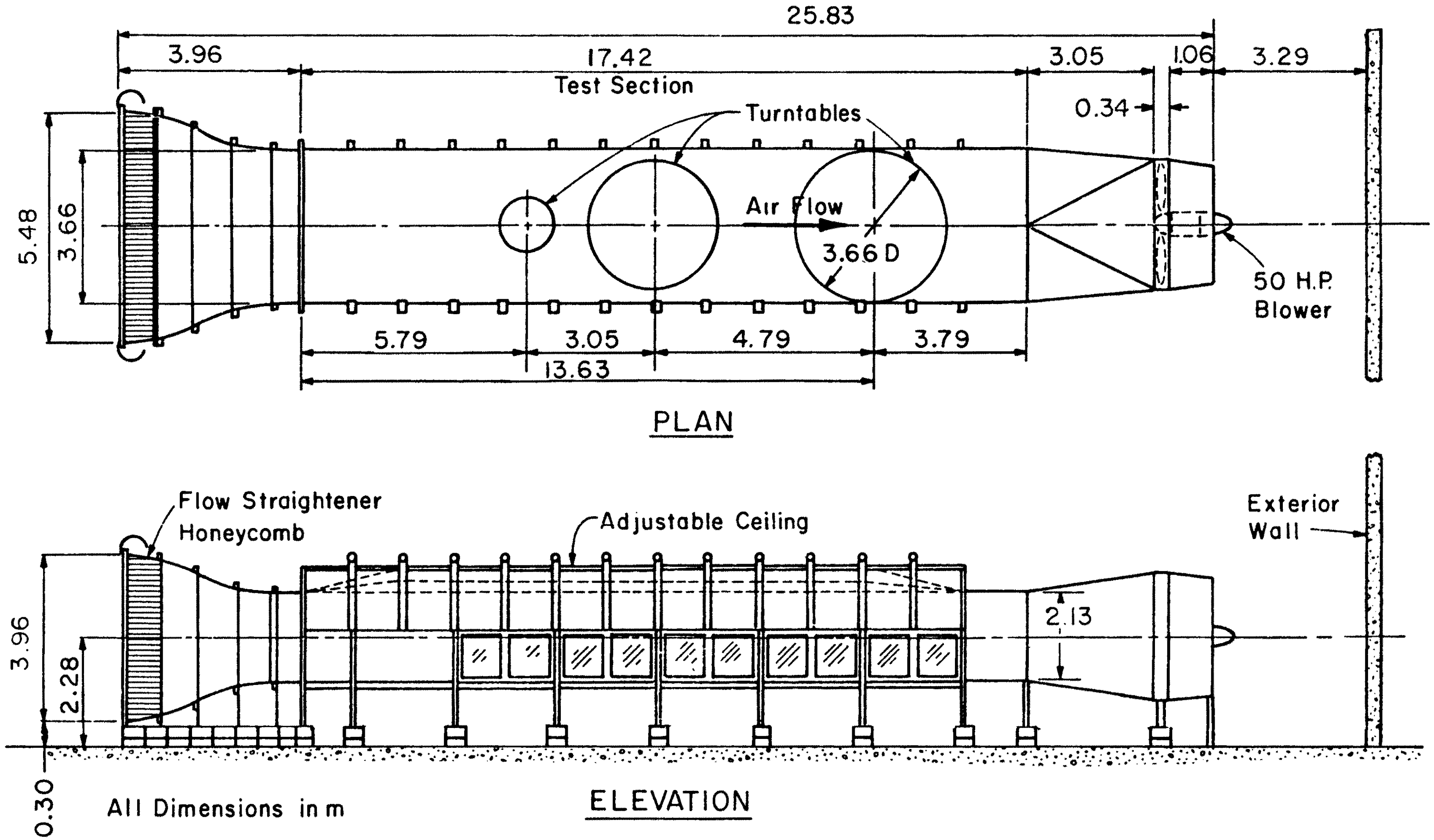
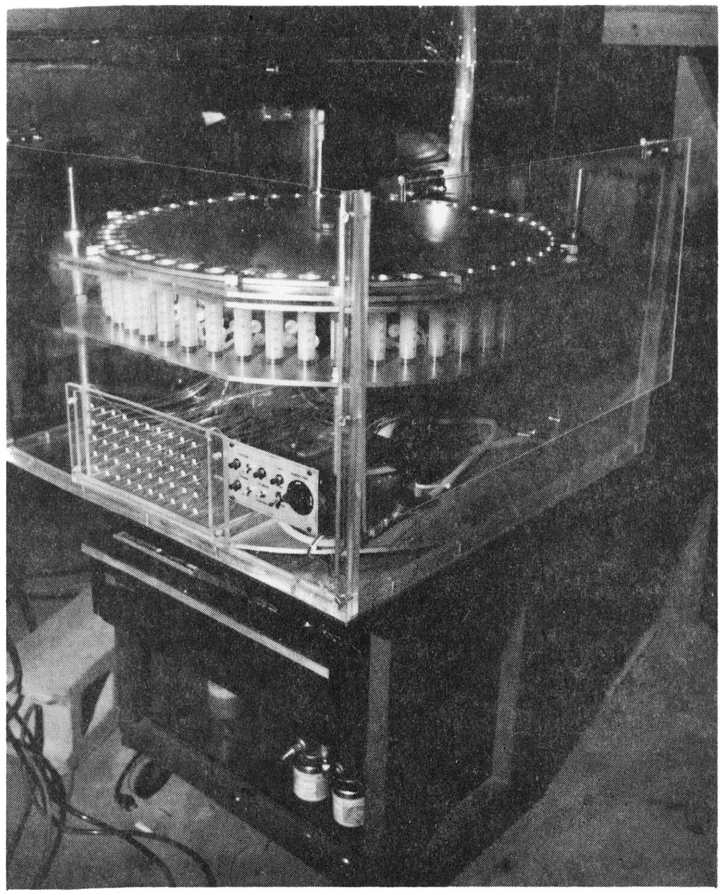
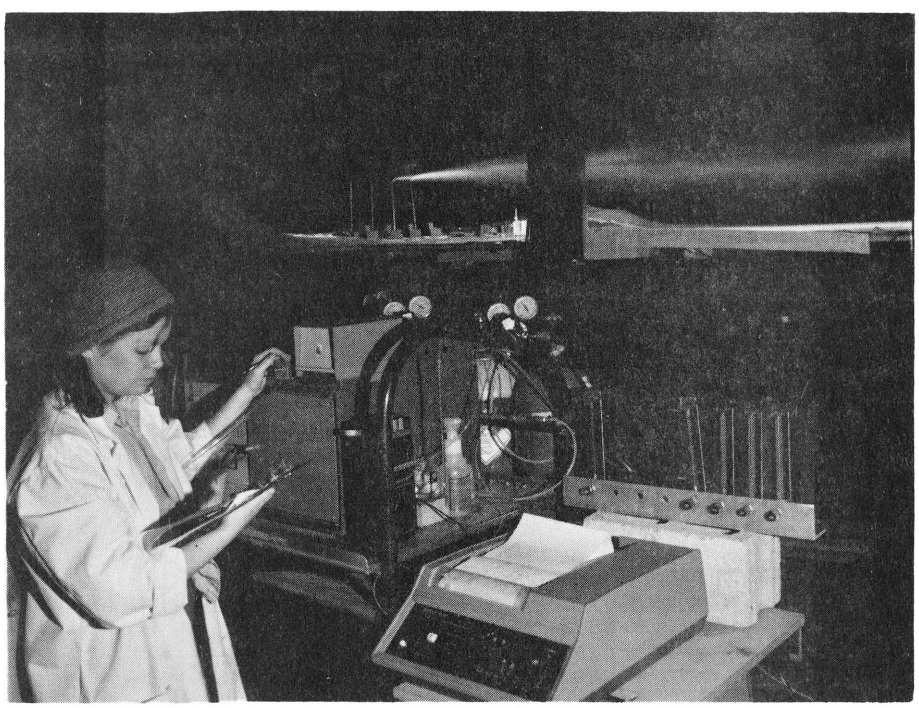


Figure 3-7. Colorado State University Environmental Wind Tunnel



a)



b)

Figure 3-8. Photographs of a) Sampling System and
b) HP Gas Chromatograph with HP 3380 Integrator

Sample #	Integrated Output from GC (μv-s)
1	205694
2	203629
3	202588
4	204305
5	204430
6	203817
7	204636
8	204425
9	204820
10	202794
11	202874
12	203496
13	197171
14	203790
15	202432
16	202426
17	202317
18	200461
19	200372
20	201950
21	201829
22	201817
23	199365
24	201459
25	200297
26	200940
27	200012
28	200622
29	------
30	199445
31	199914
32	198845
33	198725
34	198899
35	198898
36	195163
37	198945
38	197443
39	197502
40	196235
41	196938
42	196890
43	147606
44	196634
45	196964
46	197027
47	195721
48	196414
49	196934
50	196582
Calibration	197778

Figure 3-9. Typical Sampling System Calibration

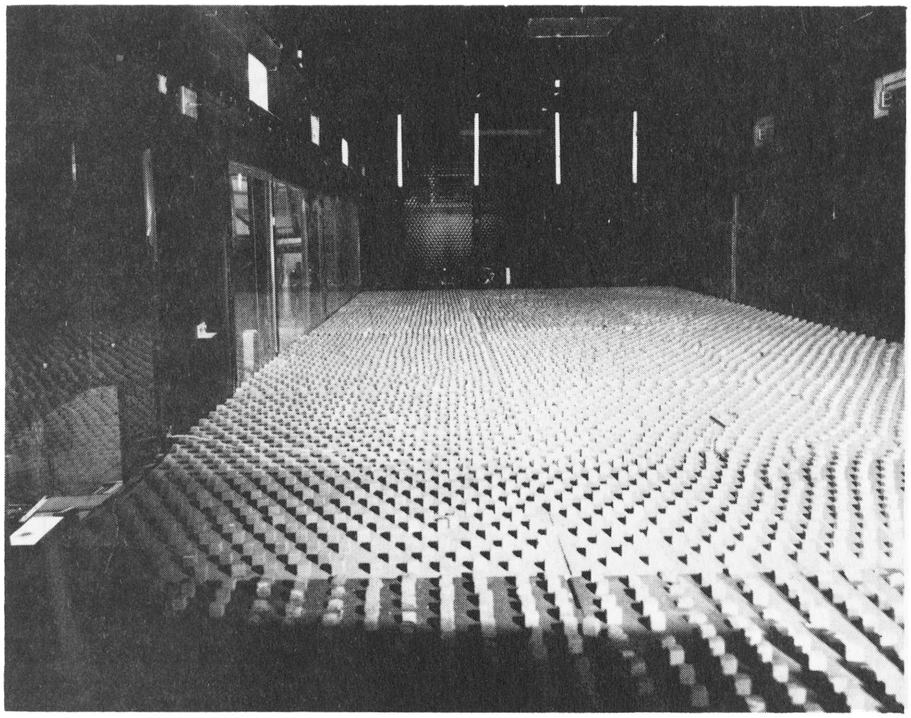


Figure 4-1. Photograph of Spire, Trip and Roughness Set-Up for Atmospheric Dispersion Comparability Test (ADCT).

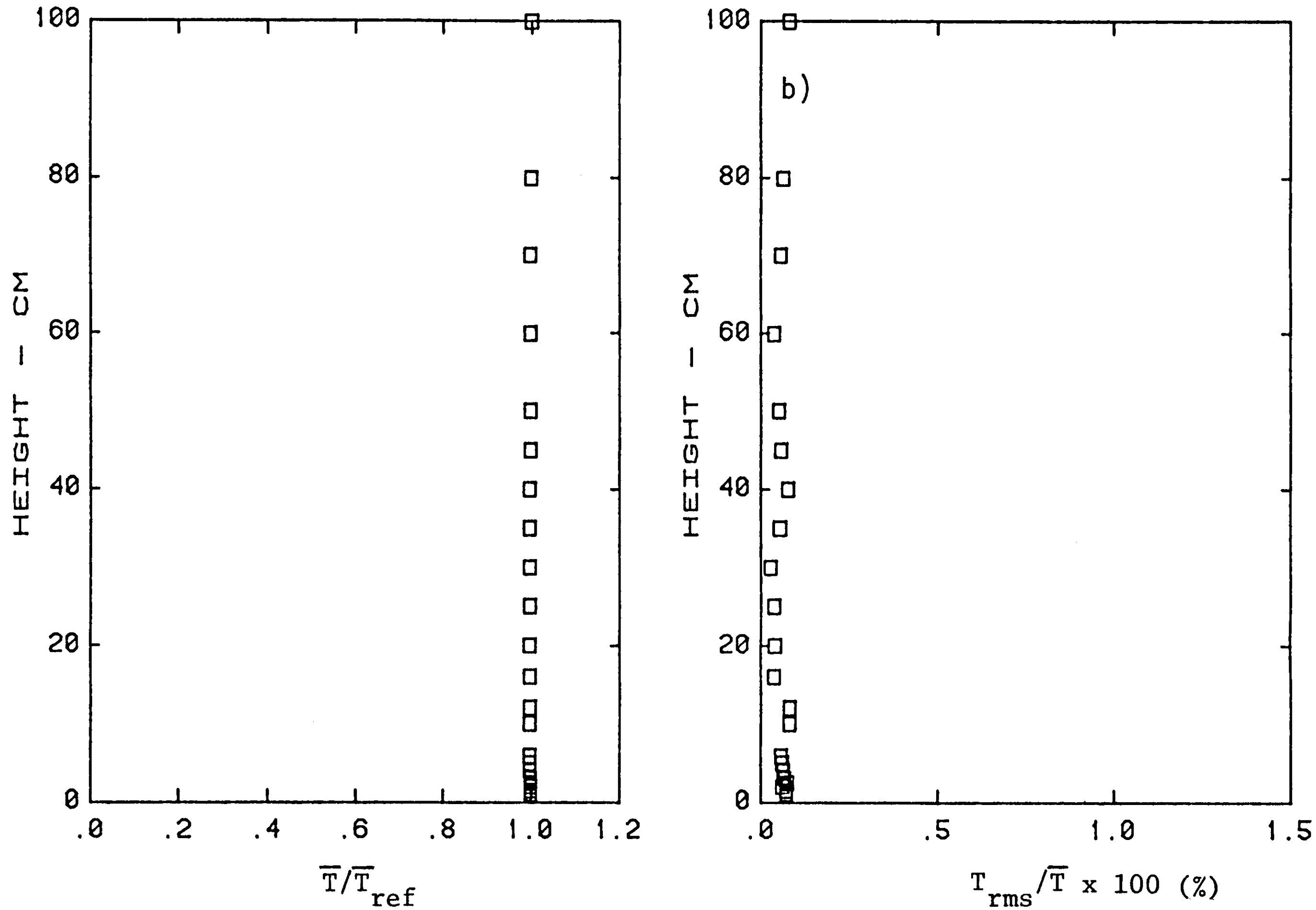


Figure 4-2. Mean Temperature Profile (a) and Intensity of Turbulent Temperature Fluctuations Profile (b) at Stack Location for $\overline{T}_{ref}$ = 297.36 K and u_∞ = 114.4 cm/s.

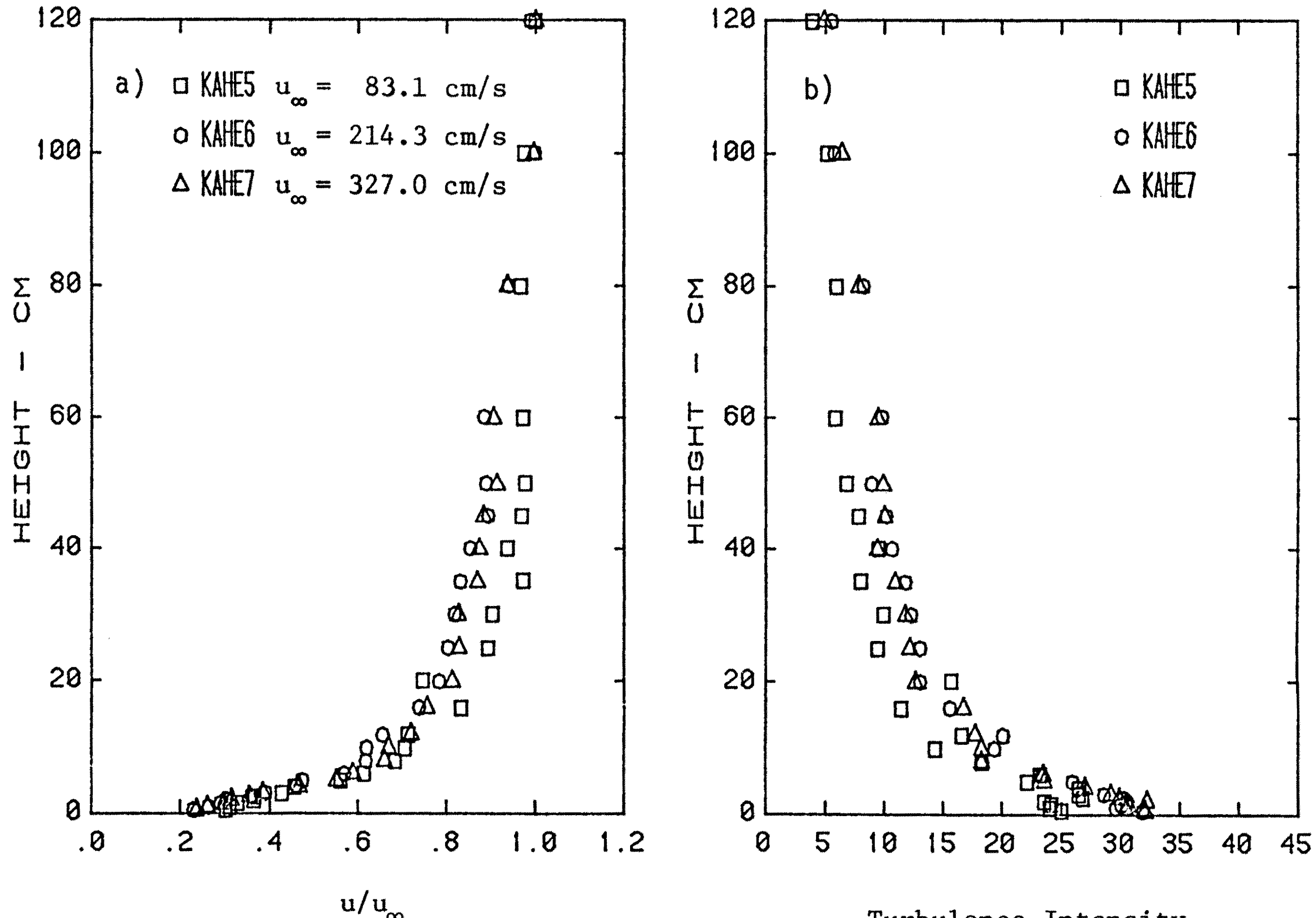


Figure 4-3. Mean Velocity (a) and Turbulence Intensity Profiles (b) at Three Different Free Stream Velocities for the Atmospheric Dispersion Comparability Test

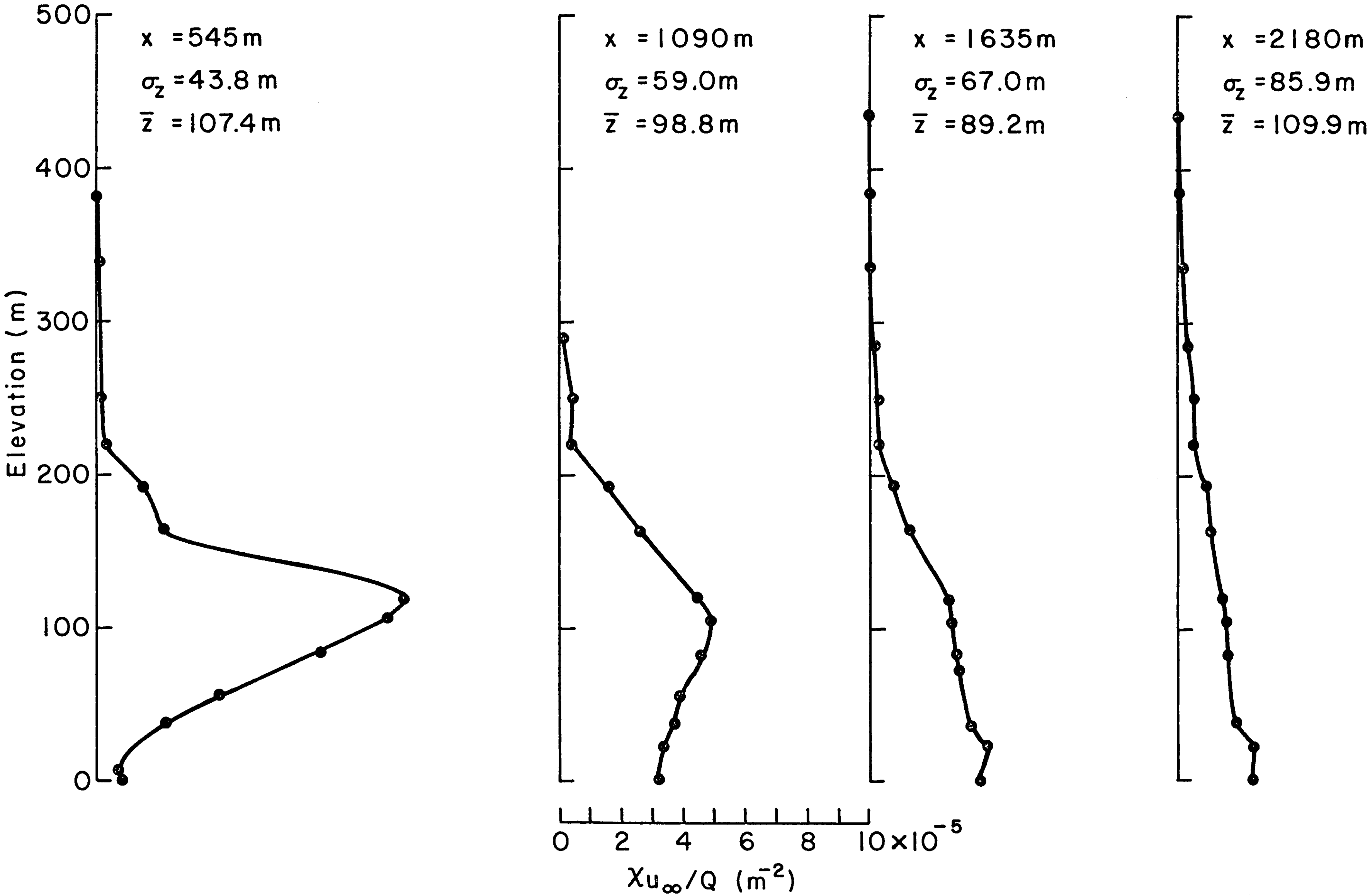


Figure 4-4. Vertical Concentration Profiles at a 1 m/s Wind Speed. Atmospheric Dispersion Comparability Test. (y = 0 for all tests)

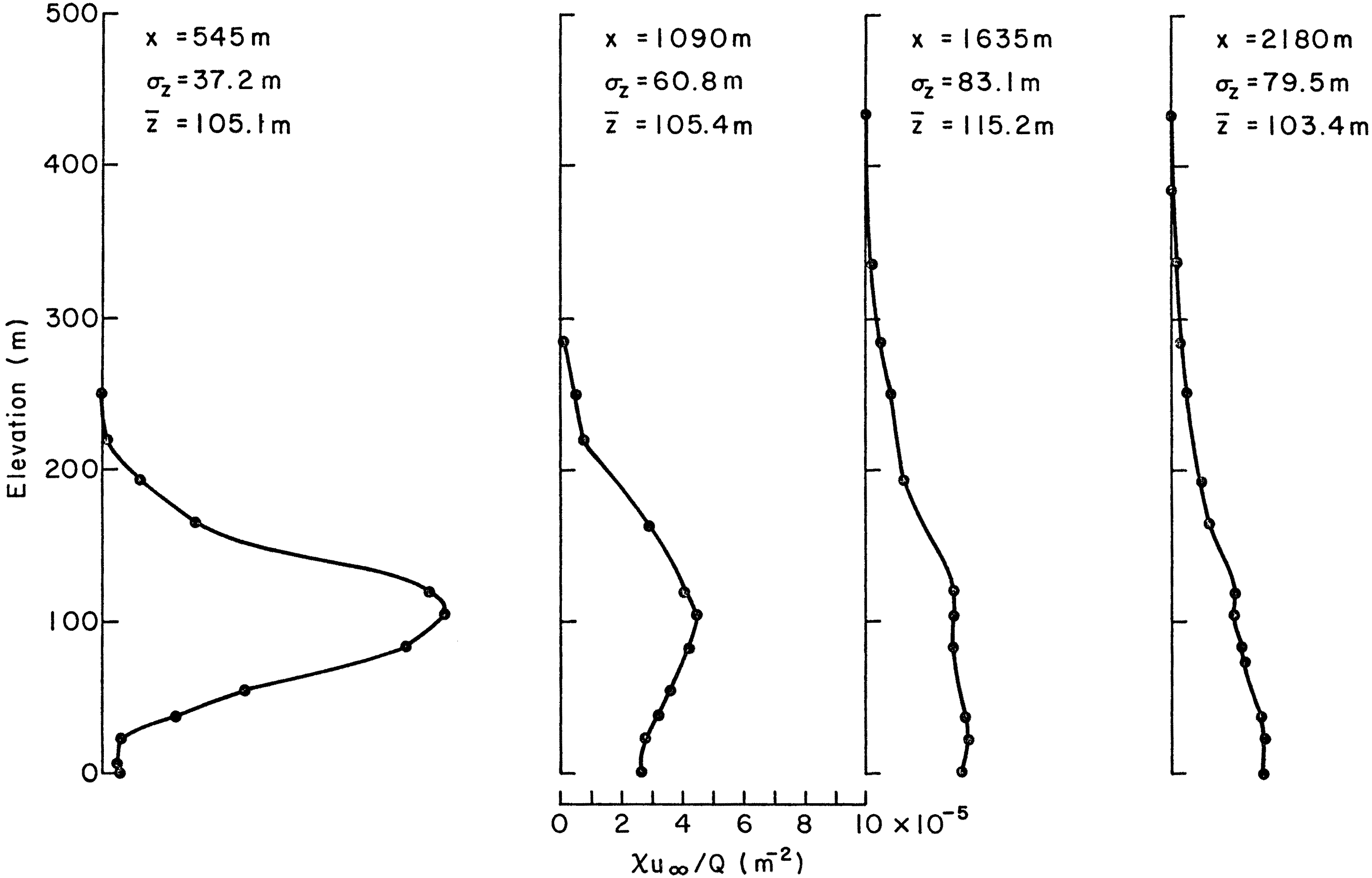


Figure 4-5. Vertical Concentration Profiles at a 2 m/s Wind Speed. Atmospheric Dispersion Comparability Test. (y = 0 for all tests)

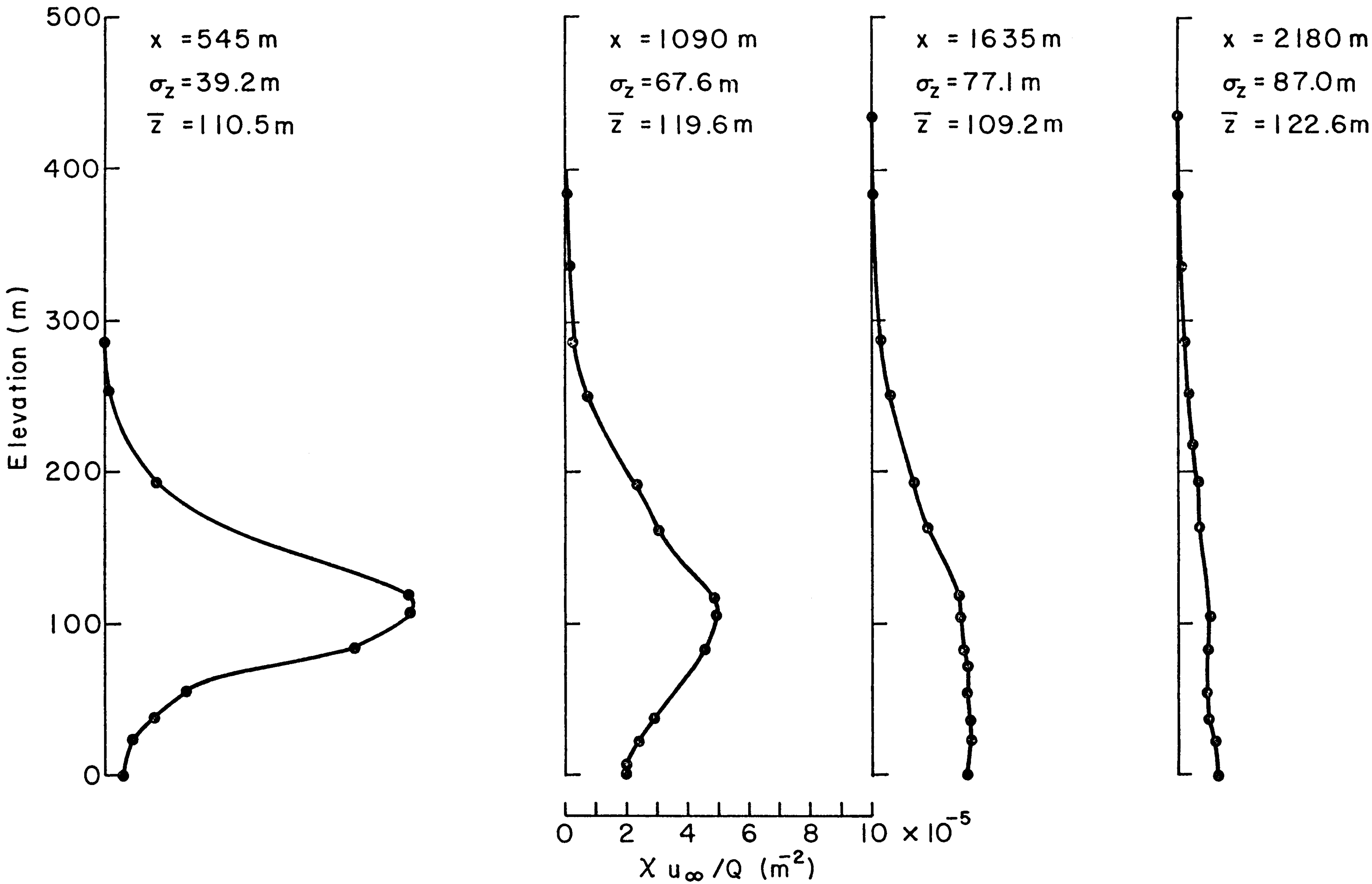


Figure 4-6. Vertical Concentration Profile at a 3 m/s Wind Speed. Atmospheric Dispersion Comparability Test. (y = 0 for all tests)

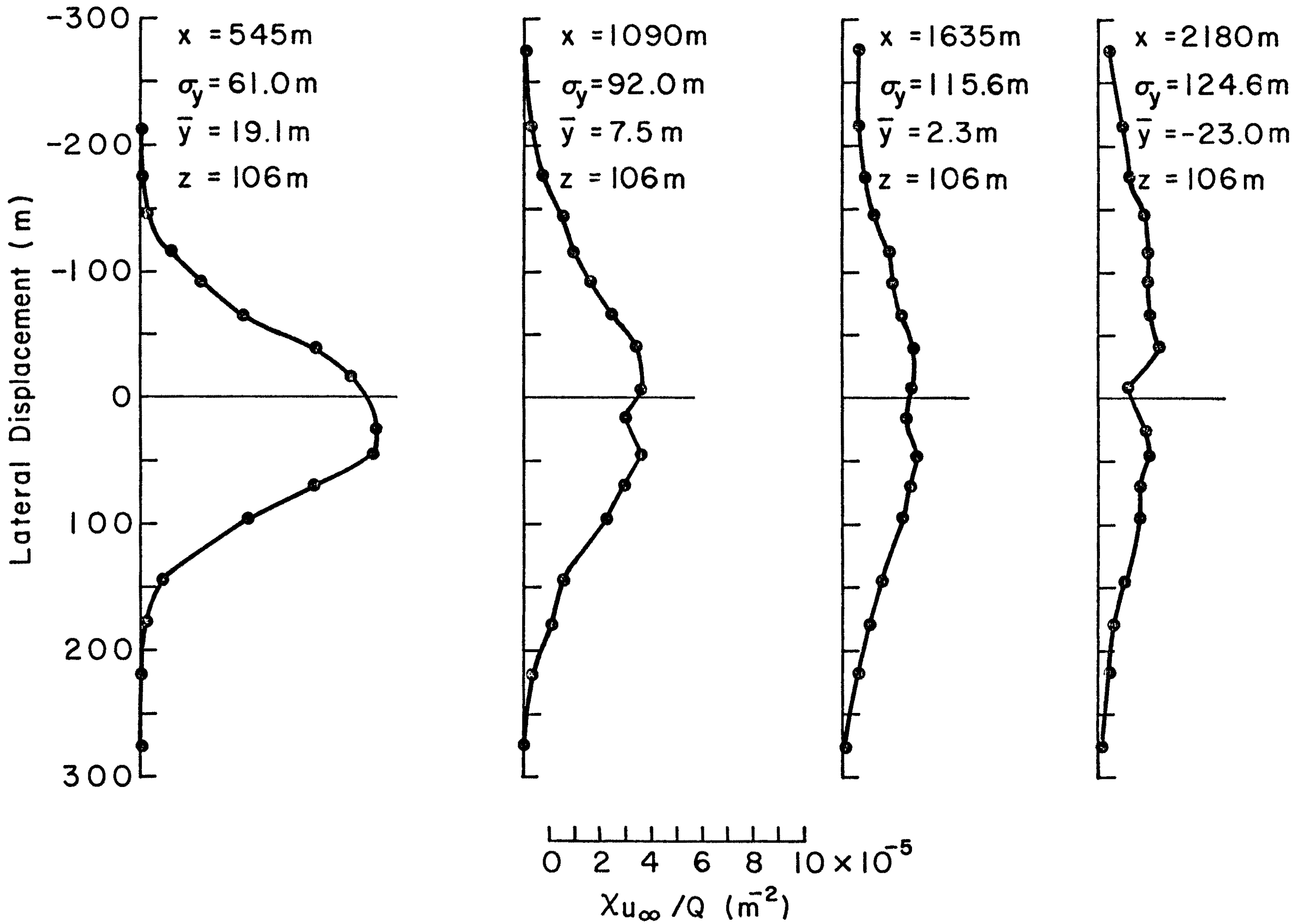


Figure 4-7. Horizontal Concentration Profiles at a 2 m/s Wind Speed. Atmospheric Dispersion Comparability Test.

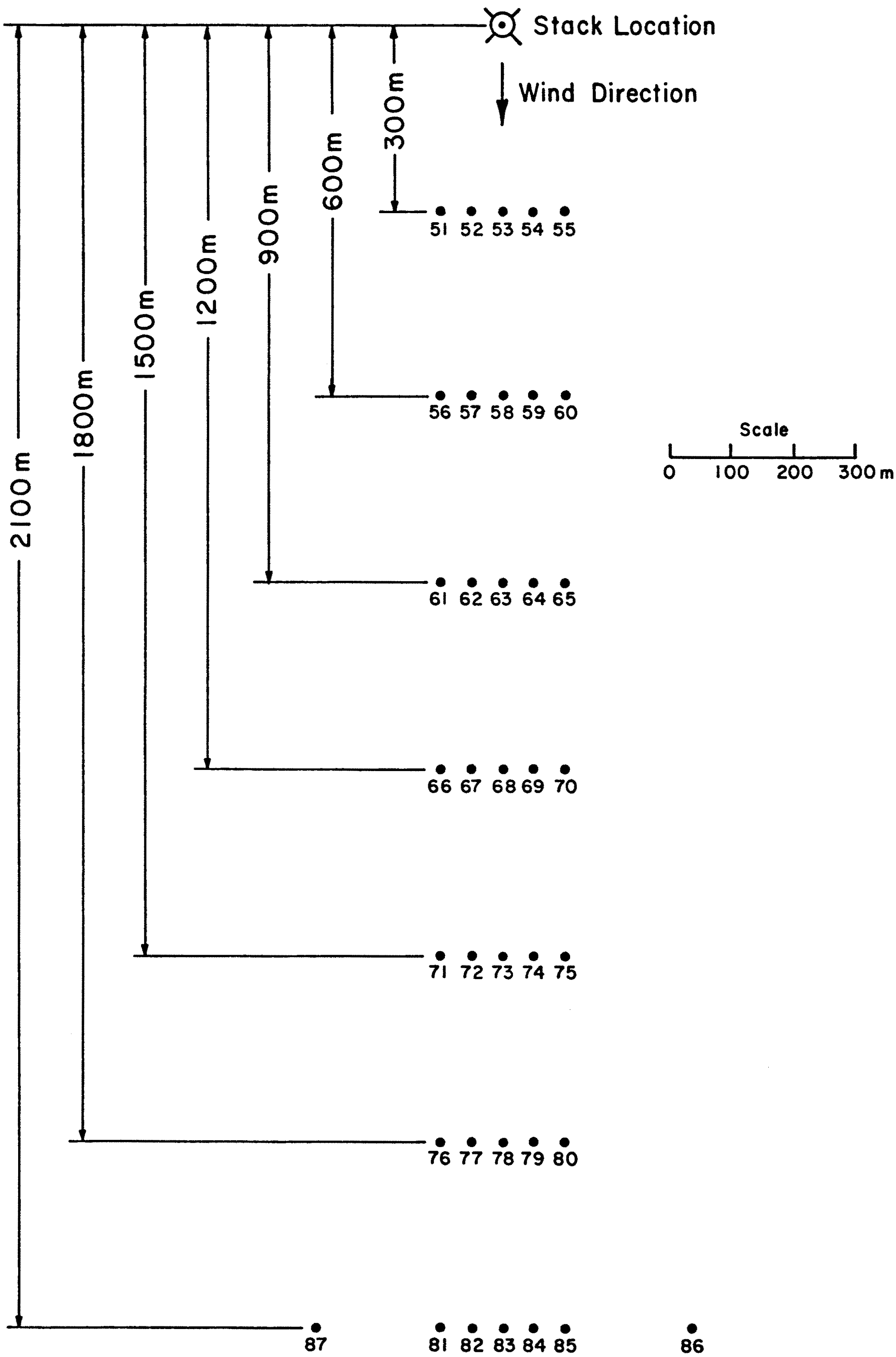


Figure 4-8. Ground Sampling Grid for Kahe Atmospheric Dispersion Comparability Test

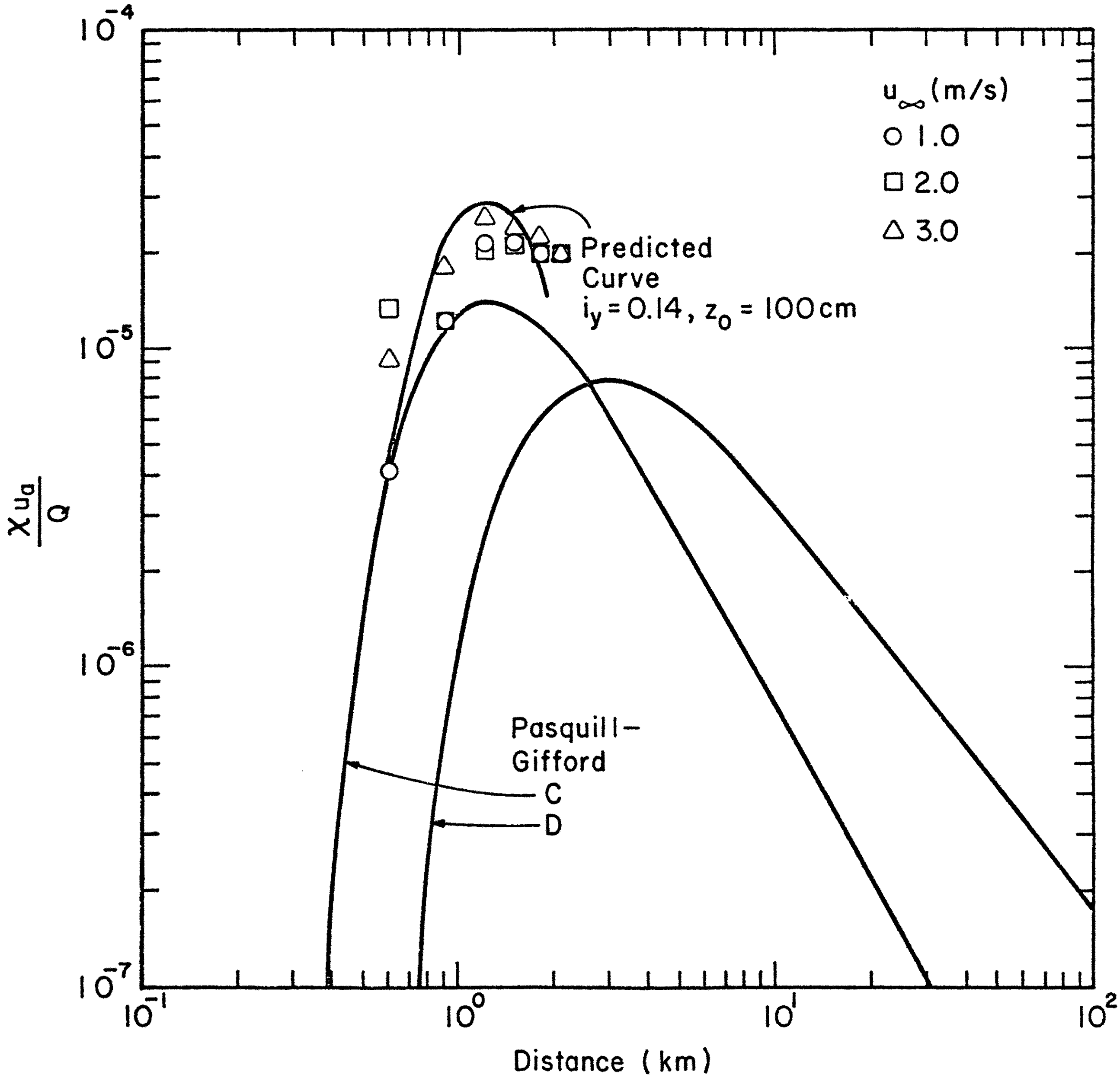


Figure 4-9. Comparison of Observed $\chi u_a/Q$ Values and Values Predicted Using 1) Pasquill-Gifford C and D Dispersion Rate and 2) Dispersion Rate for a z_o = 100 cm and i_y = 0.14. All Cases for 100 m Stack.

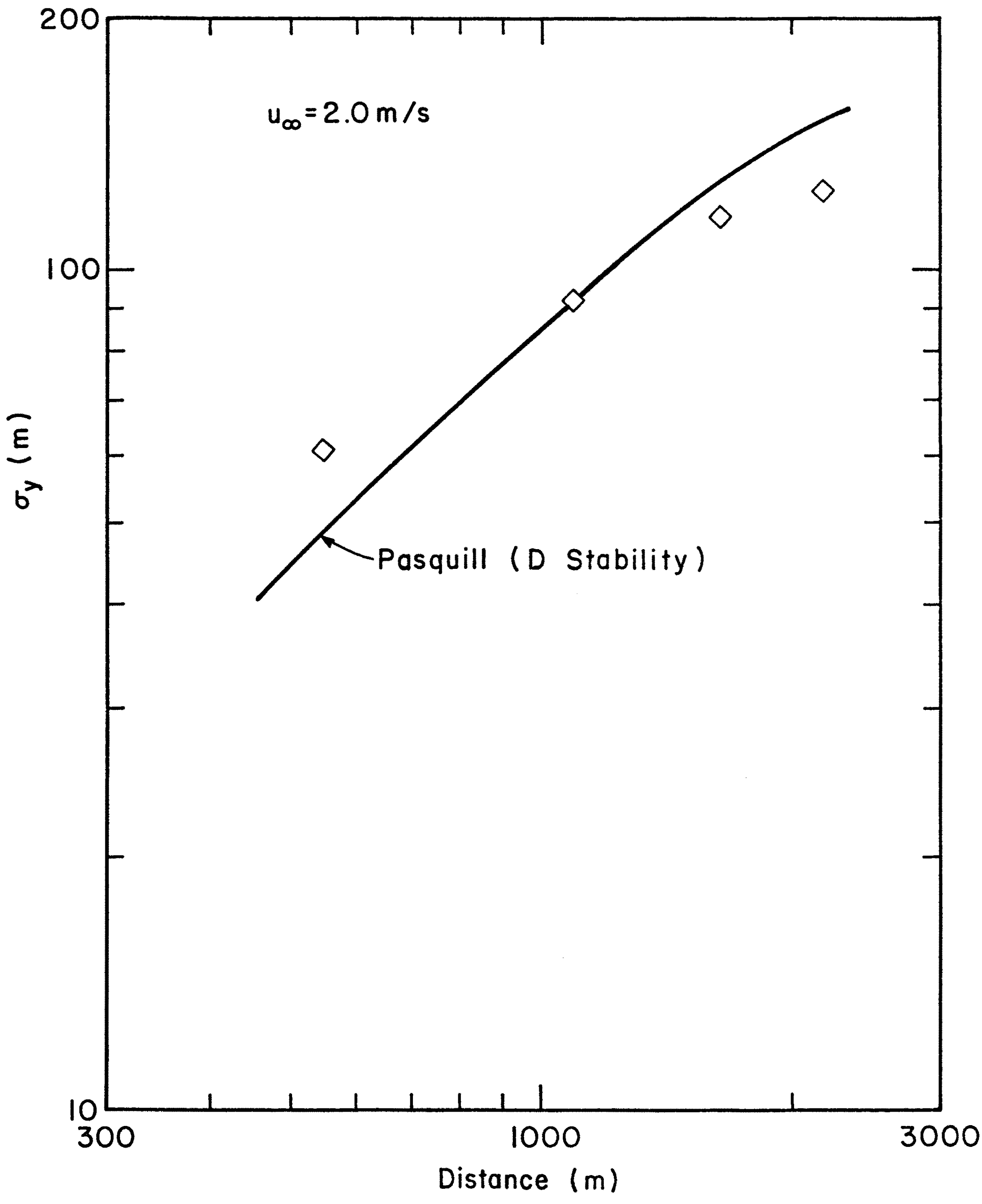


Figure 4-10. Comparison of Observed σ_y Variation Versus Downwind Distance with the Variation Predicted by Pasquill (1976) for i_y = 0.14.

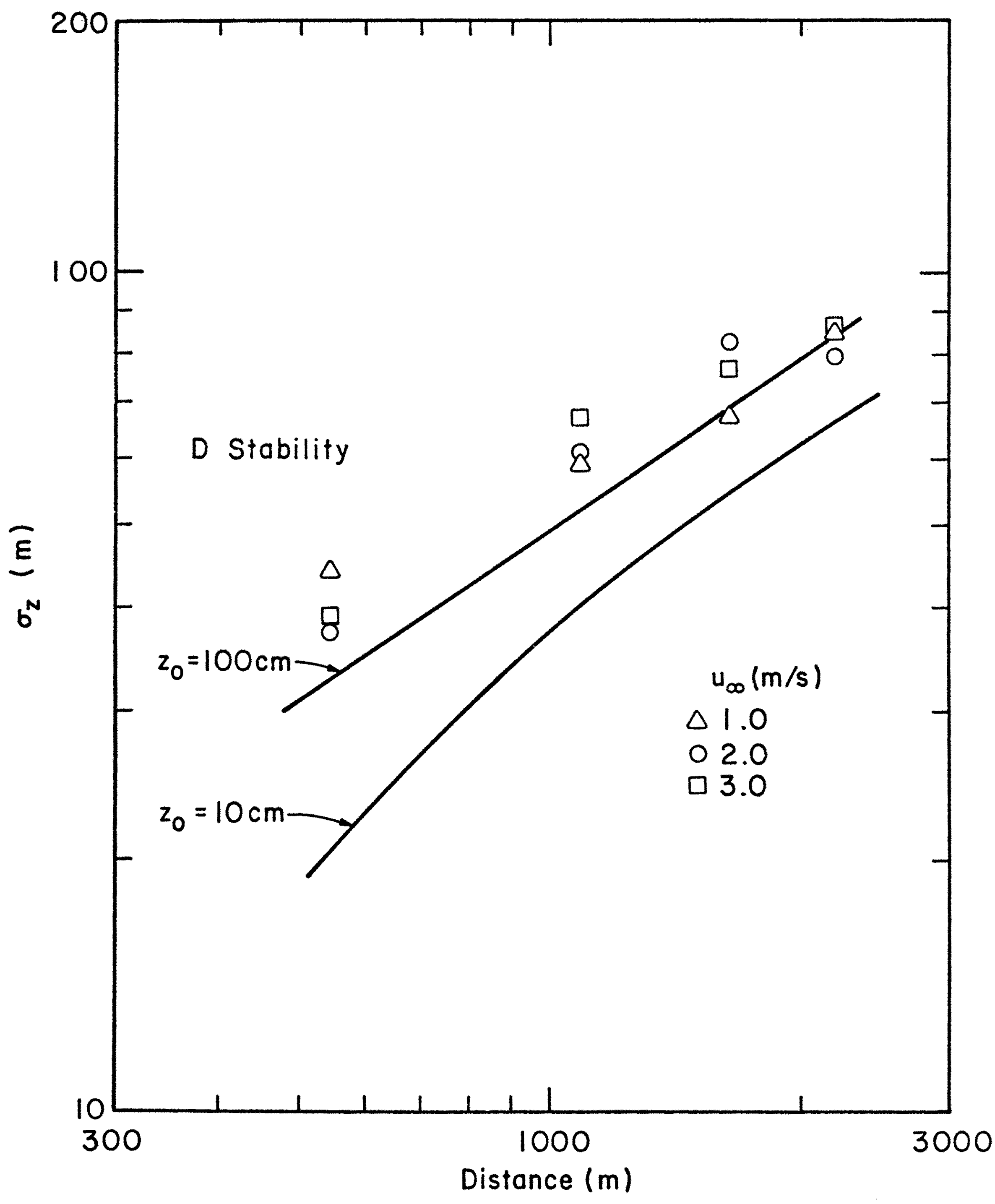


Figure 4-11. Comparison of σ_z Variation Versus Downwind Distance with the Variation Predicted by Pasquill (1974) for z_o = 10 and 100 cm.

Figure 5-1. Wind Tunnel Set-Up for a 63° Wind Direction Without Upwind Terrain

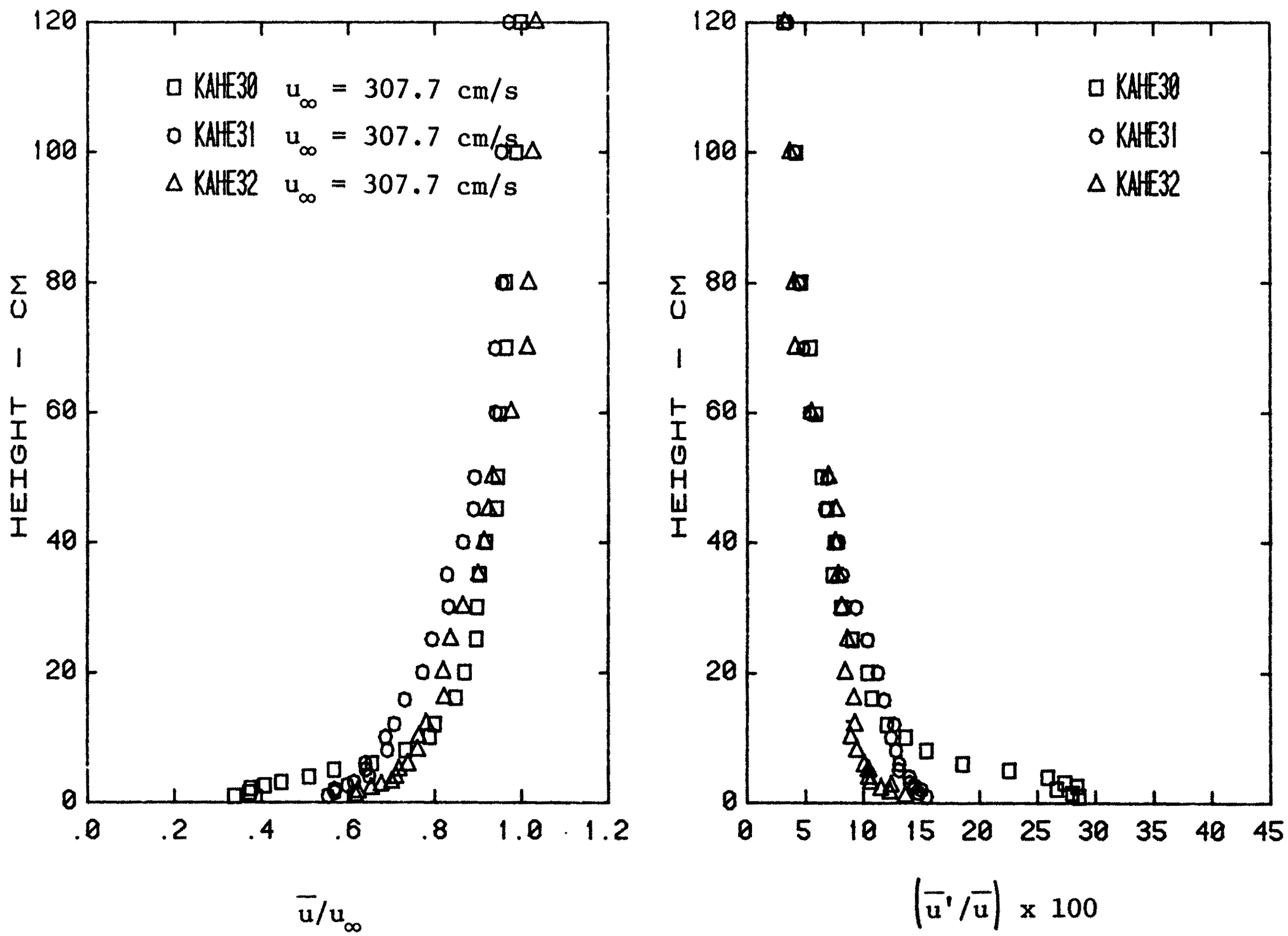


Figure 5-2. Mean Velocity (a) and Turbulence Intensity Profiles (b) With No Upwind Terrain Present and a Mean Wind From 63° at the Stack Location (□), 3.1 m Downwind (○), and 5.8 m Downwind (△)

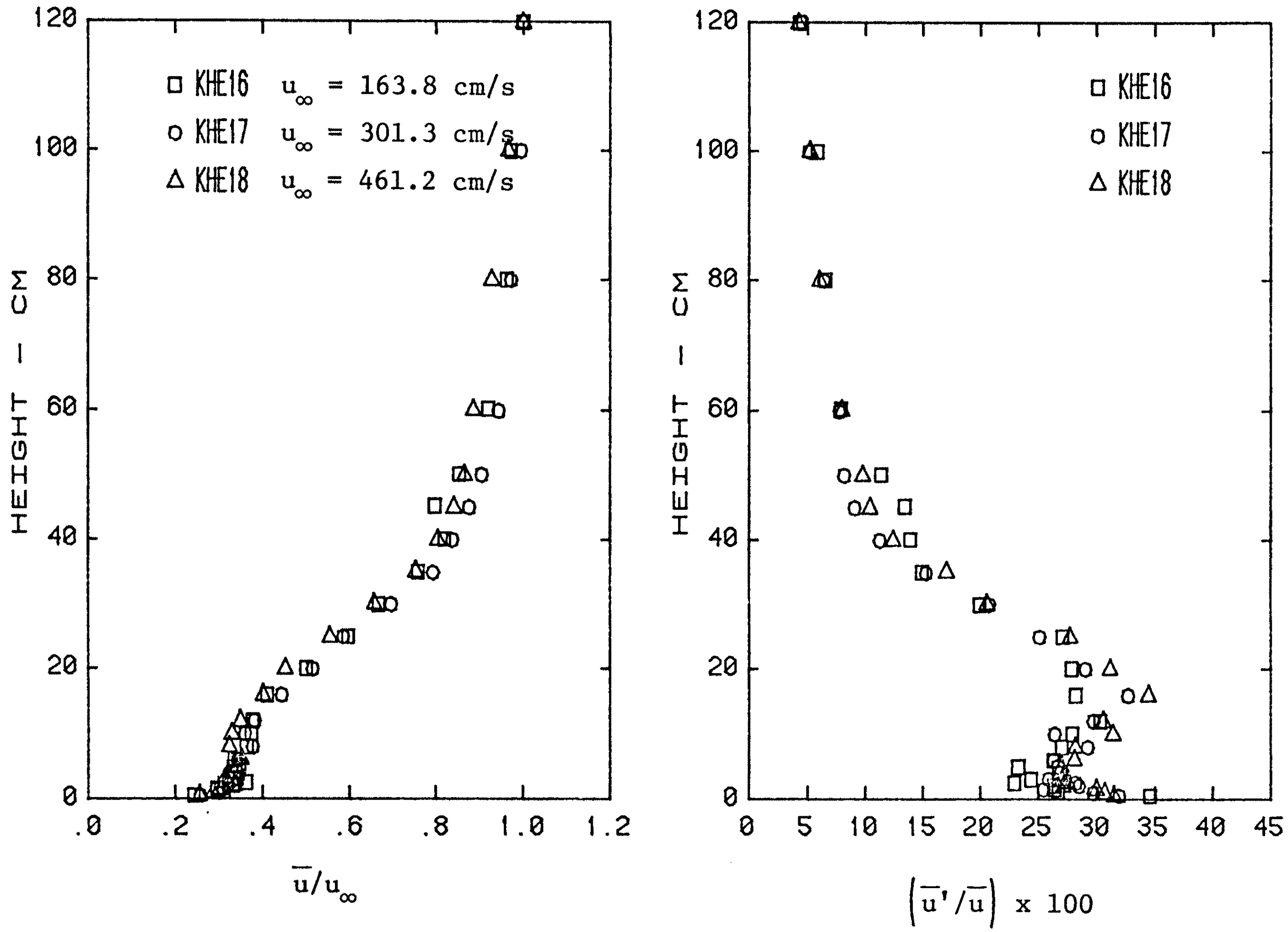


Figure 5-3. Mean Velocity (a) and Turbulence Intensity Profiles (b) at the 1C Stack Location, with the Terrain, a Mean Wind From 63°, and Three Different Free Stream Velocities

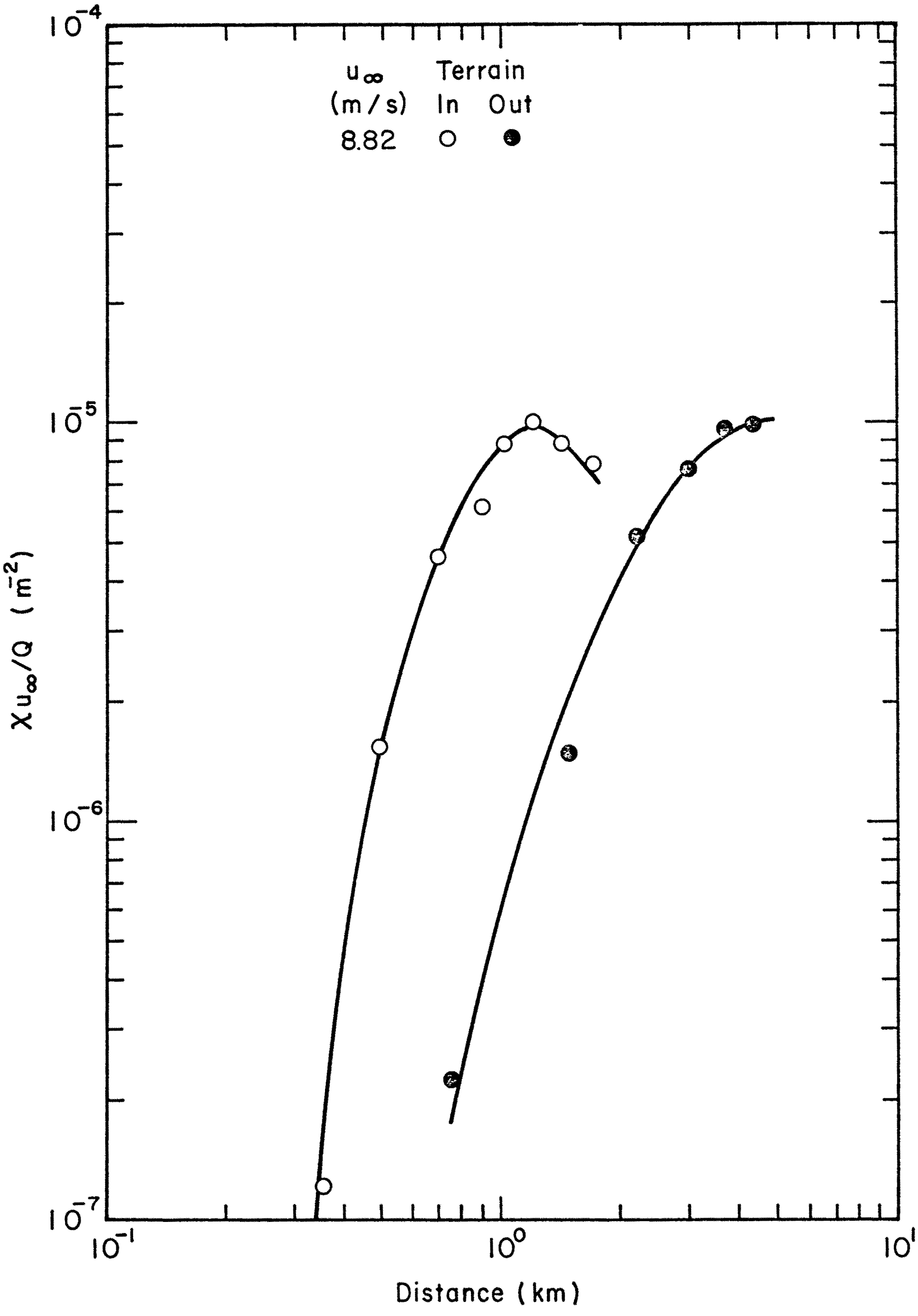


Figure 5-4. Maximum Concentration (at Unit 9/141 MW) Versus Distance Downwind for a 136.5 m Stack and a 063° Wind Direction.

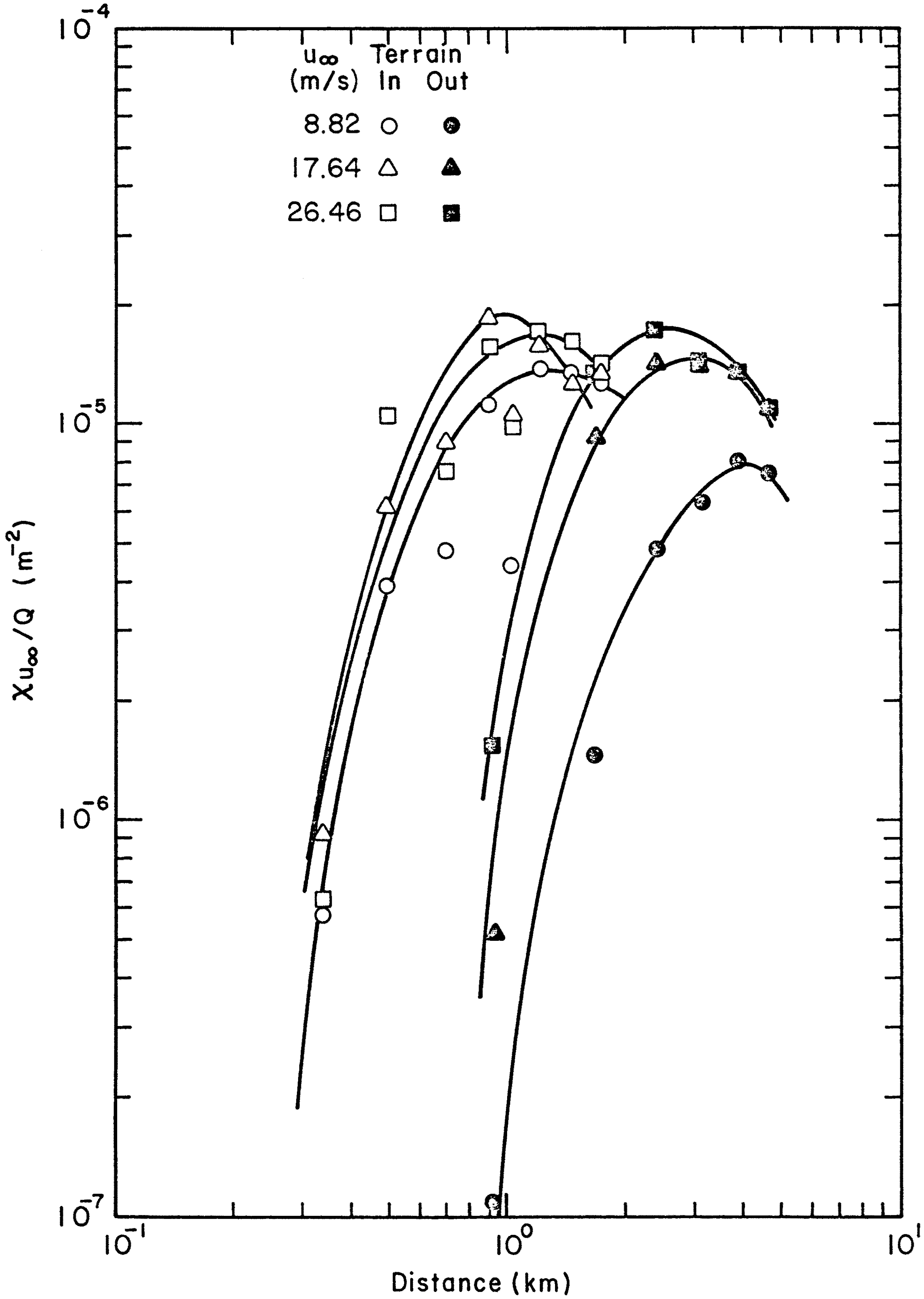


Figure 5-5. Maximum Concentration (at Unit 10/141 MW) Versus Downwind Distance for a 136.5 m Stack and a 063^o Wind Direction.

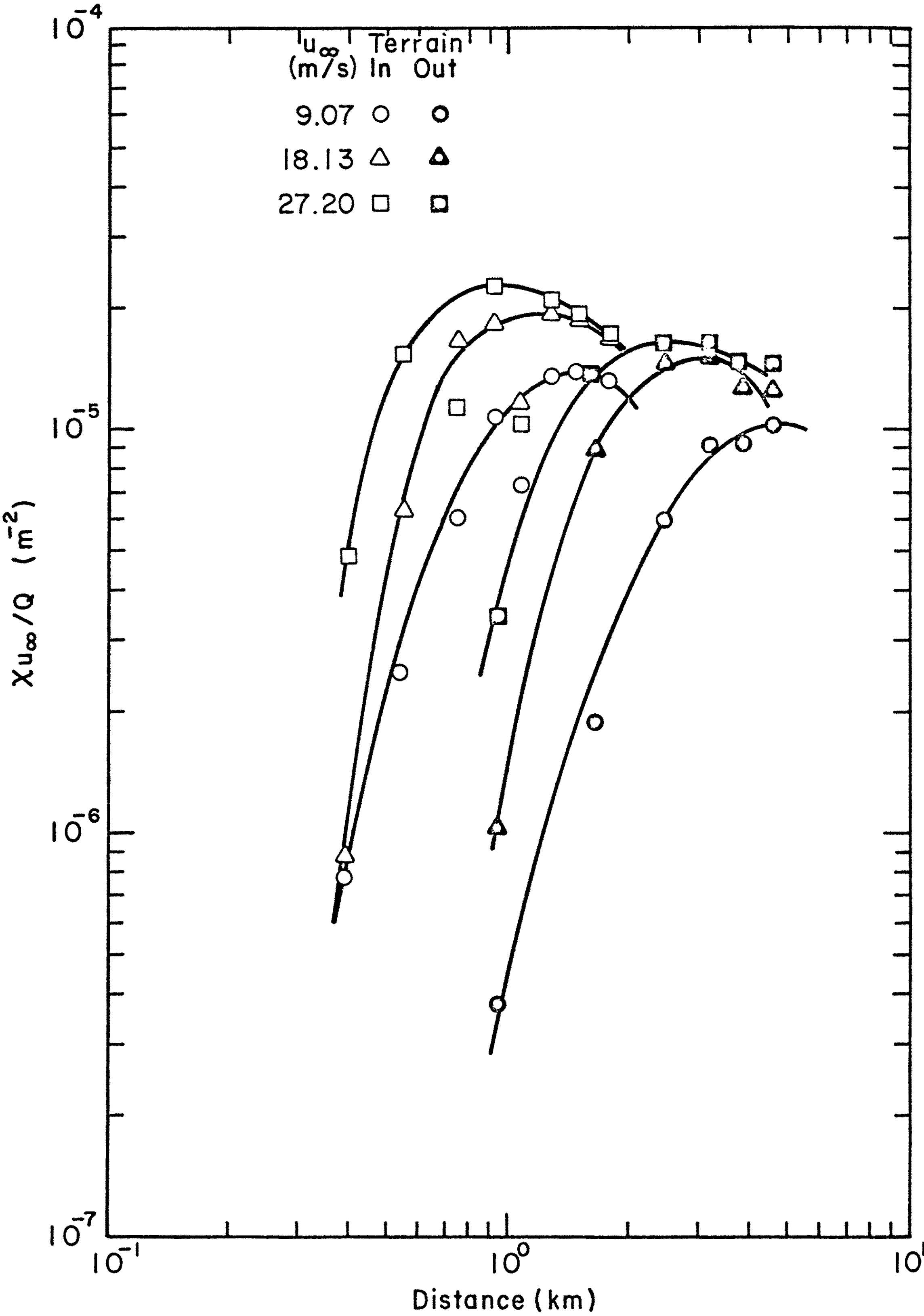


Figure 5-6. Maximum Concentration (for Unit 11/141 MW) Versus Downwind Distance for a 136.5 m Stack and a 063° Wind Direction.

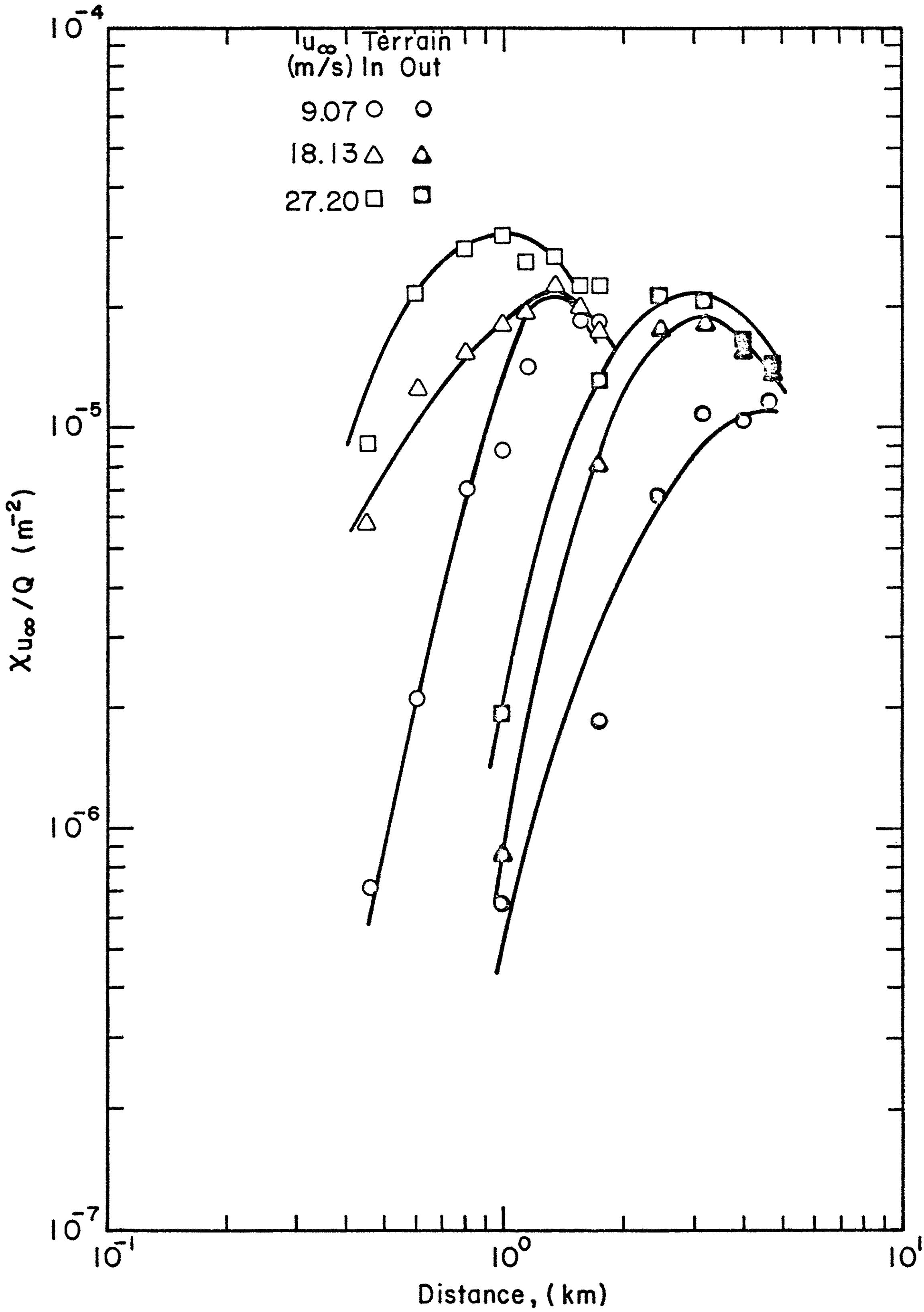


Figure 5-7. Maximum Concentration (at Unit 12/141 MW) Versus Downwind Distance for a 136.5 m Stack and a 063° Wind Direction.

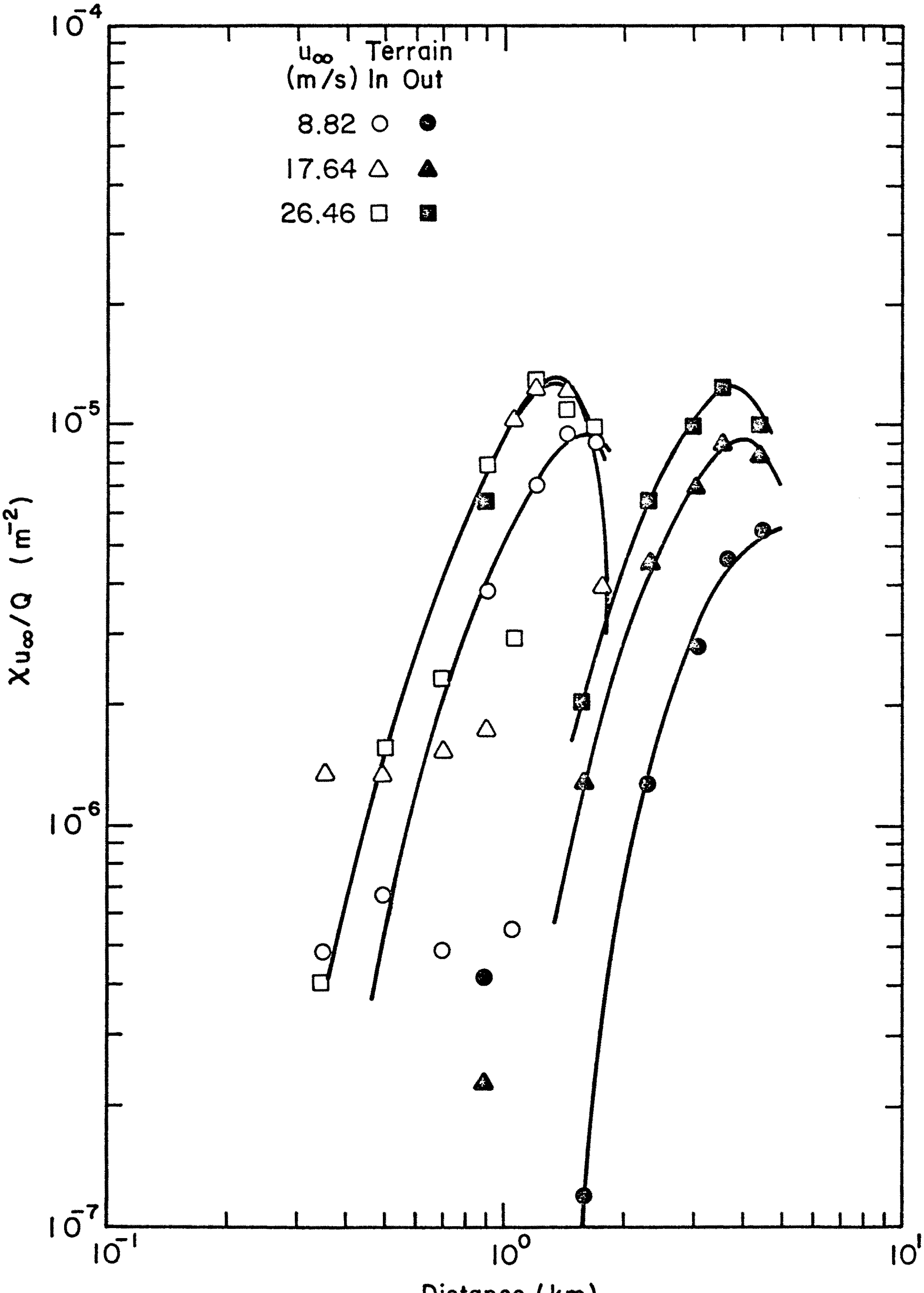


Figure 5-8. Maximum Concentration (at Unit 9/141 MW) Versus Downwind Distance for a 182 m Stack and a 063° Wind Direction.

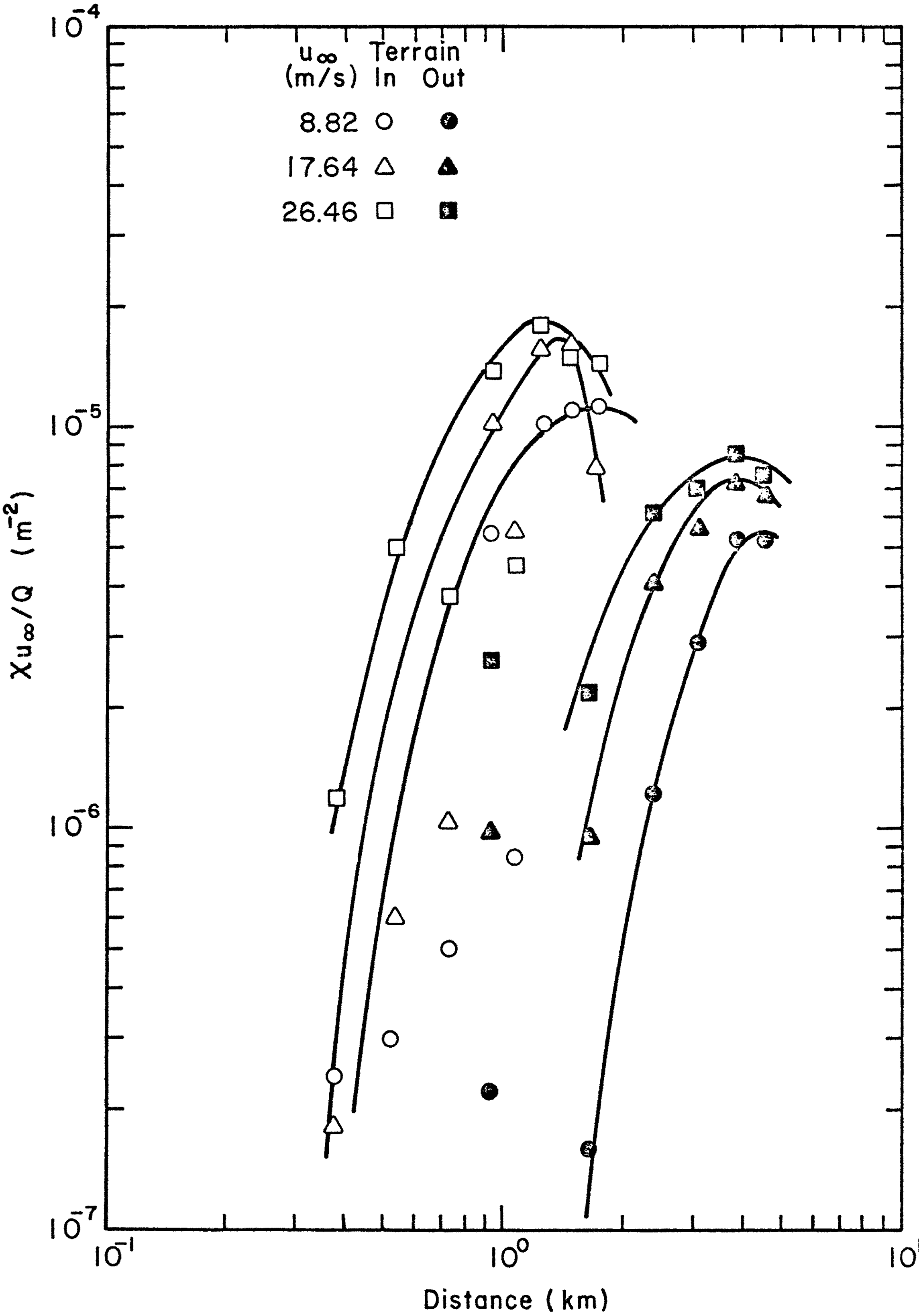


Figure 5-9. Maximum Concentration (at Unit 10/141 MW) Versus Downwind Distance for a 182 m Stack and a 063° Wind Direction.

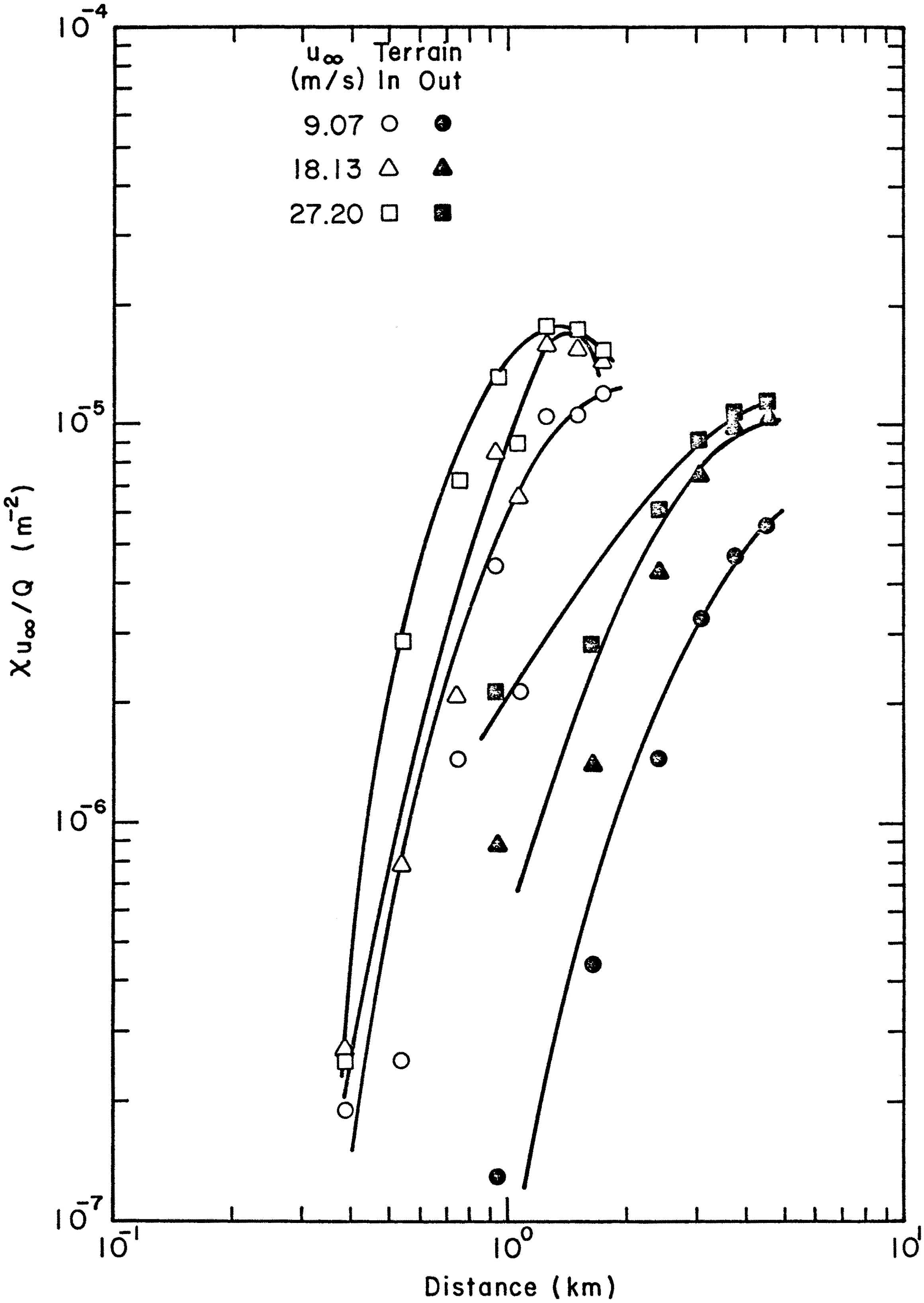


Figure 5-10. Maximum Concentration (at Unit 11/141 MW) Versus Downwind Distance for a 182 m Stack and a 063° Wind Direction.

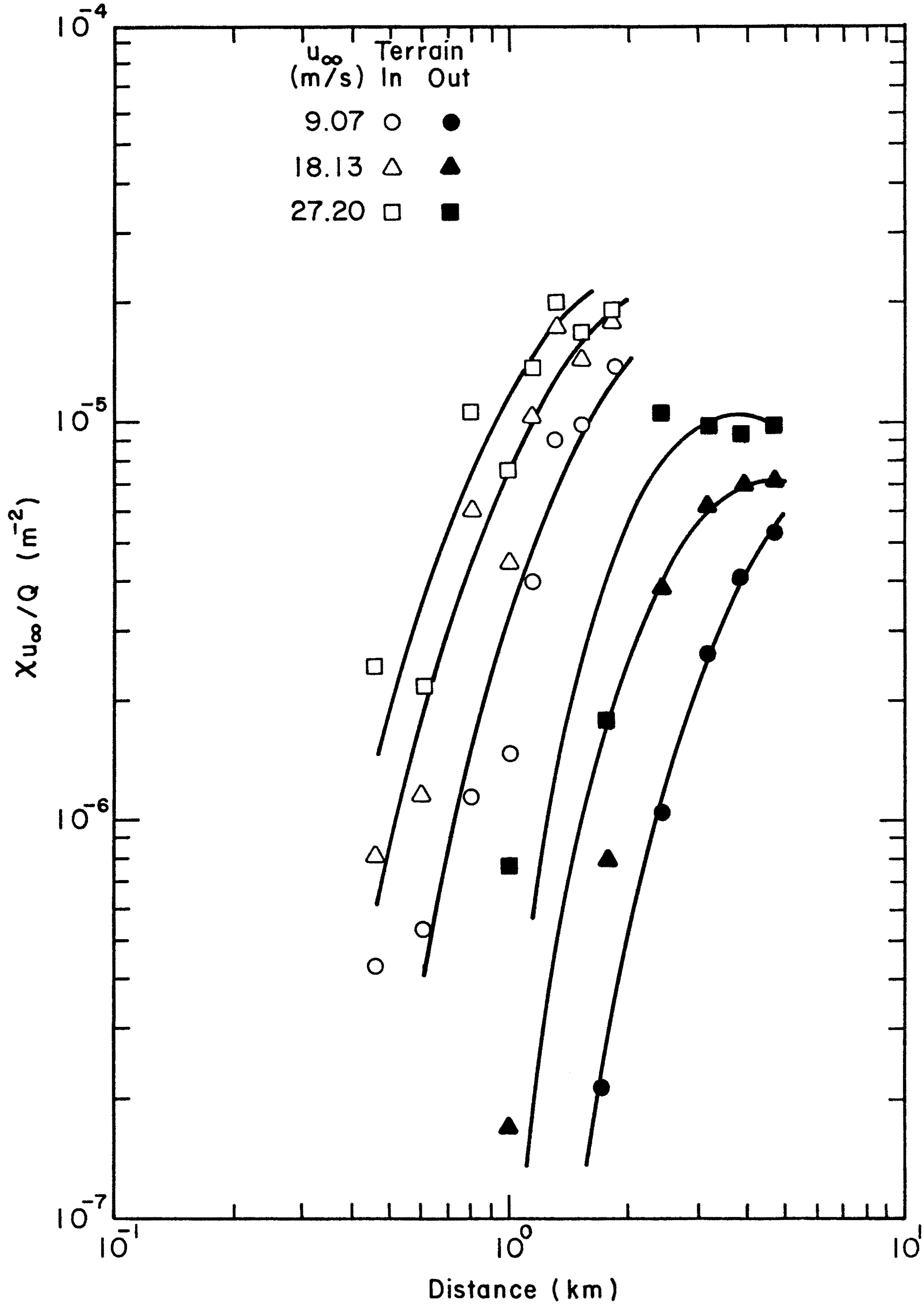
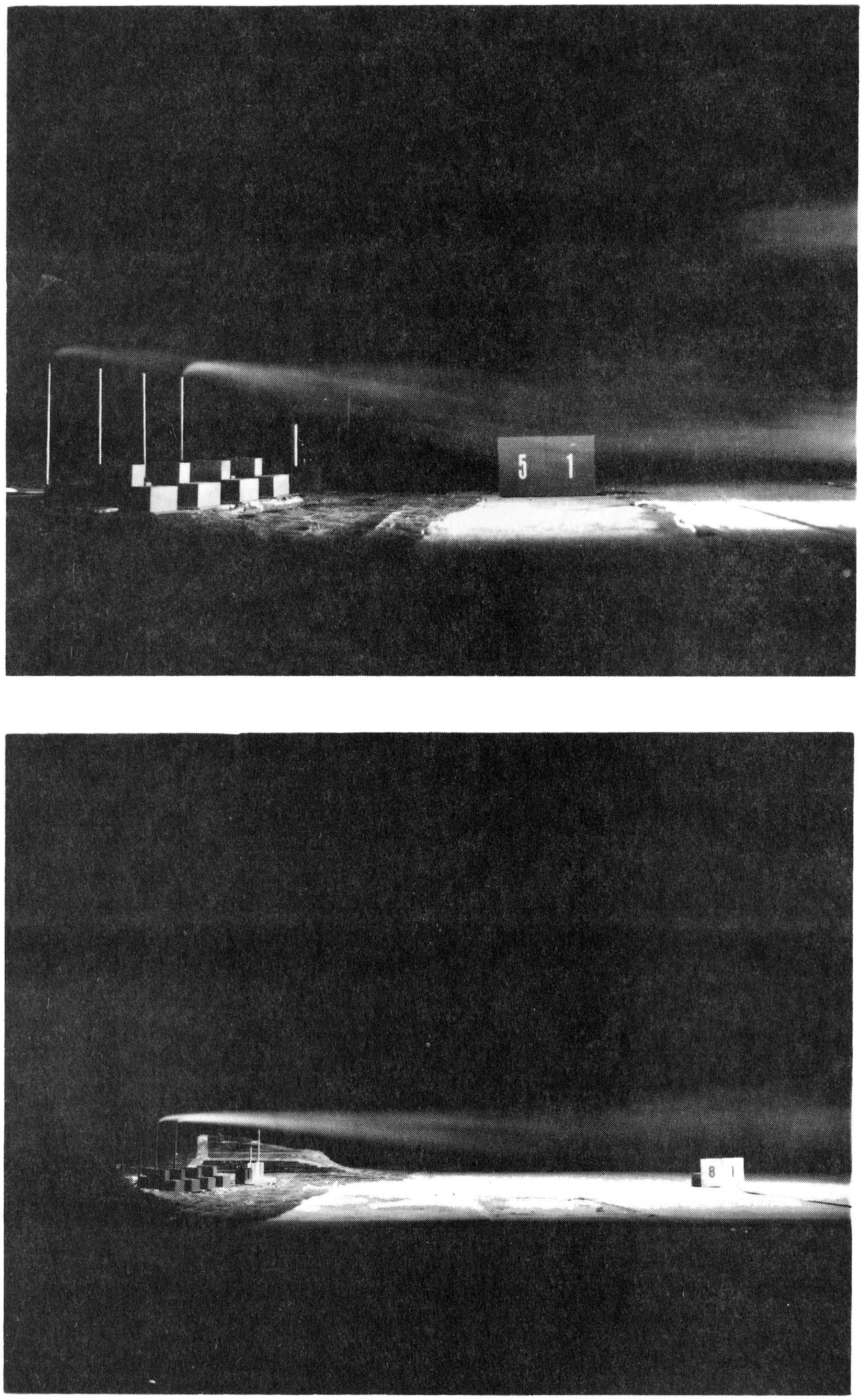


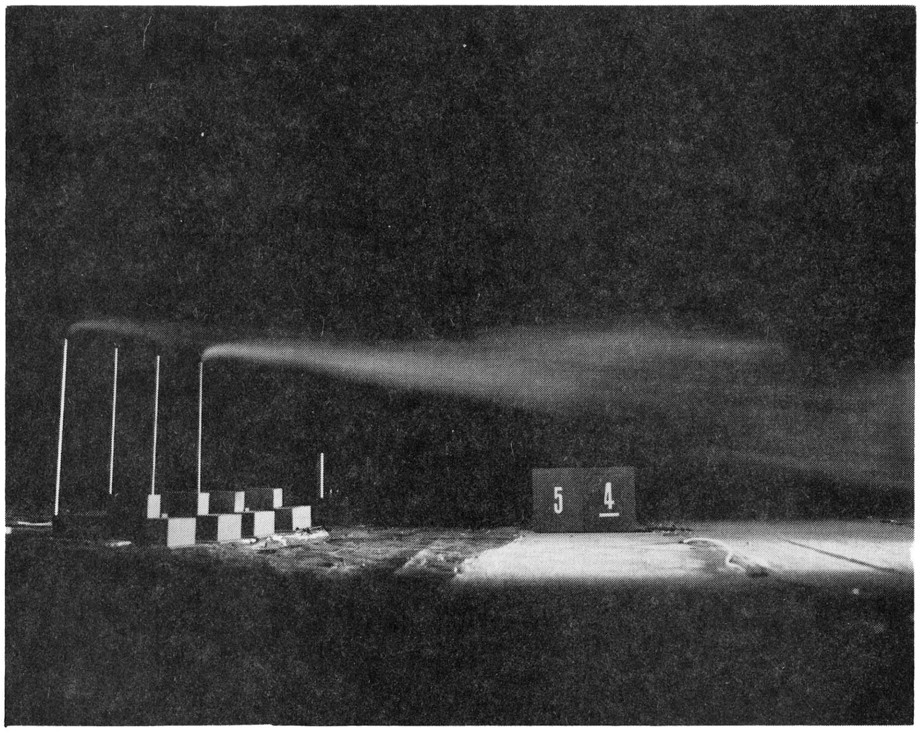
Figure 5-11. Maximum Concentration (at Unit 12/141 MW) Versus Downwind Distance for a 182 m Stack and a 063° Wind Direction.



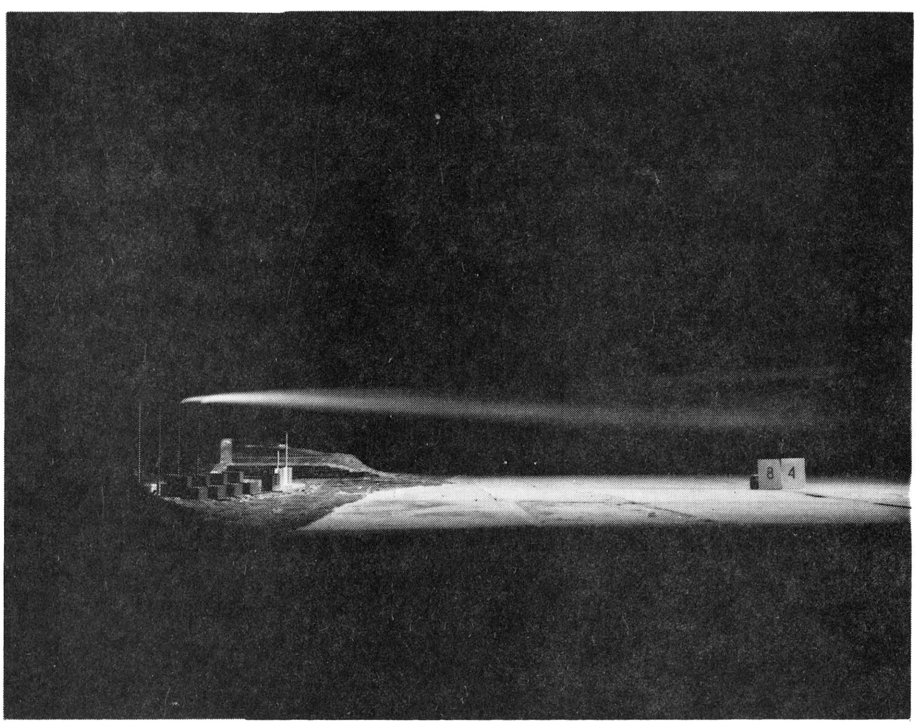
a)

b)

Figure 5-12. Flow Visualization for a 136.5 m Stack and a 11.75 m/s Wind Speed a) With and b) Without Upwind Terrain for a 063° Wind Direction.



a)



b)

Figure 5-13. Flow Visualization for a 182 m Stack and a 11.75 m/s Wind Speed a) With and b) Without Upwind Terrain for a 063^{o} Wind Direction.

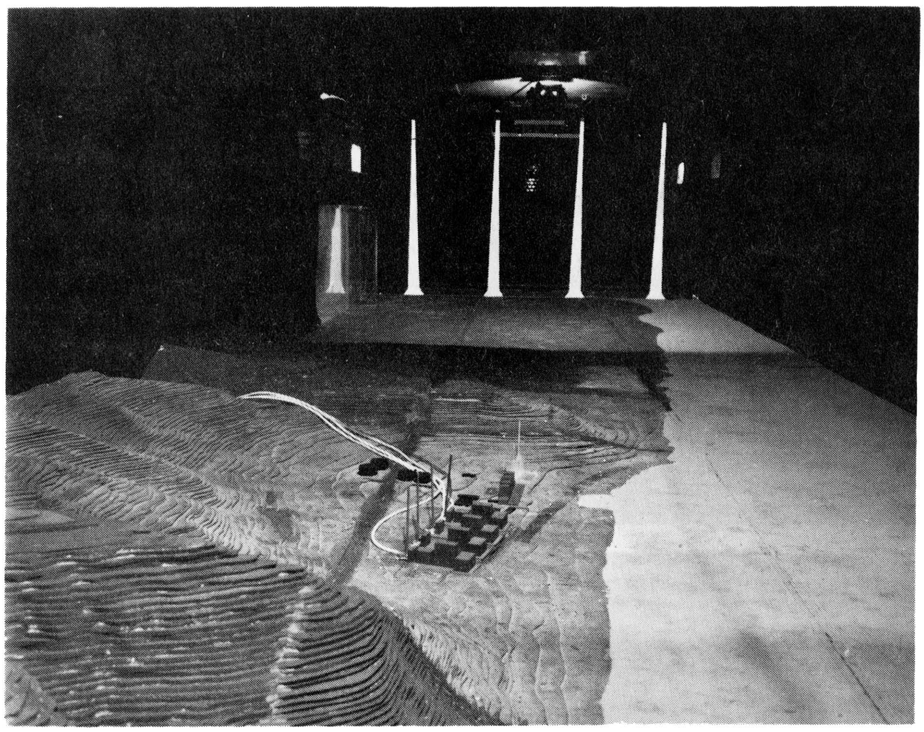


Figure 6-1. Tunnel Set-Up for the 153^{o} "Terrain In" Tests

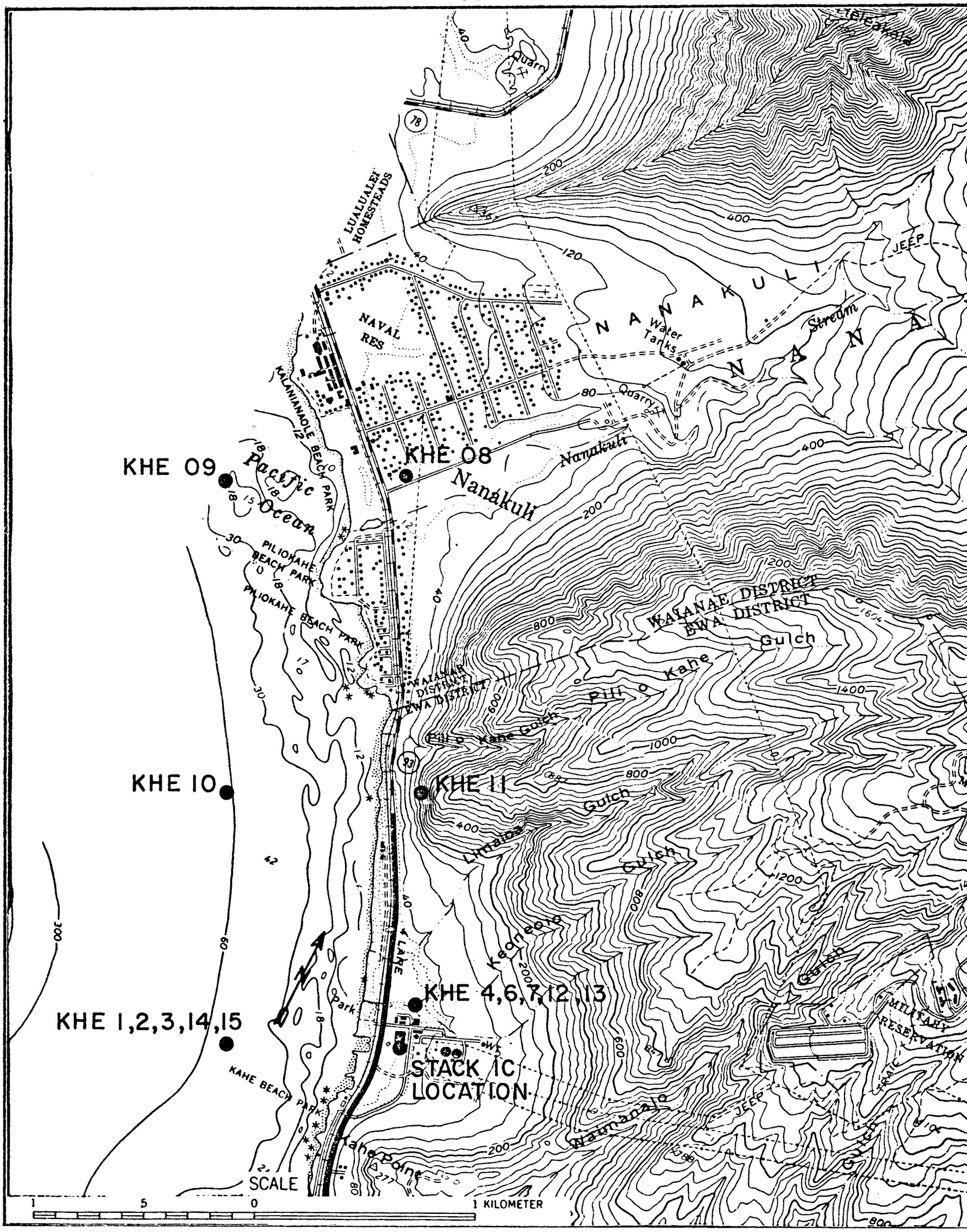


Figure 6-2. Locations of Velocity Profiles for the 153^{o} Wind Direction

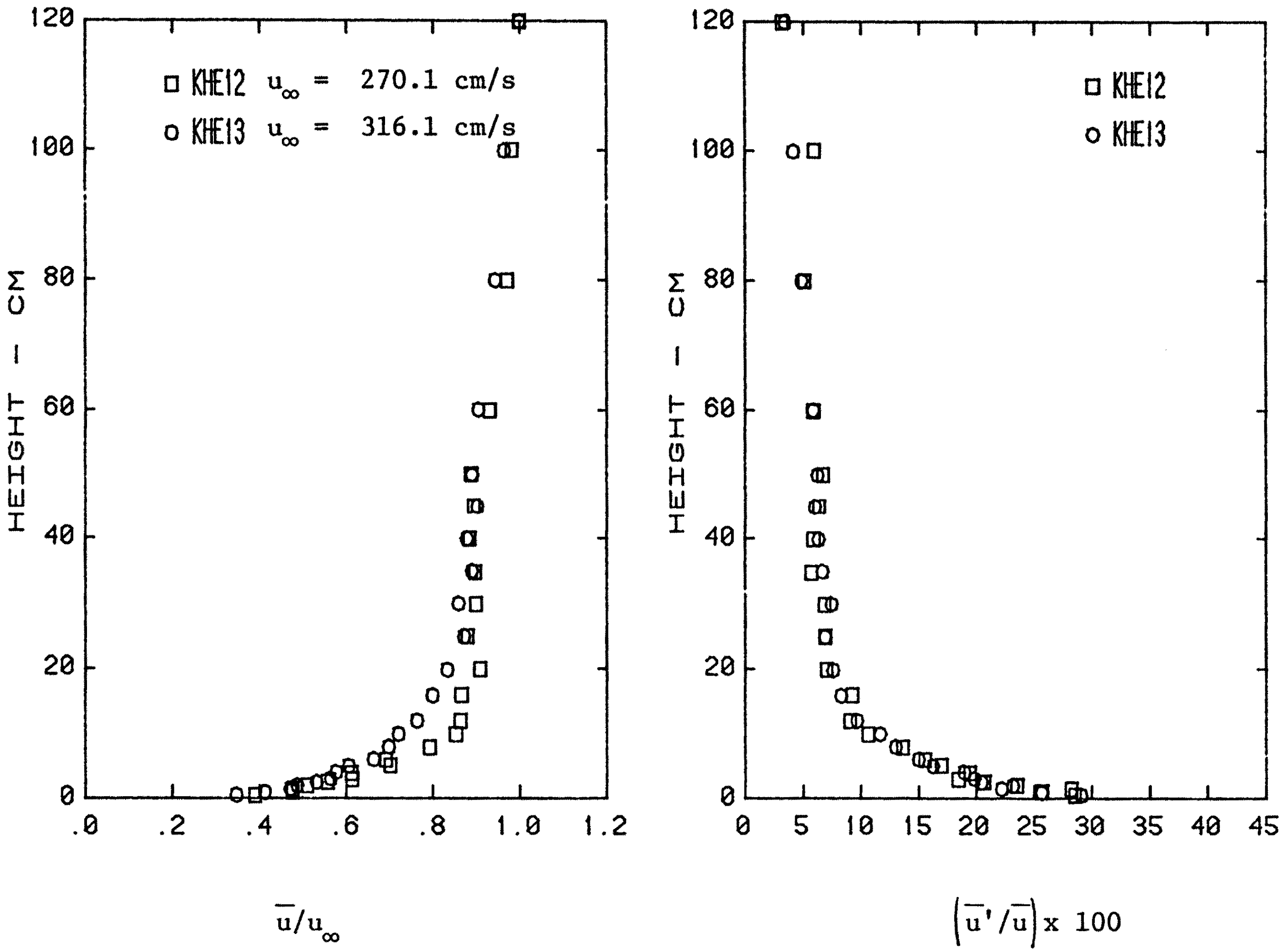


Figure 6-3. Mean Velocity (a) and Turbulence Intensity Profiles (b), No Terrain Present and Mean Wind from 153° for Two Different Free Stream Velocities. (See Figure 6-2 for profile location.)

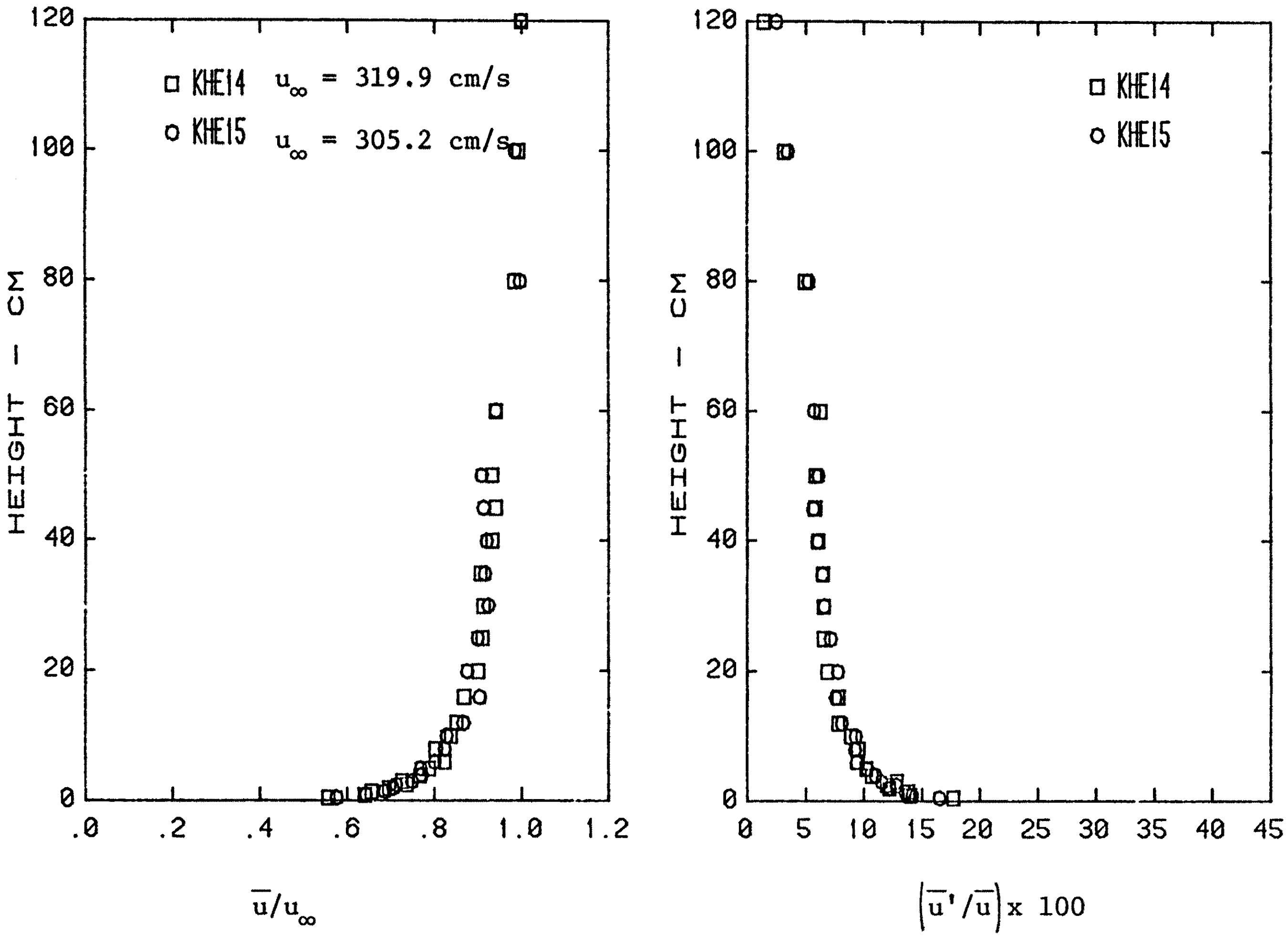


Figure 6-4. Mean Velocity (a) and Turbulence Intensity Profiles (b), No Terrain Present and Mean Wind from 153° for Two Different Free Stream Velocities. (See Figure 6-2 for profile location.)

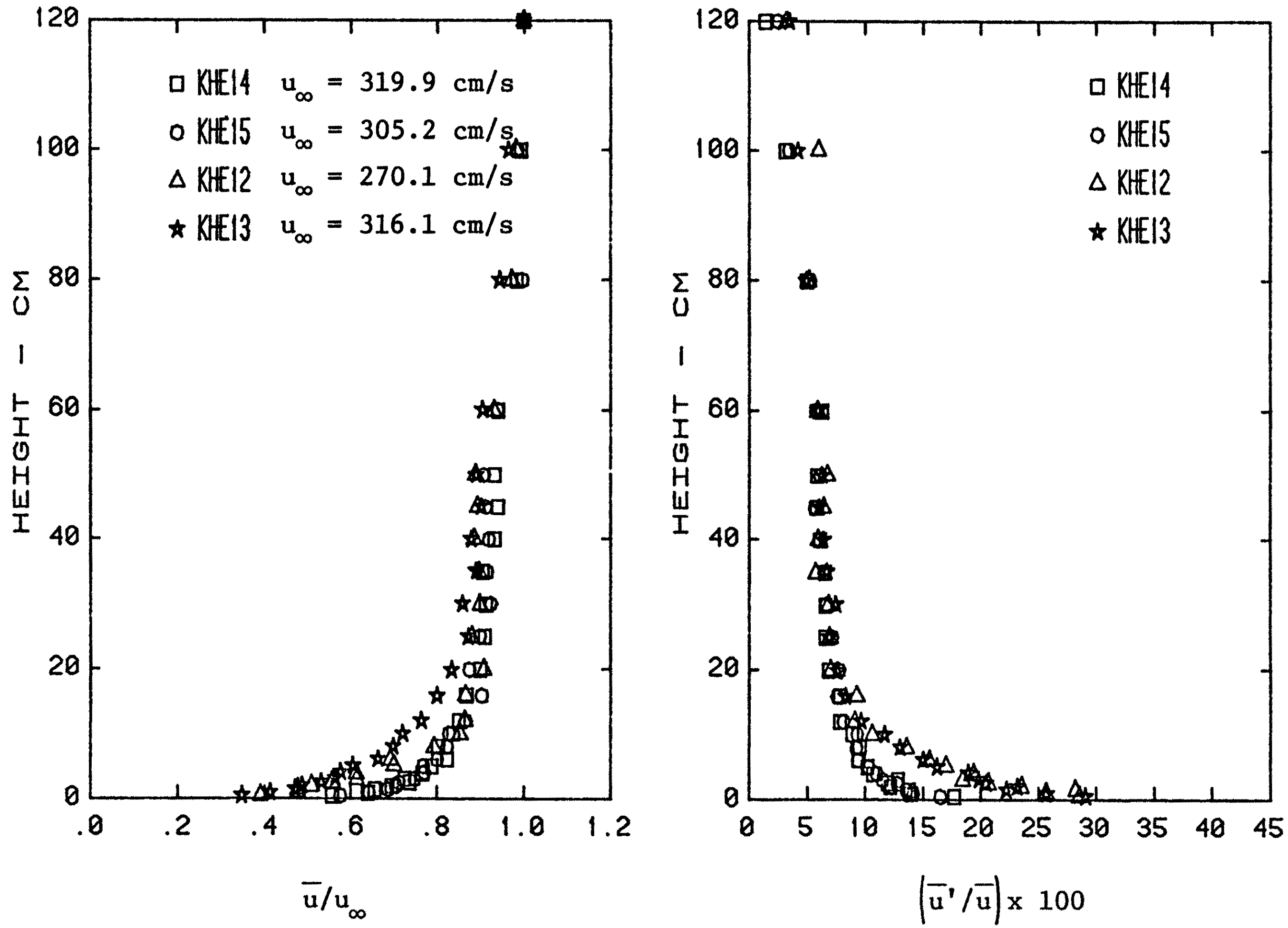


Figure 6-5. Mean Velocity (a) and Turbulence Intensity Profiles (b), With No Terrain Present, Mean Wind from 153^{o} Taken Across the Tunnel at the Locations Shown in Figure 6-2

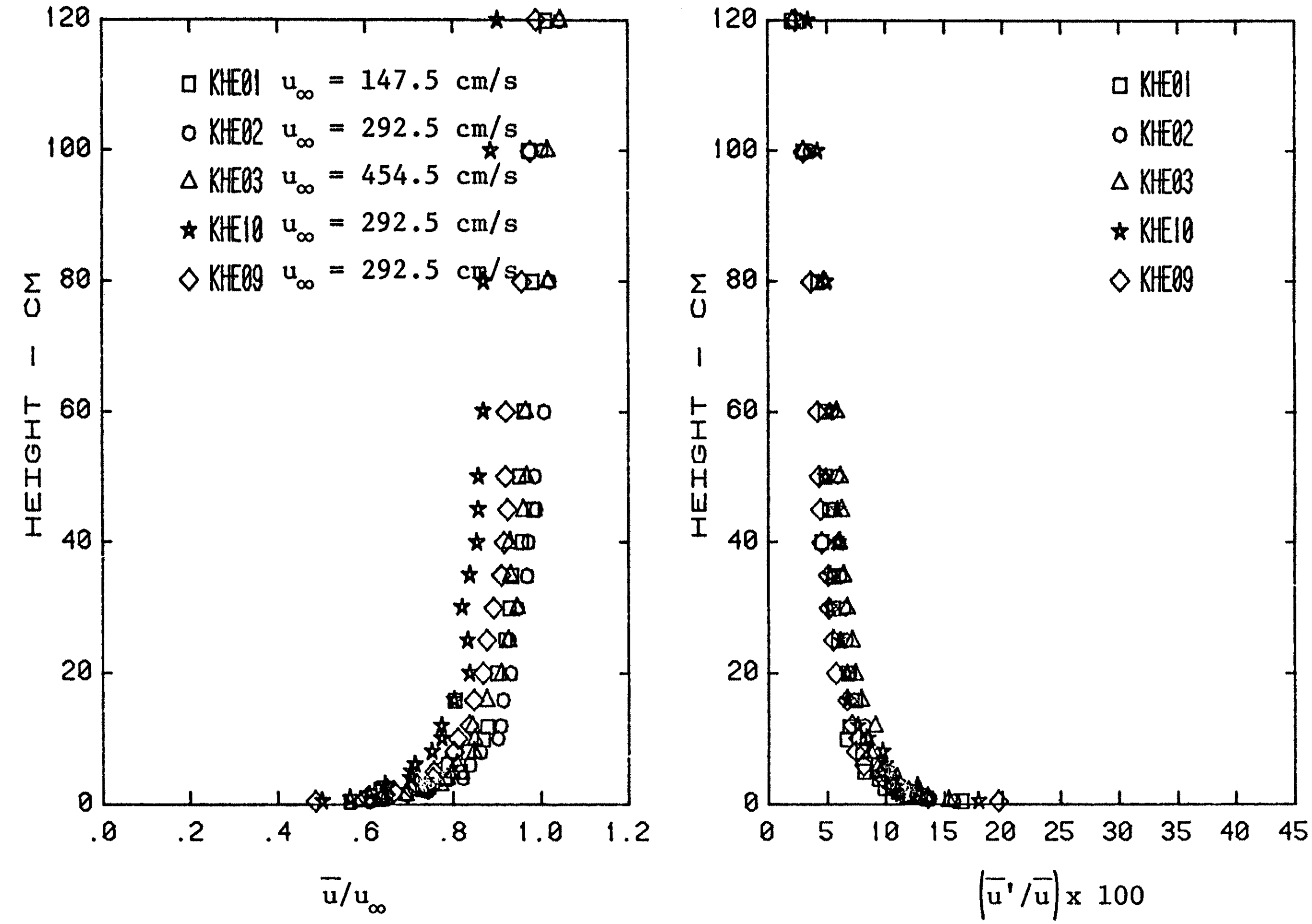


Figure 6-6. Mean Velocity (a) and Turbulence Intensity Profiles (b), With Terrain and Mean Wind from 153°, Taken Down the Center of the Tunnel at the Locations Shown in Figure 6-2

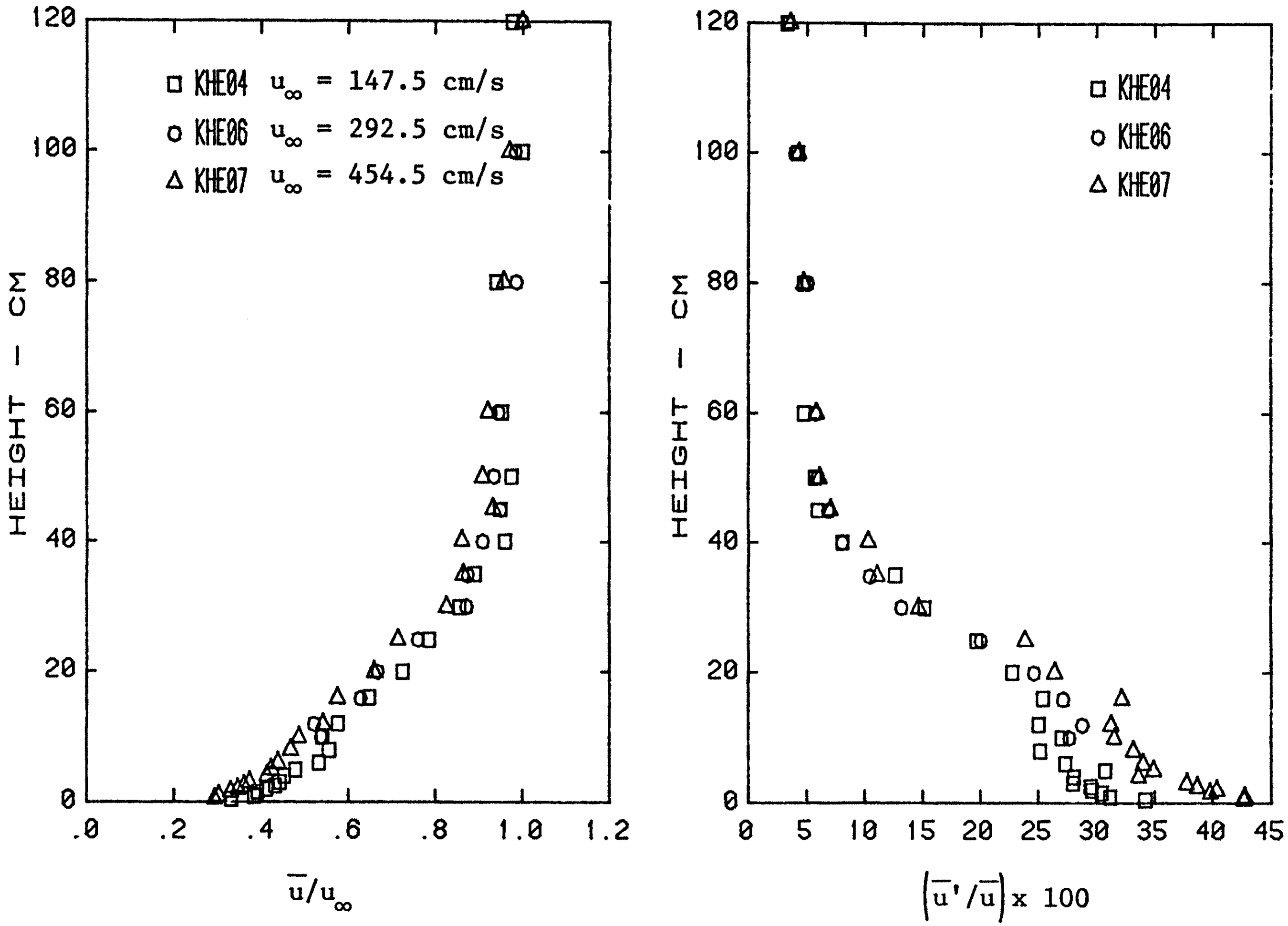


Figure 6-7. Mean Velocity (a) and Turbulence Intensity Profiles (b), With Terrain and Mean Wind From 153° for Three Different Free Stream Velocities at the Locations Shown in Figure 6-2

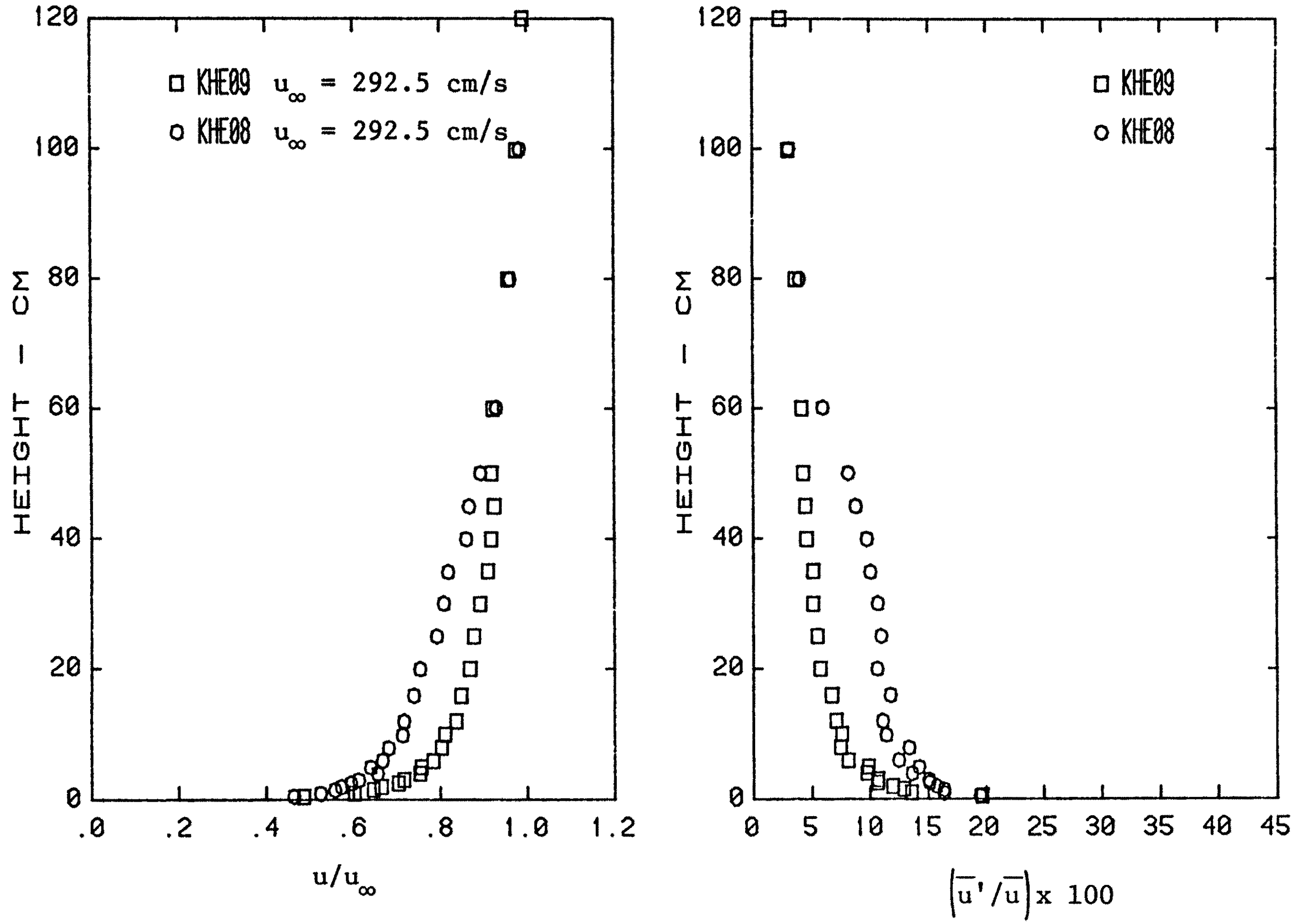


Figure 6-8. Mean Velocity (a) and Turbulence Intensity Profiles (b), With Terrain and Mean Wind From 153^{o} Across the Tunnel at the Location Shown in Figure 6-2

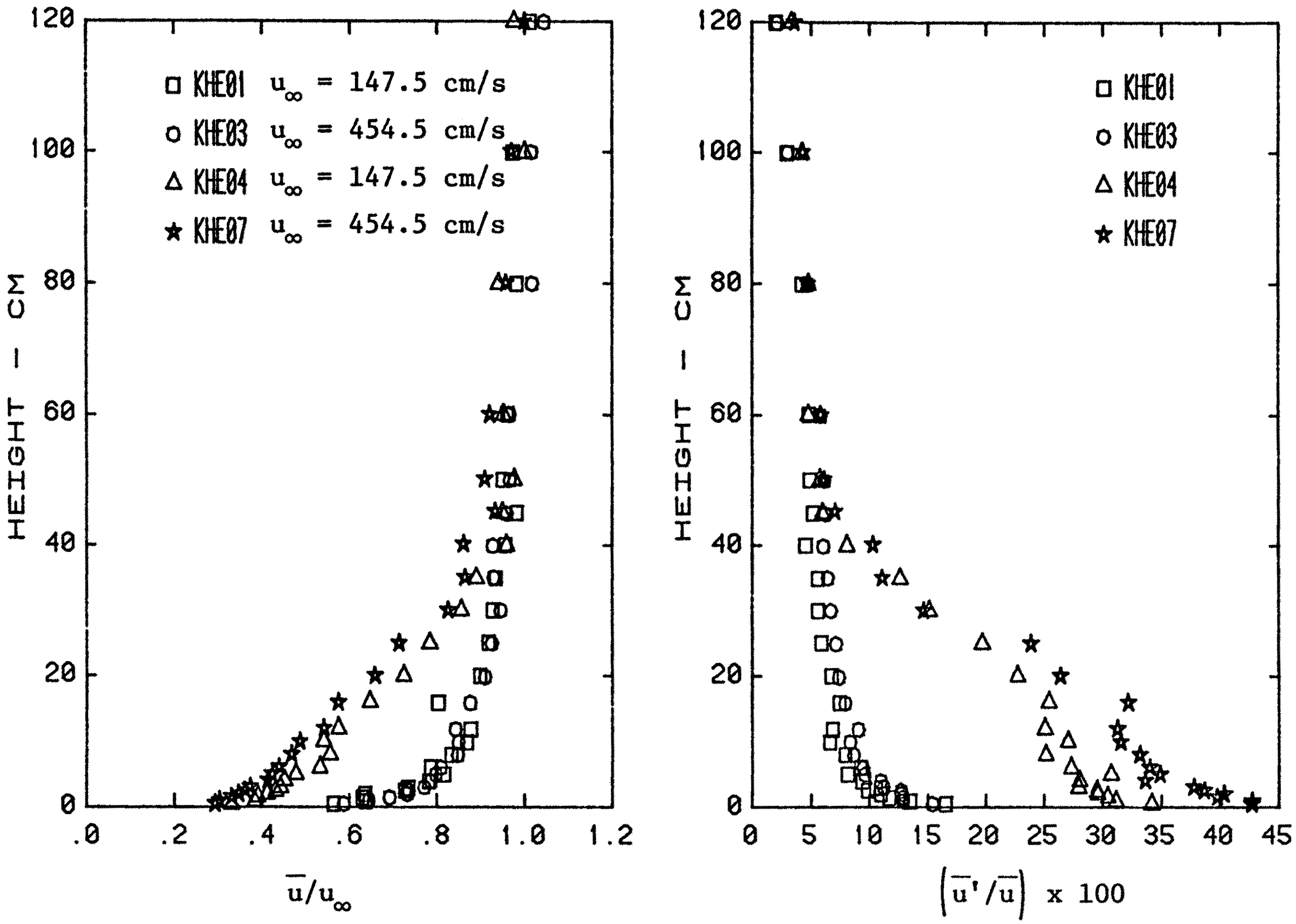


Figure 6-9. Mean Velocity (a) and Turbulence Intensity Profiles (b), With Terrain and Mean Wind From 153° Across the Tunnel for Two Different Free Stream Velocities at the Location Shown in Figure 6-2

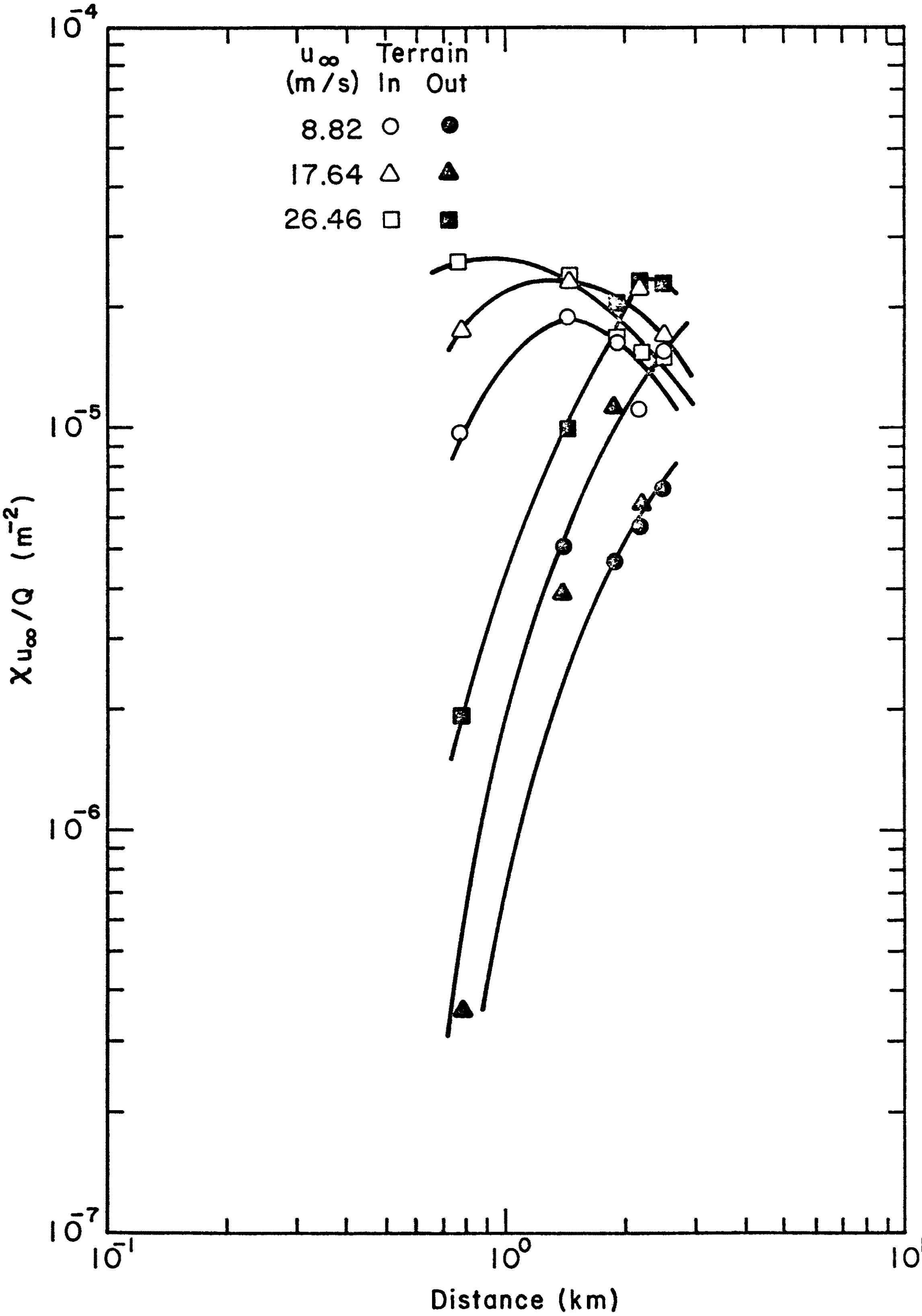


Figure 6-10. Maximum Concentration (for Unit 9/141 MW) Versus Downwind Distance for a 136.5 m Stack and a 153° Wind Direction.

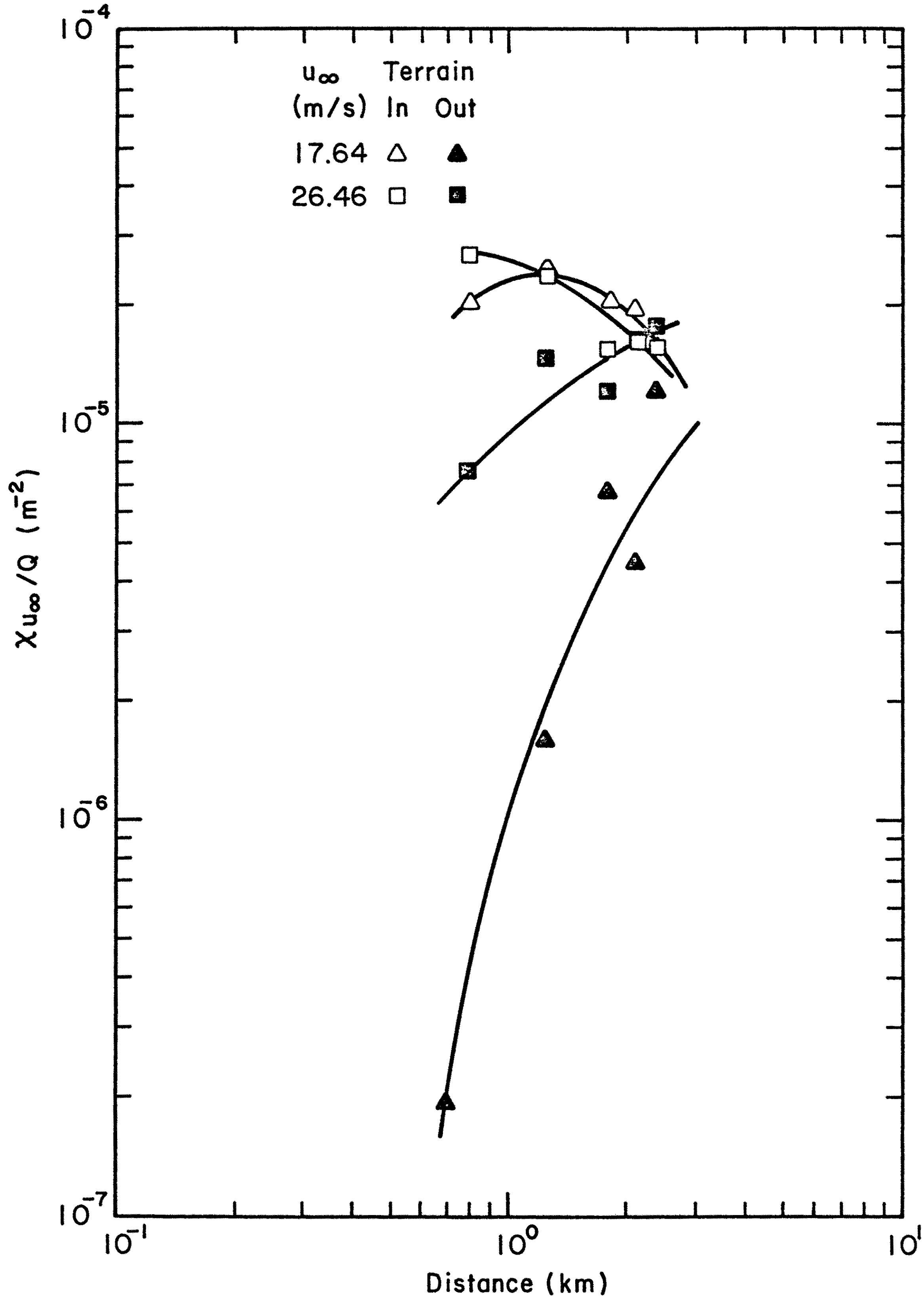


Figure 6-11. Maximum Concentration (Unit 10/141 MW) Versus Downwind Distance for a 136.5 m Stack and a 153° Wind Direction.

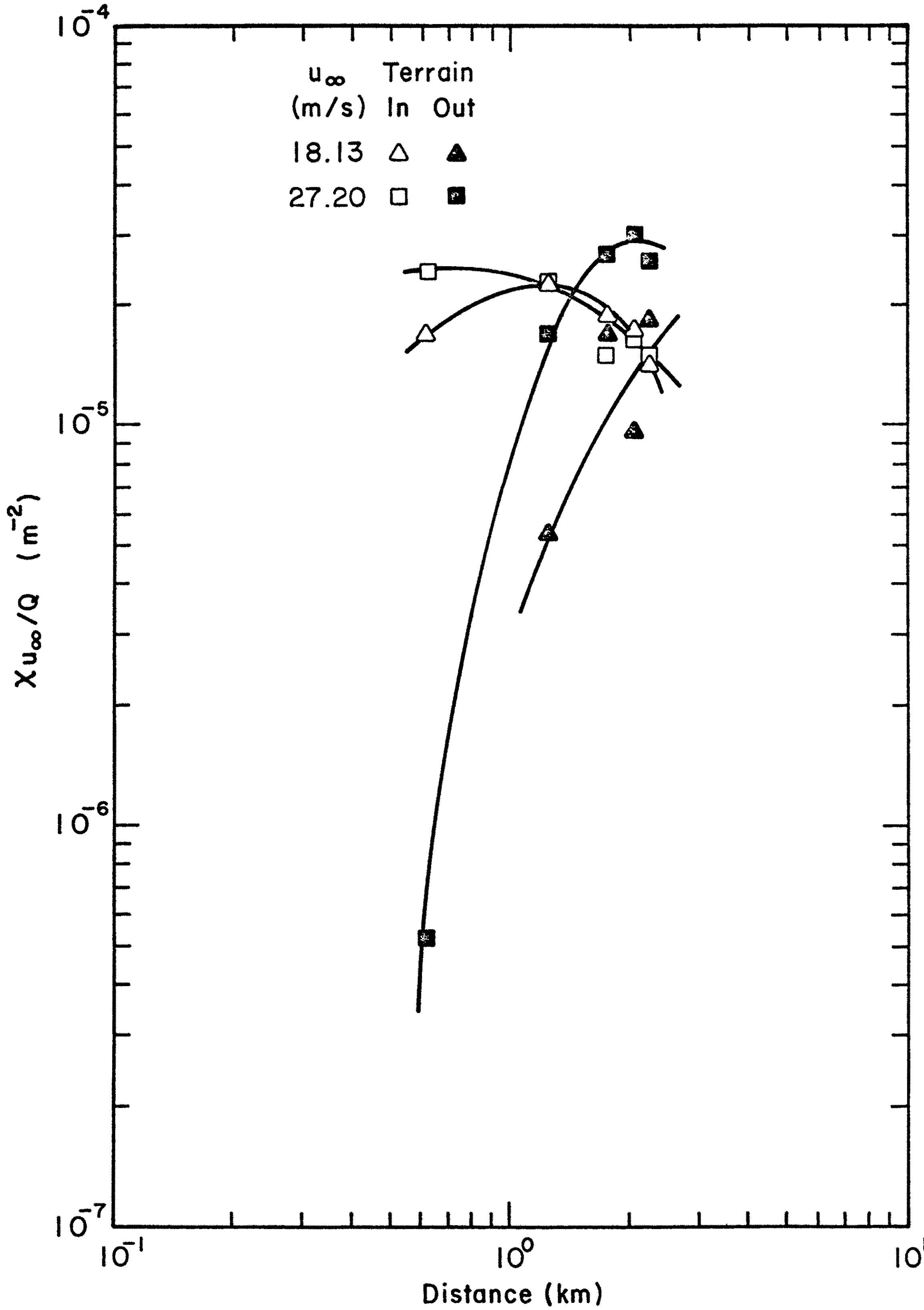


Figure 6-12. Maximum Concentration (for Unit 11/141 MW) Versus Downwind Distance for a 136.5 m Stack and a 153° Wind Direction.

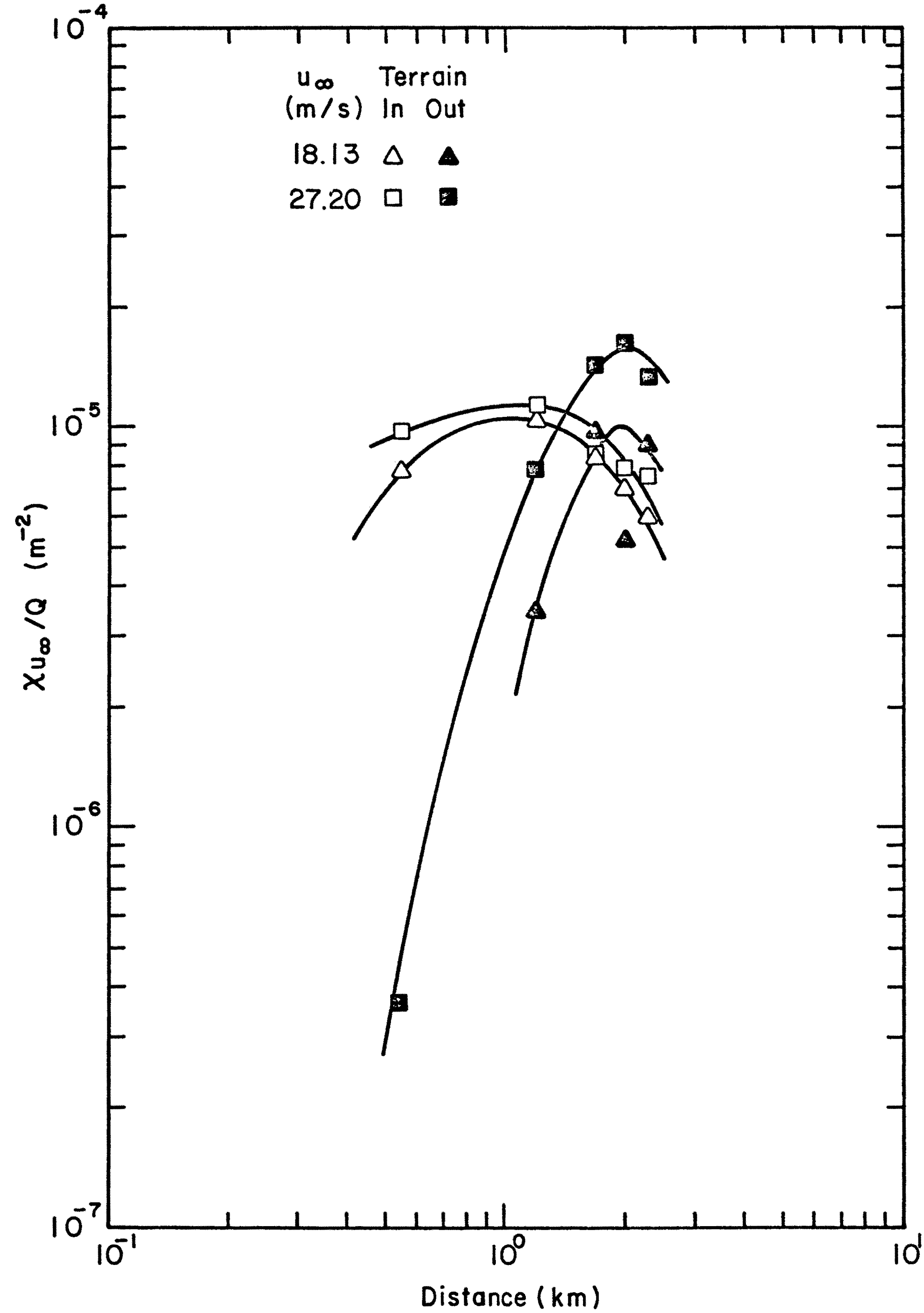


Figure 6-13. Maximum Concentration (for Unit 12/141 MW) Versus Downwind Distance for a 136.5 m Stack and a 153° Wind Direction.

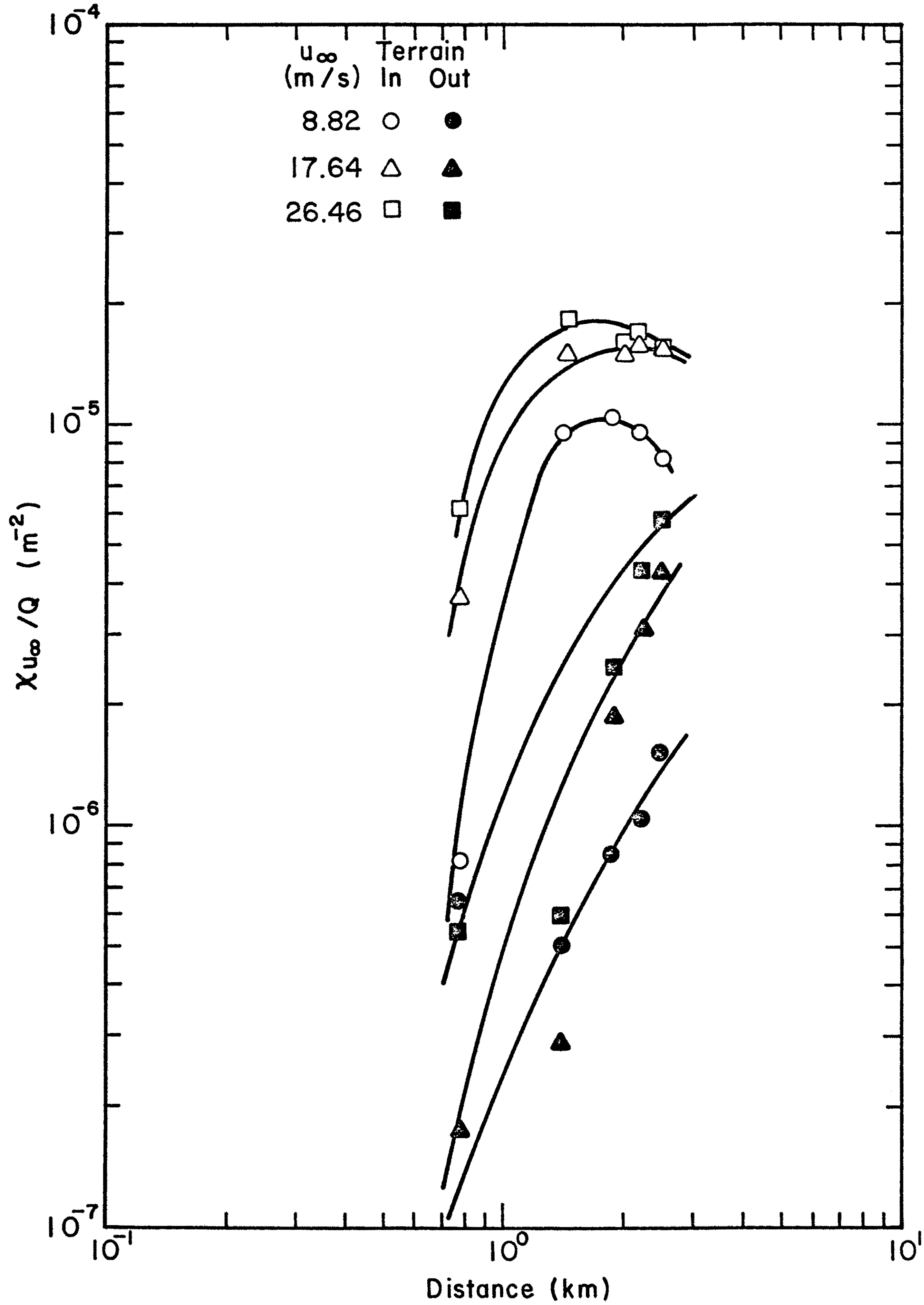


Figure 6-14. Maximum Concentration (for Unit 9/141 MW) Versus Downwind Distance for a 182 m Stack and a 153° Wind Direction.

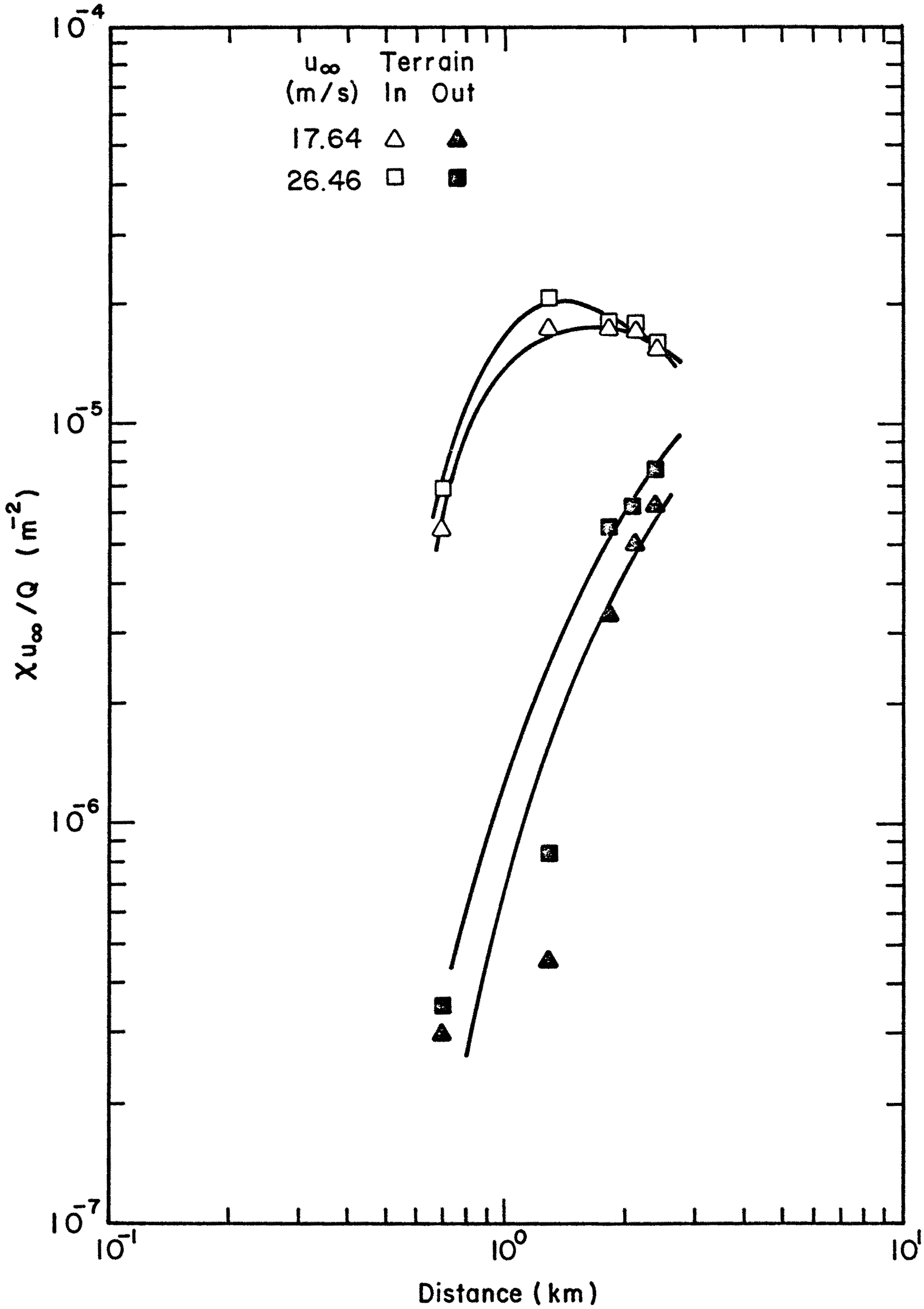


Figure 6-15. Maximum Concentration (for Unit 10/141 MW) Versus Downwind Distance for a 182 m Stack and a 153° Wind Direction.

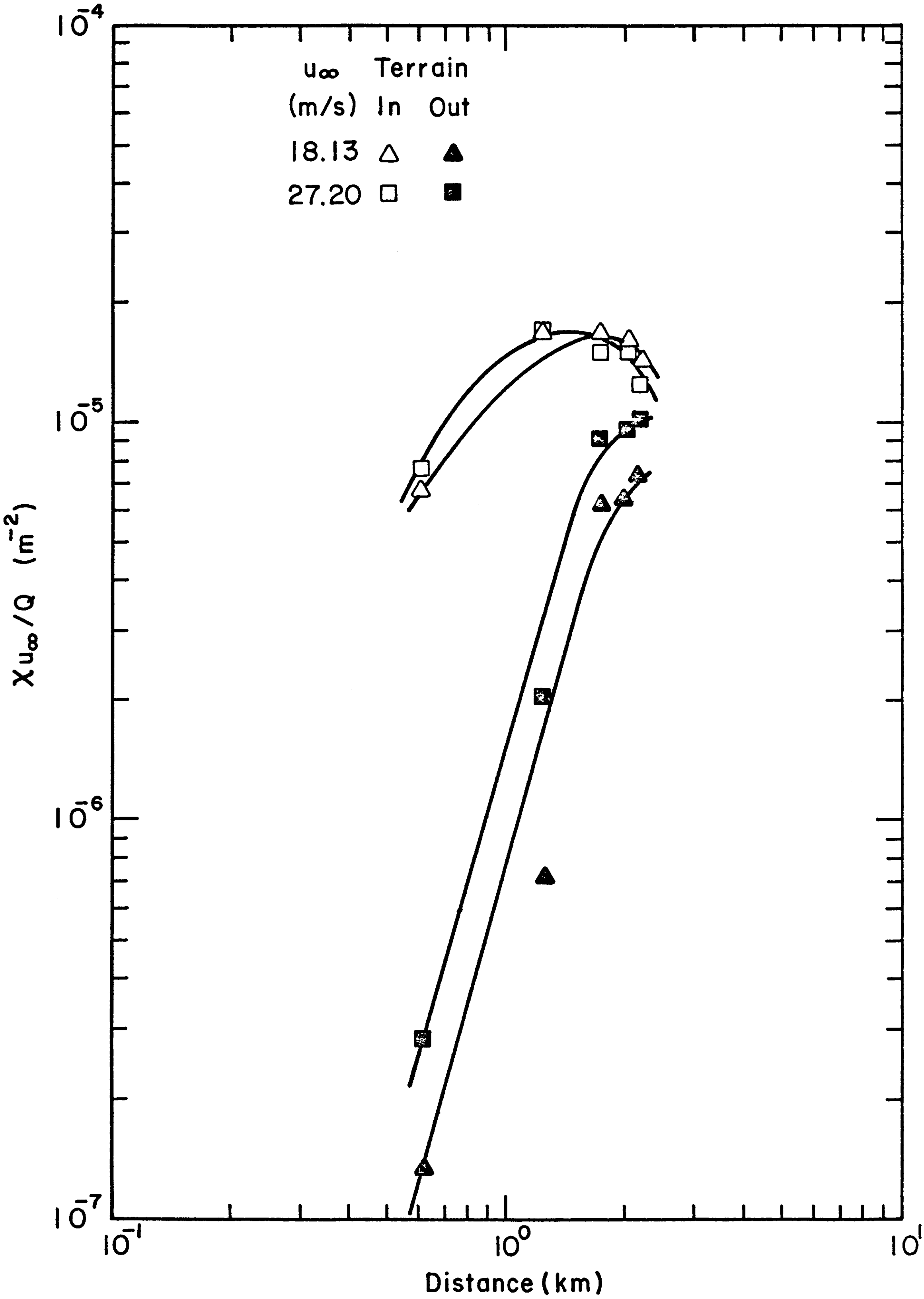


Figure 6-16. Maximum Concentration (for Unit 11/141 MW) Versus Downwind Distance for a 182 m Stack and a 153° Wind Direction.

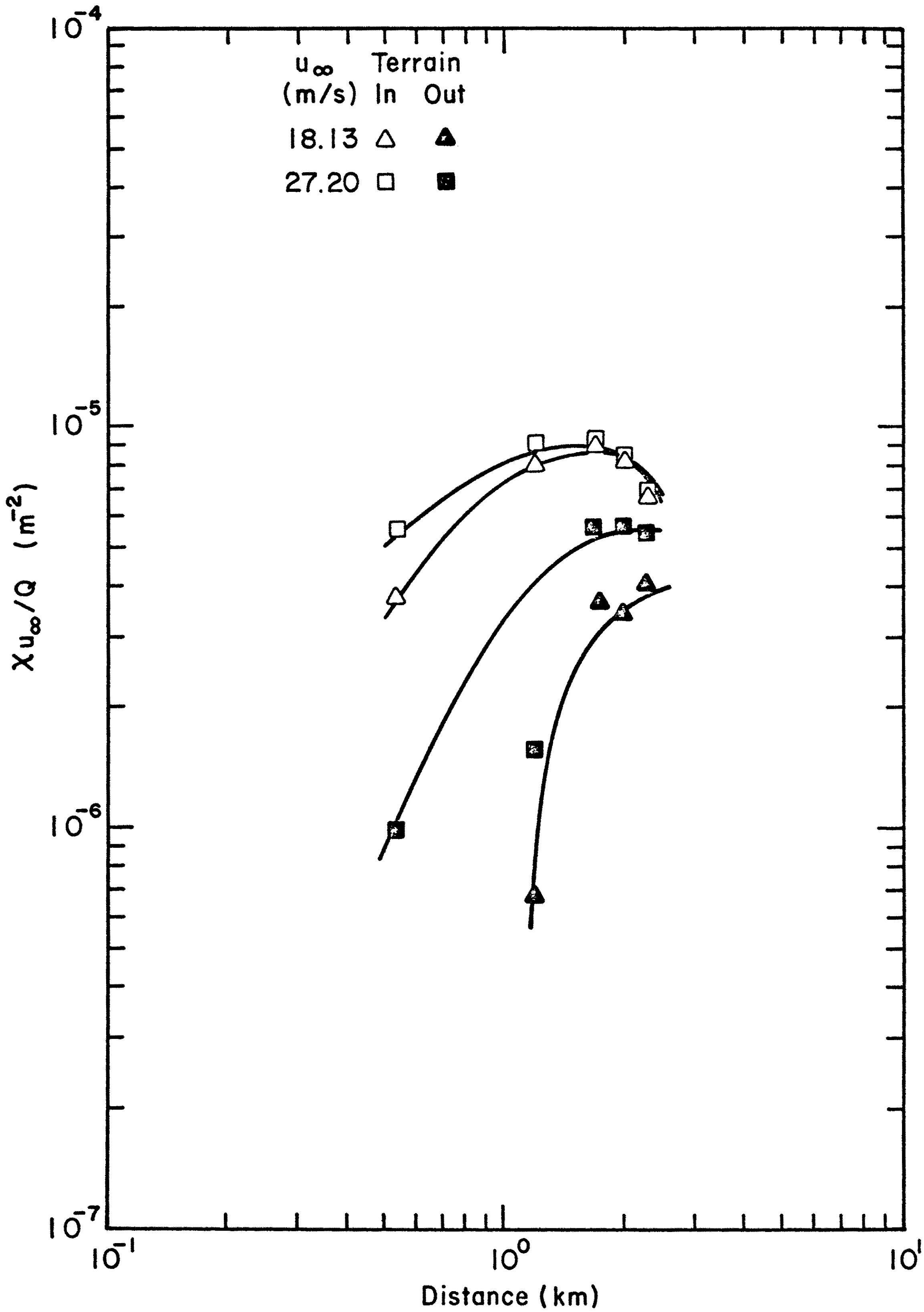


Figure 6-17. Maximum Concentration (for Unit 12/141 MW) Versus a Downwind Distance for a 182 m Stack and a 153° Wind Direction.

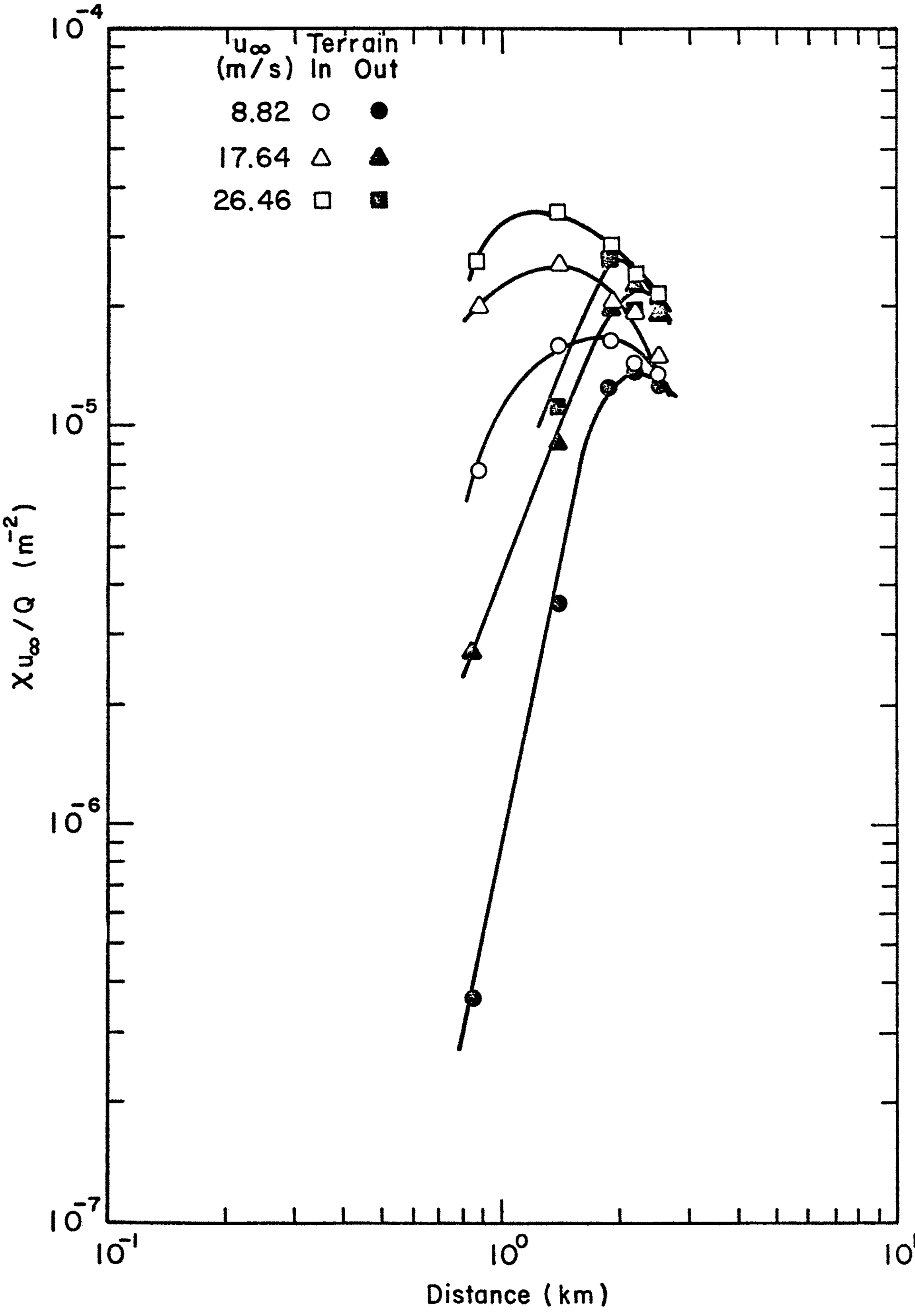


Figure 6-18. Maximum Concentration (for Unit 9/90 MW) Versus Downwind Distance for a 136.5 m Stack and a 153° Wind Direction.

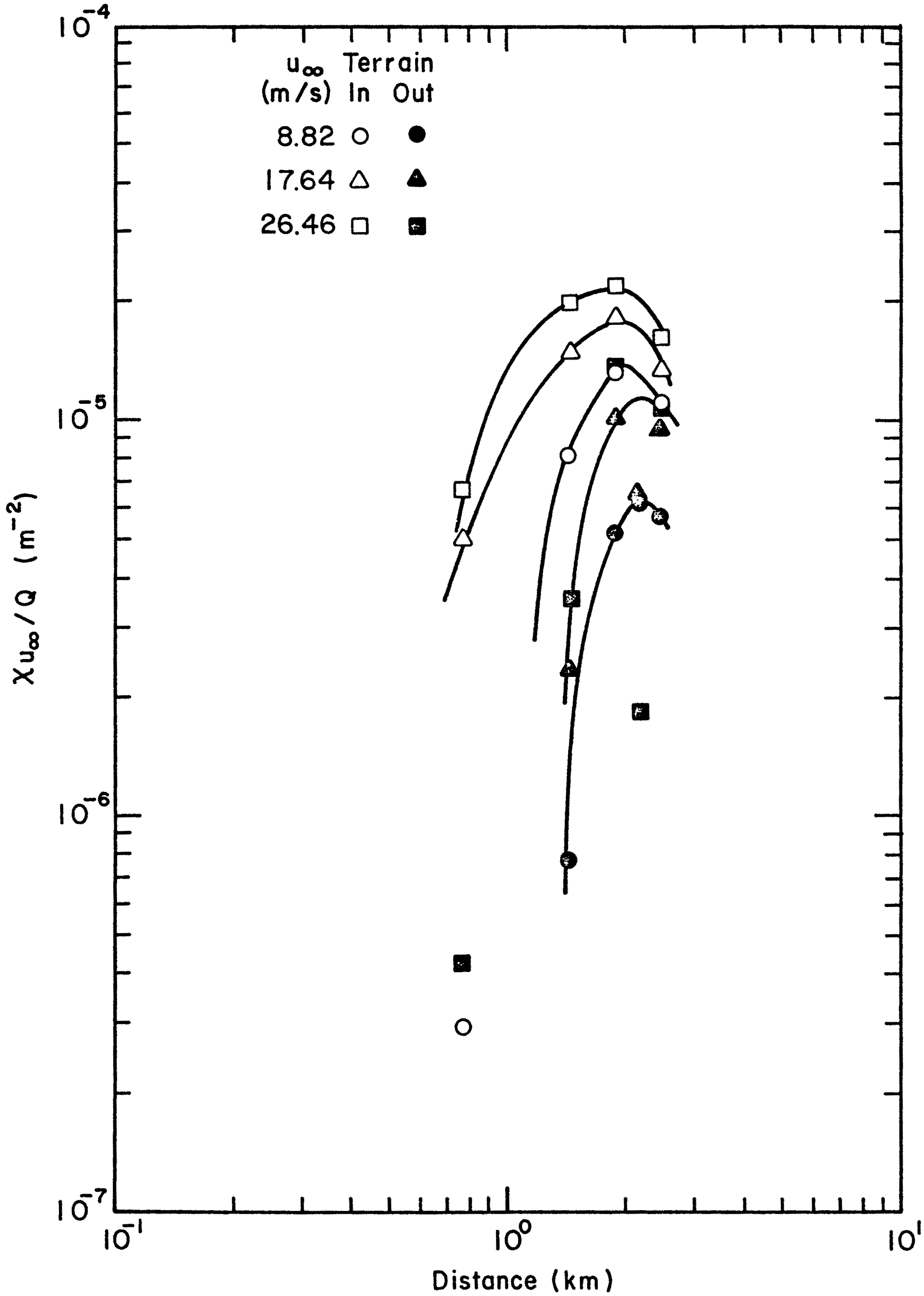
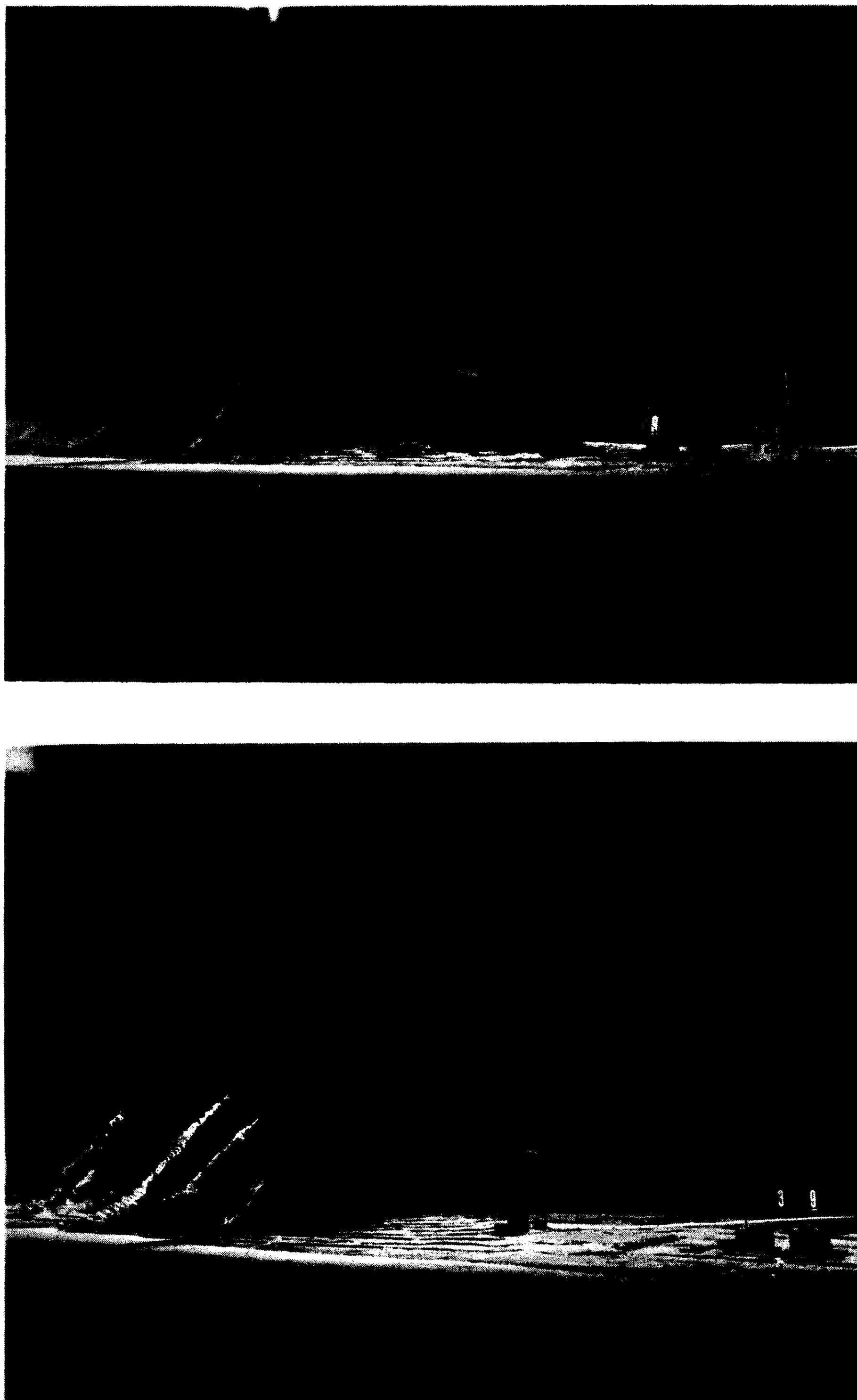


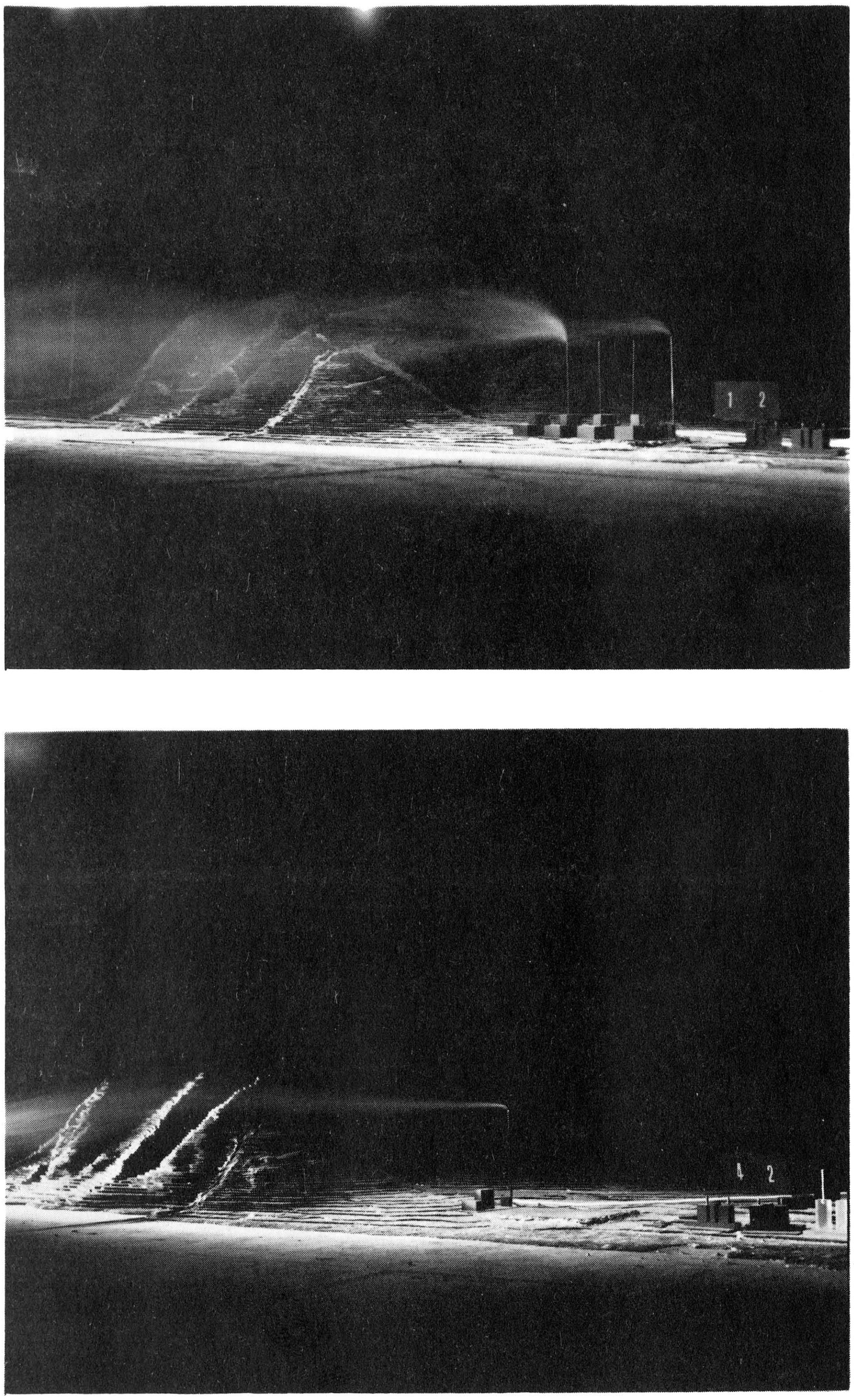
Figure 6-19. Maximum Concentration (for Unit 9/90 MW) Versus Downwind Distance for a 182 m Stack and a 153° Wind Direction.



a)

b)

Figure 6-20. Flow Visualization for a 136.5 m Stack and a 11.75 m/s Wind Speed a) With and b) Without Upwind Terrain for a 153^{o} Wind Direction.



a)

b)

Figure 6-21. Flow Visualization for a 182 m Stack and a 11.75 m/s Wind Speed a) With and b) Without Upwind Terrain for a 153^{o} Wind Direction.

Physical Modeling of Atmospheric Transport
of Stack Emissions at Kahe Electrical
Generating Plant (Units 9,10,11,12,13 and 14)
Oahu, Hawaii

Volume II

Tabulation of Data

by

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Run Identification Parameters

Atmospheric Dispersion Comparability Test

*Zeroes entered in Raw Data column of run sheets indicate missing data.

Routine Concentration Measurement Tests--Full-Scale Parameters

Run	MW/Unit & Fuel	Wind Dir/ Terrain	Stack Height (m)	SO_2 Emission Rate (g/s)	Free Stream Velocity (m/s)	Page
7	141/9/0	153°/IN	136.5	21.1	4.41	20
	141/10/0		136.5	21.1	4.41	
	141/11/C		136.5	33.1	4.41	
8	141/9/0		136.5	21.1	8.82	21
	141/10/0		136.5	21.1	8.82	
	141/11/C		136.5	33.1	9.07	
	141/12/C		136.5	33.1	9.07	
9	141/9/0		136.5	21.1	17.64	22
	141/10/0		136.5	21.1	17.64	
	141/11/C		136.5	33.1	18.13	
	141/12/C		136.5	33.1	18.13	
10	141/9/0		136.5	21.1	26.46	23
	141/10/0		136.5	21.1	26.46	
	141/11/C		136.5	33.1	27.20	
	141/12/C		136.5	33.1	27.20	
11	141/9/0		182.0	21.1	8.82	24
	141/10/0		182.0	21.1	8.82	
	141/11/C		182.0	33.1	9.07	
	141/12/C		182.0	33.1	9.07	
12	141/9/0		182.0	21.1	17.64	25
	141/10/0		182.0	21.1	17.64	
	141/11/C		182.0	33.1	18.13	
	141/12/C		182.0	33.1	18.13	
13	141/9/0		182.0	21.1	26.46	26
	141/10/0		182.0	21.1	26.46	
	141/11/C		182.0	33.1	27.20	
	141/12/C		182.0	33.1	27.20	
14	60/12/0		136.5	10.0	9.48	27
	70/13		22.4	30.32	8.40	
	22/14		25.3	7.1	8.26	
15	60/12/0		136.5	10.0	18.95	28
	70/13		22.4	30.32	16.79	
	22/14		25.3	7.1	16.52	
16	60/12/0		136.5	10.0	28.43	29
	70/13		22.4	30.32	25.19	
	22/14		25.3	7.1	24.79	

Run	MW/Unit & Fuel	Wind Dir/ Terrain	Stack Height (m)	SO_2 Emission Rate (g/s)	Free Stream Velocity (m/s)	Page
20	90/12/0	153°/IN	136.5	13.8	7.82	30
	40/14	(cont.)	31.2	8.3	7.98	
21	90/12/0		136.5	13.8	15.64	31
	40/14		31.2	8.3	15.95	
22	90/12/0		136.5	13.8	23.46	32
	40/14		31.2	8.3	23.93	
23	90/12/0		182.0	13.8	7.82	33
24	90/12/0		182.0	13.8	15.64	34
25	90/12/0		182.0	13.8	23.46	35
29	170/12/C		182.0	39.8	7.33	36
30	170/12/C		182.0	39.8	14.65	37
31	170/12/C		182.0	39.8	21.98	38
32	223/12/C		136.5	59.2	10.06	39
33	223/12/C		136.5	59.2	20.12	40
34	223/12/C		136.5	59.2	30.17	41
35	223/12/C		182.0	59.2	10.06	42
36	223/12/C		182.0	59.2	20.12	43
37	223/12/C		182.0	59.2	30.17	44
38	141/9/0	153°/OUT	136.5	21.1	8.82	45
	141/10/0		136.5	21.1	8.82	
	141/11/C		136.5	33.1	9.07	
	141/12/C		136.5	33.1	9.07	
39	141/9/0		136.5	21.1	17.64	46
	141/10/0		136.5	21.1	17.64	
	141/11/C		136.5	33.1	18.13	
	141/12/C		136.5	33.1	18.13	
40	141/9/0		136.5	21.1	26.46	47
	141/10/0		136.5	21.1	26.46	
	141/11/C		136.5	33.1	27.20	
	141/12/C		136.5	33.1	27.20	
41	141/9/0		182.0	21.1	8.82	48
	141/10/0		182.0	21.1	8.82	
	141/11/C		182.0	33.1	9.07	
	141/12/C		182.0	33.1	9.07	
42	141/9/0		182.0	21.1	17.64	49
	141/10/0		182.0	21.1	17.64	
	141/11/C		182.0	33.1	18.13	
	141/12/C		182.0	33.1	18.13	

Run	MW/Unit & Fuel	Wind Dir/ Terrain	Stack Height (m)	SO_2 Emission Rate (g/s)	Free Stream Velocity (m/s)	Page
43	141/9/0	153°/OUT	182.0	21.1	26.46	50
	141/10/0	(cont.)	182.0	21.1	26.46	
	141/11/C		182.0	33.1	27.20	
	141/12/C		182.0	33.1	27.20	
44	90/12/0		136.5	13.8	7.82	51
45	90/12/0		136.5	13.8	15.64	52
46	90/12/0		136.5	13.8	23.46	53
47	90/12/0		182.0	13.8	7.82	54
48	90/12/0		182.0	13.8	15.64	55
49	90/12/0		182.0	13.8	23.46	56
50	141/9/0	063°/IN	136.5	21.1	8.82	57
	141/10/0		136.5	21.1	8.82	
	141/11/C		136.5	33.1	9.07	
	141/12/C		136.5	33.1	9.07	
51	141/9/0		136.5	21.1	17.64	58
	141/10/0		136.5	21.1	17.64	
	141/11/C		136.5	33.1	18.13	
	141/12/C		136.5	33.1	18.13	
52	141/9/0		136.5	21.1	26.46	59
	141/10/0		136.5	21.1	26.46	
	141/11/C		136.5	33.1	27.20	
	141/12/C		136.5	33.1	27.20	
53	141/9/0		182.0	21.1	8.82	60
	141/10/0		182.0	21.1	8.82	
	141/11/C		182.0	33.1	9.07	
	141/12/C		182.0	33.1	9.07	
54	141/9/0		182.0	21.1	17.64	61
	141/10/0		182.0	21.1	17.64	
	141/11/C		182.0	33.1	18.13	
	141/12/C		182.0	33.1	18.13	
55	141/9/0		182.0	21.1	26.46	62
	141/10/0		182.0	21.1	26.46	
	141/11/C		182.0	33.1	27.20	
	141/12/C		182.0	33.1	27.20	
56	60/12/0		136.5	10.0	9.48	63
	70/13		22.4	30.32	8.40	
	22/14		25.0	7.1	8.31	
57	60/12/0		136.5	10.0	18.95	64
	70/13		22.4	30.32	16.79	
	22/14		25.0	7.1	16.62	

Run	MW/Unit & Fuel	Wind Dir/ Terrain	Stack Height (m)	SO_2 Emission Rate (g/s)	Free Stream Velocity (m/s)	Page
87	141/11/C	063°/OUT	136.5	33.1	18.13	91
	90/12/0	(cont.)	136.5	13.8	15.64	
88	141/11/C		136.5	33.1	27.20	92
	90/12/0		136.5	13.8	23.46	
89	141/11/C		182.0	33.1	9.07	93
	90/12/0		182.0	13.8	7.82	
90	141/11/C		182.0	33.1	18.13	94
	90/12/0		182.0	13.8	15.64	
91	141/11/C		182.0	33.1	27.20	95
	90/12/0		182.0	13.8	23.46	

RUN # 16
UNIT 1
MODEL

FREE STREAM VEL.	1.00 M/S
EXIT VEL.	1.18 M/S
VOL. FLOW	.52E-04M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.90E+02
CALIBRATION FACTOR	.42E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
86	0.000	0	0.
51	0.000	81	0.
52	0.000	77	0.
53	0.000	76	0.
54	0.000	74	0.
55	0.000	72	0.
56	.000	314	.288E-05
57	.000	410	.411E-05
58	.000	522	.554E-05
59	.000	382	.375E-05
60	.000	101	.147E-06
61	.000	480	.501E-05
62	.000	140	.647E-06
63	.000	1350	.162E-04
64	.000	658	.729E-05
65	.000	733	.825E-05
66	.000	1078	.127E-04
67	.000	1589	.192E-04
68	.001	2152	.264E-04
69	.001	2361	.291E-04
70	.000	1375	.165E-04
71	.000	344	.326E-05
72	.001	1895	.231E-04
73	.001	2353	.290E-04
74	.001	2287	.282E-04
75	.000	1814	.221E-04
76	.000	1201	.142E-04
77	.001	2050	.251E-04
78	.001	2109	.259E-04
79	.001	2176	.267E-04
80	.001	1944	.238E-04
81	.000	1518	.183E-04
82	.000	1311	.157E-04
87	.000	313	.287E-05
83	.001	2201	.271E-04
84	.001	2154	.265E-04
85	.000	182	.119E-05

RUN # 2G

UNIT 1

	MODEL
FREE STREAM VEL.	2.00 M/S
EXIT VEL.	2.37 M/S
VOL. FLOW	.10E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.74E+02
CALIBRATION FACTOR	.42E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
86	.000	252	.228E-05
51	0.000	72	0.
52	.000	76	.256E-07
53	.000	77	.384E-07
54	.000	78	.513E-07
55	0.000	73	0.
56	0.000	0	0.
57	.000	1497	.182E-04
58	.000	634	.718E-05
59	.000	401	.419E-05
60	0.000	73	0.
61	0.000	0	0.
62	.000	256	.233E-05
63	.000	1330	.161E-04
64	.000	682	.779E-05
65	.000	800	.930E-05
66	.000	1372	.166E-04
67	.000	1838	.226E-04
68	.001	2224	.276E-04
69	.001	2153	.266E-04
70	.000	1454	.177E-04
71	0.000	69	0.
72	.001	2059	.254E-04
73	.001	2309	.286E-04
74	.001	2090	.258E-04
75	.000	1498	.182E-04
76	.000	1337	.162E-04
77	.001	2127	.263E-04
78	.001	1986	.245E-04
79	.001	1998	.247E-04
80	.000	1722	.211E-04
81	.000	1572	.192E-04
82	.000	1634	.200E-04
87	.000	104	.384E-06
83	.001	2139	.265E-04
84	.001	1989	.245E-04
85	.000	1829	.225E-04

RUN # 36

UNIT 1

MODEL

FREE STREAM VEL. 3.00 M/S
EXIT VEL. 3.55 M/S
VOL. FLOW .16E-03M3/S
SOURCE STRENGTH .15E+06
BACKGROUND .72E+02
CALIBRATION FACTOR.42E-01
RANGE 100
STACK HEIGHT 15.00 CM
STACK DIAMETER .75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
86	.000	398	.418E-05
51	0.000	71	0.
52	0.000	69	0.
53	.000	95	.295E-06
54	.000	79	.898E-07
55	0.000	68	0.
56	0.000	0	0.
57	.000	673	.771E-05
58	.000	1032	.123E-04
59	.000	864	.102E-04
60	.000	73	.128E-07
61	.000	994	.118E-04
62	.000	542	.603E-05
63	.001	1966	.243E-04
64	.000	1107	.133E-04
65	.000	1117	.134E-04
66	.000	1811	.223E-04
67	.000	1775	.218E-04
68	0.000	34	0.
69	.001	2792	.349E-04
70	.001	1859	.229E-04
71	0.000	71	0.
72	.001	2401	.299E-04
73	.001	2556	.319E-04
74	.001	2337	.290E-04
75	.000	1765	.217E-04
76	.000	1766	.217E-04
77	.001	2439	.304E-04
78	.001	2212	.274E-04
79	.001	2143	.266E-04
80	.001	1896	.234E-04
81	.001	2091	.259E-04
82	.000	1707	.210E-04
87	.000	184	.144E-05
83	.001	2140	.265E-04
84	.001	1942	.240E-04
85	.000	96	.308E-06

RUN # 1-1V
UNIT 1
MODEL

FREE STREAM VEL.	1.00 M/S
EXIT VEL.	1.18 M/S
VOL. FLOW	.52E-04M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.75E+02
CALIBRATION FACTOR	.42E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
86	.000	77	.256E-07
51	.000	772	.894E-05
52	.000	661	.751E-05
54	.000	1826	.224E-04
55	.001	3192	.400E-04
85	.000	88	.167E-06
57	.002	5715	.723E-04
58	.002	7456	.946E-04
59	.002	7901	.100E-03
61	.000	1783	.219E-04
63	.000	1281	.155E-04
64	.000	321	.315E-05
65	.000	225	.192E-05

RUN # 2-1V

UNIT 1

MODEL

FREE STREAM VEL.	1.00 M/S
EXIT VEL.	1.18 M/S
VOL. FLOW	.52E-04M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.80E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
51	.001	2532	.320E-04
53	.001	2697	.342E-04
54	.001	2973	.378E-04
55	.001	3027	.385E-04
57	.001	3588	.458E-04
58	.001	3852	.492E-04
59	.001	3503	.447E-04
61	.001	2017	.253E-04
63	.000	1318	.162E-04
64	.000	356	.361E-05
66	.000	180	.131E-05
65	.000	441	.472E-05

RUN # 3-1V
UNIT 1
MODEL

FREE STREAM VEL.	1.00 M/S
EXIT VEL.	1.18 M/S
VOL. FLOW	.52E-04M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.69E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
56	.001	2335	.296E-04
51	.001	2871	.366E-04
53	.001	2977	.380E-04
54	.001	2568	.326E-04
85	.000	94	.326E-06
57	.001	2245	.284E-04
58	.001	2113	.267E-04
59	.001	2053	.259E-04
61	.000	1035	.126E-04
63	.000	647	.754E-05
64	.000	354	.372E-05
65	.000	319	.326E-05
66	.000	194	.163E-05
87	0.000	69	0.
86	.000	84	.196E-06

RUN # 4-IV
UNIT 1

	MODEL
FREE STREAM VEL.	1.00 M/S
EXIT VEL.	1.18 M/S
VOL. FLOW	.52E-04M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.75E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
51	.001	1940	.243E-04
53	.001	1980	.249E-04
54	.000	1522	.189E-04
85	.000	192	.153E-05
57	.000	1312	.162E-04
58	.000	1269	.156E-04
59	.000	1194	.146E-04
61	.000	808	.957E-05
63	.000	769	.906E-05
64	.000	449	.489E-05
65	.000	469	.515E-05
66	.000	300	.294E-05
87	.000	86	.150E-06
86	.000	92	.228E-06

RUN # 1-2H

UNIT 1

	MODEL
FREE STREAM VEL.	2.00 M/S
EXIT VEL.	2.37 M/S
VOL. FLOW	.10E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.85E+02
CALIBRATION FACTOR	.42E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
67	0.000	84	0.
68	.000	91	.833E-07
69	.000	251	.213E-05
70	.000	778	.889E-05
72	.001	3372	.421E-04
73	.002	5409	.682E-04
74	.002	7182	.910E-04
75	.002	7236	.916E-04
76	.002	6501	.822E-04
77	.002	5393	.680E-04
78	.001	3215	.401E-04
79	.001	1942	.238E-04
80	.000	1007	.118E-04
81	.000	312	.292E-05
82	.000	135	.647E-06
83	0.000	77	0.

RUN # 2-2H
UNIT 1

	MODEL
FREE STREAM VEL.	2.00 M/S
EXIT VEL.	2.37 M/S
VOL. FLOW	.10E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.76E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
67	.000	102	.339E-06
68	.000	344	.350E-05
69	.000	912	.109E-04
70	.000	1229	.150E-04
72	.001	2620	.332E-04
73	.001	3113	.396E-04
74	.001	3575	.456E-04
75	.001	3116	.397E-04
76	.001	3551	.453E-04
77	.001	3491	.446E-04
78	.001	2730	.346E-04
79	.001	2075	.261E-04
80	.000	1560	.194E-04
81	.000	1255	.154E-04
82	.000	617	.706E-05
83	.000	279	.265E-05
84	0.000	71	0.

RUN # 3-2H

UNIT 1

MODEL

FREE STREAM VEL.	2.00 M/S
EXIT VEL.	2.37 M/S
VOL. FLOW	.10E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.78E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
67	.000	202	.162E-05
68	.000	553	.620E-05
69	.000	860	.102E-04
70	.000	1247	.153E-04
72	.001	1892	.237E-04
73	.001	2057	.258E-04
74	.001	2303	.290E-04
75	.001	1964	.246E-04
76	.001	2083	.262E-04
77	.001	2183	.275E-04
78	.001	1872	.234E-04
79	.000	1582	.196E-04
80	.000	1523	.189E-04
81	.000	959	.115E-04
82	.000	714	.830E-05
83	.000	532	.592E-05
84	.000	533	.594E-05

RUN # 4-2H

UNIT 1

	MODEL
FREE STREAM VEL.	2.00 M/S
EXIT VEL.	2.37 M/S
VOL. FLOW	.10E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.97E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
67	.000	246	.194E-05
68	.000	509	.538E-05
69	.000	588	.641E-05
70	.000	936	.109E-04
72	.000	1347	.163E-04
73	.000	1353	.164E-04
74	.000	1645	.202E-04
75	.000	1547	.189E-04
76	.000	996	.117E-04
77	.001	1942	.241E-04
78	.000	1634	.201E-04
79	.000	1573	.193E-04
80	.000	1610	.197E-04
81	.000	1482	.181E-04
82	.000	1059	.126E-04
83	.000	856	.990E-05
84	.000	458	.471E-05

RUN # 1-2V

UNIT 1

	MODEL	
FREE STREAM VEL.	2.00	M/S
EXIT VEL.	2.37	M/S
VOL. FLOW	.10E-03	M3/S
SOURCE STRENGTH	.15E+06	
BACKGROUND	.82E+02	
CALIBRATION FACTOR	.42E-01	
RANGE	100	
STACK HEIGHT	15.00	CM
STACK DIAMETER	.75	CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
51	.000	592	.654E-05
52	.000	489	.522E-05
53	.000	588	.648E-05
54	.001	1995	.245E-04
55	.001	3793	.476E-04
57	.002	7894	.100E-03
58	.003	8913	.113E-03
59	.002	8453	.107E-03
61	.001	2461	.305E-04
63	.000	1110	.132E-04
64	.000	183	.129E-05
65	.000	88	.769E-07
66	0.000	71	0.

RUN # 2-2V

	UNIT MODEL
FREE STREAM VEL.	2.00 M/S
EXIT VEL.	2.37 M/S
VOL. FLOW	.10E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.98E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
51	.001	2095	.261E-04
53	.001	2244	.280E-04
54	.001	2553	.320E-04
55	.001	2836	.357E-04
57	.001	3369	.427E-04
58	.001	3524	.447E-04
59	.001	3199	.405E-04
61	.001	2303	.288E-04
64	.000	686	.768E-05
65	.000	515	.545E-05
66	.000	263	.216E-05

RUN # 3-2V

UNIT 1

	MODEL
FREE STREAM VEL.	2.00 M/S
EXIT VEL.	2.37 M/S
VOL. FLOW	.10E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.78E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
51	.001	2495	.315E-04
53	.001	2619	.332E-04
54	.001	2551	.323E-04
85	.000	189	.145E-05
57	.001	2227	.280E-04
58	.001	2278	.287E-04
59	.001	2260	.285E-04
60	.000	1534	.190E-04
63	.000	1381	.170E-04
65	.000	687	.795E-05
66	.000	465	.505E-05
87	.000	97	.248E-06

RUN # 4-2V

UNIT 1

	MODEL
FREE STREAM VEL.	2.00 M/S
EXIT VEL.	2.37 M/S
VOL. FLOW	.10E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.97E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
56	.001	1961	.243E-04
51	.001	2399	.300E-04
53	.001	2421	.303E-04
54	.001	2330	.291E-04
85	.000	223	.164E-05
57	.001	1867	.231E-04
58	.000	1656	.203E-04
59	.000	1693	.208E-04
61	.000	1023	.121E-04
63	.000	830	.956E-05
65	.000	473	.491E-05
66	.000	321	.292E-05
87	.000	102	.652E-07
86	.000	104	.913E-07

RUN # 1-3V

UNIT 1

MODEL

FREE STREAM VEL.	3.00 M/S
EXIT VEL.	3.55 M/S
VOL. FLOW	.16E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.94E+02
CALIBRATION FACTOR	.42E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
51	.000	543	.576E-05
53	.000	834	.949E-05
54	.000	1381	.165E-04
55	.001	2198	.270E-04
57	.002	6419	.811E-04
58	.002	7854	.995E-04
59	.002	7755	.982E-04
63	.000	1413	.169E-04
65	.000	172	.100E-05
66	.000	101	.898E-07

RUN # 2-3V
UNIT 1

	MODEL
FREE STREAM VEL.	3.00 M/S
EXIT VEL.	3.55 M/S
VOL. FLOW	.16E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.85E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
51	.000	1689	.209E-04
52	.000	1632	.202E-04
53	.001	1977	.247E-04
54	.001	2314	.291E-04
85	.000	232	.193E-05
57	.001	3607	.460E-04
58	.001	3893	.497E-04
59	.001	3823	.488E-04
61	.001	2392	.301E-04
63	.001	1941	.242E-04
65	.000	635	.719E-05
66	.000	279	.254E-05
86	.000	99	.189E-06

RUN # 3-3V

UNIT 1

	MODEL
FREE STREAM VEL.	3.00 M/S
EXIT VEL.	3.55 M/S
VOL. FLOW	.16E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.78E+02
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
56	.001	2519	.319E-04
51	.001	2489	.315E-04
54	.001	2504	.317E-04
55	.001	2493	.315E-04
57	.001	2368	.299E-04
58	.001	2271	.286E-04
59	.001	2252	.284E-04
61	.000	1504	.186E-04
63	.000	1171	.143E-04
65	.000	553	.621E-05
66	.000	312	.306E-05
87	.000	84	.849E-07
86	.000	125	.620E-06
53	.001	2601	.329E-04

RUN # 4-3V

UNIT 1

MODEL

FREE STREAM VEL.	3.00 M/S
EXIT VEL.	3.55 M/S
VOL. FLOW	.16E-03M3/S
SOURCE STRENGTH	.15E+06
BACKGROUND	.23E+03
CALIBRATION FACTOR	.43E-01
RANGE	100
STACK HEIGHT	15.00 CM
STACK DIAMETER	.75 CM

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)
51	.000	1230	.131E-04
53	.000	1174	.124E-04
54	.000	1011	.102E-04
55	.000	962	.960E-05
85	.000	320	.122E-05
57	.000	951	.946E-05
58	.000	1017	.103E-04
59	.000	887	.862E-05
61	.000	745	.677E-05
63	.000	748	.681E-05
64	.000	594	.480E-05
65	.000	545	.416E-05
66	.000	397	.223E-05
87	0.000	153	0.
86	0.000	117	0.

RUN # 7

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	4.53 M/S	1.50 M/S	4.53 M/S	1.50 M/S	4.53 M/S
EXIT VEL.	8.00 M/S	24.17 M/S	8.00 M/S	24.17 M/S	8.00 M/S	24.17 M/S
VOL. FLOW	.19E-03M3/S	.24E+03M3/S	.19E-03M3/S	.24E+03M3/S	.19E-03M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.63E+02		.35E+01		.80E+01	
CALIBRATION FACTOR	.43E-01		.23E-01		.16E-01	
RANGE	100		100		100	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)
91	.089	2176	.112E-04	.031	2524	.107E-04	.029	3677	.106E-04	.029
92	.013	334	.144E-05	.004	382	.161E-05	.004	574	.164E-05	.004
86	.051	1123	.563E-05	.015	1407	.596E-05	.016	2430	.702E-05	.019
93	.055	1255	.633E-05	.017	1596	.677E-05	.019	2445	.706E-05	.019
87	.036	831	.408E-05	.011	1041	.441E-05	.012	1622	.468E-05	.013
88	.025	581	.275E-05	.008	731	.309E-05	.008	1154	.332E-05	.009
89	.013	551	.259E-05	.007	265	.111E-05	.003	314	.887E-06	.002
90	.037	1154	.580E-05	.016	943	.399E-05	.011	1301	.375E-05	.010
7	.010	205	.754E-06	.002	291	.122E-05	.003	600	.172E-05	.005
8	.018	334	.144E-05	.004	438	.185E-05	.005	1165	.335E-05	.009
9	.013	510	.237E-05	.007	271	.114E-05	.003	471	.134E-05	.004
10	.004	210	.781E-06	.002	73	.295E-06	.001	105	.281E-06	.001
11	.001	90	.143E-06	.000	21	.744E-07	.000	18	.290E-07	.000
12	.000	28	0.	0.000	6	.106E-07	.000	9	.290E-08	.000
13	.063	1788	.916E-05	.025	1567	.664E-05	.018	2491	.719E-05	.020
17	.001	89	.138E-06	.000	37	.142E-06	.000	43	.101E-06	.000
14	.027	1085	.543E-05	.015	586	.249E-05	.007	738	.212E-05	.006
15	.007	378	.167E-05	.005	125	.516E-06	.001	159	.438E-06	.001
16	.002	181	.627E-06	.002	31	.117E-06	.000	53	.130E-06	.000
18	.091	2120	.109E-04	.030	2610	.111E-04	.030	3897	.113E-04	.031
19	.062	1644	.840E-05	.023	1711	.726E-05	.020	2464	.712E-05	.019
20	.021	716	.347E-05	.010	528	.223E-05	.006	657	.188E-05	.005
22	.019	787	.385E-05	.011	421	.177E-05	.005	459	.131E-05	.004
23	.002	176	.600E-06	.002	40	.155E-06	.000	49	.119E-06	.000
25	0.000	63	0.	0.000	0	0.	0.000	0	0.	0.000
32	.000	63	0.	0.000	7	.149E-07	.000	16	.232E-07	.000
31	.000	73	.531E-07	.000	16	.531E-07	.000	0	0.	0.000
30	.002	132	.367E-06	.001	34	.130E-06	.000	40	.927E-07	.000
29	.010	473	.218E-05	.006	216	.903E-06	.002	243	.681E-06	.002
28	.038	1301	.658E-05	.018	991	.420E-05	.011	1137	.327E-05	.009
27	.077	2074	.107E-04	.029	2169	.920E-05	.025	2869	.829E-05	.023
26	.057	1416	.719E-05	.020	1645	.698E-05	.019	2306	.666E-05	.018

RUN # 8

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.82 M/S	1.50 M/S	8.82 M/S	1.50 M/S	9.07 M/S	1.50 M/S	9.07 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.66E+02		.13E+02		.10E+02		.0	
CALIBRATION FACTOR	.43E-01		.23E-01		.16E-01		.12E-01	
RANGE	100		100		100		100	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
91	.024	638	.608E-05	.005	764	.639E-05	.006
92	.049	1124	.112E-04	.010	1544	.130E-04	.012
86	.038	746	.722E-05	.007	1088	.914E-05	.008
93	.034	811	.792E-05	.007	1076	.904E-05	.008
87	.039	934	.922E-05	.008	1263	.106E-04	.010
88	.002	185	.126E-05	.001	77	.548E-06	.000
89	.022	867	.851E-05	.008	754	.630E-05	.006
90	.040	1130	.113E-04	.010	1326	.112E-04	.010
7	.011	151	.903E-06	.001	310	.253E-05	.002
8	.028	339	.290E-05	.003	891	.747E-05	.007
9	.025	997	.989E-05	.009	872	.731E-05	.007
10	.007	564	.529E-05	.005	192	.153E-05	.001
11	.001	119	.563E-06	.001	24	.977E-07	.000
12	.054	1141	.114E-04	.010	1641	.138E-04	.012
13	.073	1937	.188E-04	.017	2479	.210E-04	.019
17	.000	73	.744E-07	.000	24	.977E-07	.000
14	.043	1460	.148E-04	.013	1563	.132E-04	.012
15	.018	879	.863E-05	.008	669	.558E-05	.005
16	.018	860	.844E-05	.008	660	.550E-05	.005
18	.067	1521	.155E-04	.014	2124	.179E-04	.016
19	.067	1632	.166E-04	.015	2237	.189E-04	.017
20	.024	739	.715E-05	.006	846	.708E-05	.006
22	.031	1227	.123E-04	.011	1216	.102E-04	.009
23	.002	190	.132E-05	.001	94	.693E-06	.001
25	.000	69	.212E-07	.000	8	0.	0.000
32	.000	64	0.	0.000	17	.392E-07	.000
31	.000	77	.117E-06	.000	13	.425E-08	.000
30	.003	204	.147E-05	.001	131	.101E-05	.001
29	.016	689	.662E-05	.006	568	.472E-05	.004
28	.040	1284	.129E-04	.012	1358	.114E-04	.010
27	.056	1511	.154E-04	.014	1791	.151E-04	.014
26	.040	987	.979E-05	.009	1236	.104E-04	.009

SAMPLE PT.	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	1117	.642E-05	.009	609	.268E-05	.004
92	2364	.136E-04	.019	1486	.653E-05	.009
86	1884	.109E-04	.015	1321	.581E-05	.008
93	1633	.941E-05	.013	1014	.446E-05	.006
87	1867	.108E-04	.015	1124	.494E-05	.007
88	86	.440E-06	.001	0	0.	0.000
89	847	.485E-05	.007	349	.153E-05	.002
90	1826	.105E-04	.014	955	.420E-05	.006
7	611	.348E-05	.005	447	.197E-05	.003
8	1541	.887E-05	.012	1145	.504E-05	.007
9	892	.511E-05	.007	339	.149E-05	.002
10	104	.545E-06	.001	0	0.	0.000
11	36	.151E-06	.000	0	0.	0.000
12	2641	.152E-04	.021	1706	.750E-05	.010
13	3349	.194E-04	.027	1795	.789E-05	.011
17	28	.104E-06	.000	0	0.	0.000
14	1717	.989E-05	.014	718	.316E-05	.004
15	551	.314E-05	.004	172	.756E-06	.001
16	551	.314E-05	.004	176	.774E-06	.001
18	3185	.184E-04	.025	1928	.848E-05	.012
19	3076	.178E-04	.024	1743	.766E-05	.010
20	1074	.617E-05	.008	481	.211E-05	.003
22	1297	.746E-05	.010	0	0.	0.000
23	71	.354E-06	.000	0	0.	0.000
25	10	0.	0.000	0	0.	0.000
32	10	0.	0.000	0	0.	0.000
31	17	.406E-07	.000	0	0.	0.000
30	121	.643E-06	.001	0	0.	0.000
29	597	.340E-05	.005	208	.914E-06	.001
28	1692	.975E-05	.013	775	.341E-05	.005
27	2534	.146E-04	.020	1419	.624E-05	.009
26	1911	.110E-04	.015	1044	.459E-05	.006

RUN # 9

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	17.64 M/S	3.00 M/S	17.64 M/S	3.00 M/S	18.13 M/S	3.00 M/S	18.13 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.79E+02		.24E+02		.75E+02		.0	
CALIBRATION FACTOR	.43E-01		.23E-01		.16E-01		.12E-01	
RANGE	100		100		100		100	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	135.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.53 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
01	.011	382	.647E-05	.003	322	.509E-05	.002	526	.525E-05	.004	345	.305E-05	.002
02	.004	164	.182E-05	.001	157	.227E-05	.001	277	.235E-05	.002	139	.123E-05	.001
86	.017	396	.677E-05	.003	536	.875E-05	.004	841	.892E-05	.006	582	.514E-05	.004
03	.011	327	.530E-05	.002	385	.617E-05	.003	599	.610E-05	.004	350	.309E-05	.002
87	.020	501	.901E-05	.004	671	.111E-04	.005	984	.106E-04	.007	638	.564E-05	.004
88	.004	220	.301E-05	.001	176	.260E-05	.001	231	.182E-05	.001	75	.663E-06	.000
89	.021	708	.134E-04	.006	700	.115E-04	.005	933	.999E-05	.007	405	.358E-05	.002
90	.036	1127	.224E-04	.010	1162	.194E-04	.009	1585	.176E-04	.012	810	.716E-05	.005
7	.000	83	.854E-07	.000	31	.120E-06	.000	89	.163E-06	.000	0	0.	0.000
8	.019	347	.572E-05	.003	569	.931E-05	.004	927	.992E-05	.007	884	.781E-05	.005
9	.033	908	.177E-04	.008	1206	.202E-04	.009	1532	.170E-04	.012	702	.620E-05	.004
10	.014	652	.122E-04	.006	570	.933E-05	.004	492	.486E-05	.003	128	.113E-05	.001
11	.002	206	.271E-05	.001	113	.152E-05	.001	110	.408E-06	.000	0	0.	0.000
12	.024	633	.118E-04	.005	771	.128E-04	.006	1169	.127E-04	.009	762	.673E-05	.005
13	.044	1177	.234E-04	.011	1441	.242E-04	.011	2035	.228E-04	.016	1198	.106E-04	.007
17	.000	82	.641E-07	.000	33	.154E-06	.000	86	.128E-06	.000	0	0.	0.000
14	.037	1109	.220E-04	.010	1251	.210E-04	.009	1695	.189E-04	.013	802	.709E-05	.005
15	.015	610	.113E-04	.005	603	.989E-05	.004	671	.694E-05	.005	195	.172E-05	.001
16	.007	355	.589E-05	.003	295	.463E-05	.002	330	.297E-05	.002	92	.813E-06	.001
18	.027	736	.140E-04	.006	882	.147E-04	.007	1272	.139E-04	.010	763	.674E-05	.005
19	.037	1037	.205E-04	.009	1220	.204E-04	.009	1698	.189E-04	.013	956	.845E-05	.006
20	.015	503	.905E-05	.004	519	.846E-05	.004	707	.736E-05	.005	347	.307E-05	.002
22	.026	854	.165E-04	.007	927	.154E-04	.007	1157	.126E-04	.009	518	.458E-05	.003
23	.005	247	.359E-05	.002	186	.277E-05	.001	224	.174E-05	.001	120	.106E-05	.001
25	.000	87	.171E-06	.000	30	.103E-06	.000	79	.466E-07	.000	0	0.	0.000
32	0.000	71	0.	0.000	18	0.	0.000	71	0.	0.000	0	0.	0.000
31	.000	81	.427E-07	.000	26	.342E-07	.000	78	.349E-07	.000	0	0.	0.000
30	.003	180	.216E-05	.001	129	.179E-05	.001	184	.127E-05	.001	0	0.	0.000
29	.015	557	.102E-04	.005	540	.892E-05	.004	664	.686E-05	.005	285	.253E-05	.002
28	.027	879	.171E-04	.008	914	.152E-04	.007	1189	.130E-04	.009	542	.479E-05	.003
27	.028	844	.163E-04	.007	938	.156E-04	.007	1296	.142E-04	.010	681	.602E-05	.004
26	.017	512	.925E-05	.004	585	.958E-05	.004	818	.865E-05	.006	438	.387E-05	.003

RUN # 10

	UNIT 9		UNIT 10		UNIT 11		UNIT 12	
	MODEL	PROTOTYPE	MODEL	PROTOTYPE	MODEL	PROTOTYPE	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	26.46 M/S	4.50 M/S	26.46 M/S	4.50 M/S	27.20 M/S	4.50 M/S	27.20 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.83E+02		.27E+02		.28E+02		.0	
CALIBRATION FACTOR	.43E-01		.23E-01		.16E-01		.12E-01	
RANGE	100		100		100		100	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.020	569	.155E-04	.005	659	.161E-04	.005	937	.158E-04	.007	603	.795E-05	.004
92	.015	412	.105E-04	.003	477	.115E-04	.003	702	.117E-04	.005	441	.582E-05	.003
86	.012	314	.736E-05	.002	383	.908E-05	.003	588	.974E-05	.004	428	.564E-05	.003
93	.009	277	.618E-05	.002	302	.701E-05	.002	457	.747E-05	.003	326	.430E-05	.002
87	.013	338	.813E-05	.002	408	.972E-05	.003	640	.106E-04	.005	473	.624E-05	.003
88	.004	226	.456E-05	.001	167	.357E-05	.001	180	.265E-05	.001	69	.910E-06	.000
89	.013	476	.125E-04	.004	469	.113E-04	.003	566	.936E-05	.004	291	.384E-05	.002
90	.015	470	.123E-04	.004	510	.123E-04	.004	681	.114E-04	.005	447	.590E-05	.003
7	.003	100	.542E-06	.000	95	.173E-05	.001	192	.286E-05	.001	193	.255E-05	.001
8	.014	236	.488E-05	.001	386	.915E-05	.003	706	.118E-04	.005	702	.926E-05	.004
9	.032	917	.266E-04	.008	1086	.270E-04	.008	1413	.241E-04	.011	740	.976E-05	.004
10	.019	815	.233E-04	.007	741	.182E-04	.005	655	.109E-04	.005	158	.208E-05	.001
11	.003	263	.574E-05	.002	146	.303E-05	.001	103	.131E-05	.001	0	0.	0.000
12	.017	419	.107E-04	.003	534	.129E-04	.004	821	.138E-04	.006	609	.803E-05	.004
13	.029	775	.221E-04	.007	964	.239E-04	.007	1340	.228E-04	.010	874	.115E-04	.005
17	.000	92	.287E-06	.000	35	.204E-06	.000	32	.782E-07	.000	0	0.	0.000
14	.026	825	.237E-04	.007	878	.217E-04	.007	1117	.189E-04	.009	625	.824E-05	.004
15	.016	558	.151E-04	.005	571	.139E-04	.004	661	.110E-04	.005	338	.446E-05	.002
16	.007	365	.899E-05	.003	293	.678E-05	.002	259	.402E-05	.002	77	.102E-05	.000
18	.019	482	.127E-04	.004	612	.149E-04	.004	888	.150E-04	.007	647	.853E-05	.004
19	.009	271	.599E-05	.002	287	.663E-05	.002	417	.677E-05	.003	292	.385E-05	.002
20	.010	344	.832E-05	.002	351	.826E-05	.002	467	.764E-05	.003	295	.389E-05	.002
22	.018	606	.167E-04	.005	634	.155E-04	.005	768	.129E-04	.006	422	.557E-05	.003
23	.004	256	.551E-05	.002	190	.416E-05	.001	177	.260E-05	.001	59	.778E-06	.000
25	.000	92	.287E-06	.000	32	.127E-06	.000	31	.609E-07	.000	0	0.	0.000
32	0.000	74	0.	0.000	22	0.	0.000	24	0.	0.000	0	0.	0.000
31	.000	102	.606E-06	.000	36	.229E-06	.000	40	.217E-06	.000	0	0.	0.000
30	.003	198	.367E-05	.001	132	.268E-05	.001	139	.194E-05	.001	0	0.	0.000
29	.010	404	.102E-04	.003	379	.898E-05	.003	429	.698E-05	.003	215	.284E-05	.001
28	.018	560	.152E-04	.005	609	.148E-04	.004	765	.128E-04	.006	441	.582E-05	.003
27	.019	553	.150E-04	.004	644	.157E-04	.005	886	.149E-04	.007	574	.757E-05	.003
26	.010	296	.679E-05	.002	347	.816E-05	.002	493	.809E-05	.004	312	.412E-05	.002

RUN # 11

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.82 M/S	1.50 M/S	8.82 M/S	1.50 M/S	9.07 M/S	1.50 M/S	9.07 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.72E+02		.18E+02		.18E+02		.0	
CALIBRATION FACTOR	.43E-01		.23E-01		.16E-01		.12E-01	
RANGE	100		100		100		100	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.040	973	.963E-05	.009	1257	.106E-04	.010	1834	.106E-04	.014	1145	.506E-05	.007
92	.043	955	.943E-05	.008	1322	.111E-04	.010	2015	.116E-04	.016	1370	.605E-05	.008
86	.027	509	.467E-05	.004	833	.697E-05	.006	1326	.762E-05	.010	939	.414E-05	.006
93	.028	683	.653E-05	.006	900	.754E-05	.007	1298	.746E-05	.010	787	.348E-05	.005
87	.044	948	.936E-05	.008	1339	.113E-04	.010	2103	.121E-04	.017	1470	.649E-05	.009
88	.001	99	.294E-06	.000	55	.320E-06	.000	42	.143E-06	.000	0	0.	0.000
89	0.000	68	0.	0.000	15	0.	0.000	0	0.	0.000	0	0.	0.000
90	.019	597	.561E-05	.005	651	.541E-05	.005	800	.456E-05	.006	474	.209E-05	.003
7	.000	70	0.	0.000	25	.641E-07	.000	0	0.	0.000	0	0.	0.000
8	.004	149	.827E-06	.001	152	.115E-05	.001	223	.120E-05	.002	150	.663E-06	.001
9	.002	136	.689E-06	.001	95	.662E-06	.001	68	.294E-06	.000	0	0.	0.000
10	.002	125	.571E-06	.001	93	.645E-06	.001	75	.335E-06	.000	0	0.	0.000
11	0.000	71	0.	0.000	13	0.	0.000	0	0.	0.000	0	0.	0.000
12	.035	879	.862E-05	.008	1124	.945E-05	.009	1593	.918E-05	.013	992	.438E-05	.006
13	.020	581	.544E-05	.005	722	.602E-05	.005	852	.486E-05	.007	445	.197E-05	.003
17	.000	80	.908E-07	.000	52	.295E-06	.000	21	.204E-07	.000	0	0.	0.000
14	.005	245	.185E-05	.002	223	.176E-05	.002	213	.114E-05	.002	90	.398E-06	.001
15	.005	216	.154E-05	.001	203	.158E-05	.001	188	.993E-06	.001	88	.389E-06	.001
16	.000	78	.694E-07	.000	27	.811E-07	.000	21	.204E-07	.000	0	0.	0.000
18	.043	1041	.104E-04	.009	1375	.116E-04	.010	2010	.116E-04	.016	1269	.561E-05	.008
19	.033	885	.869E-05	.008	1097	.922E-05	.008	1451	.835E-05	.011	841	.372E-05	.005
20	.006	251	.192E-05	.002	234	.185E-05	.002	280	.153E-05	.002	141	.623E-06	.001
22	.006	237	.177E-05	.002	221	.174E-05	.002	253	.137E-05	.002	98	.433E-06	.001
23	.000	74	.267E-07	.000	23	.470E-07	.000	29	.670E-07	.000	0	0.	0.000
25	.000	74	.267E-07	.000	21	.299E-07	.000	23	.320E-07	.000	0	0.	0.000
32	0.000	69	0.	0.000	14	0.	0.000	12	0.	0.000	0	0.	0.000
31	.000	72	.534E-08	.000	18	.427E-08	.000	13	0.	0.000	0	0.	0.000
30	.000	79	.801E-07	.000	25	.641E-07	.000	23	.320E-07	.000	0	0.	0.000
29	.003	164	.988E-06	.001	110	.790E-06	.001	132	.667E-06	.001	35	.155E-06	.000
28	.013	460	.415E-05	.004	468	.385E-05	.003	571	.322E-05	.004	265	.117E-05	.002
27	.029	842	.823E-05	.007	974	.817E-05	.007	1298	.746E-05	.010	669	.296E-05	.004
26	.030	721	.693E-05	.006	962	.807E-05	.007	1467	.844E-05	.012	855	.378E-05	.005

RUN # 12

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	17.64 M/S	3.00 M/S	17.64 M/S	3.00 M/S	18.13 M/S	3.00 M/S	18.13 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.78E+02		.21E+02		.29E+02		.0	
CALIBRATION FACTOR	.43E-01		.23E-01		.16E-01		.12E-01	
RANGE	100		100		100		100	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.032	824	.159E-04	.007	1041	.174E-04	.008	1403	.160E-04	.011	935	.826E-05	.006
92	.024	588	.109E-04	.005	754	.125E-04	.006	1086	.123E-04	.008	782	.691E-05	.005
86	.018	395	.678E-05	.003	540	.897E-05	.004	859	.967E-05	.007	675	.596E-05	.004
93	.007	195	.251E-05	.001	235	.366E-05	.002	397	.429E-05	.003	235	.208E-05	.001
87	.024	585	.108E-04	.005	757	.126E-04	.006	1093	.124E-04	.008	853	.754E-05	.005
88	.001	105	.587E-06	.000	52	.538E-06	.000	54	.291E-06	.000	0	0.	0.000
89	.007	277	.426E-05	.002	281	.445E-05	.002	342	.365E-05	.002	150	.133E-05	.001
90	.016	486	.872E-05	.004	567	.934E-05	.004	736	.824E-05	.006	417	.368E-05	.003
7	.000	85	.160E-06	.000	29	.145E-06	.000	32	.349E-07	.000	0	0.	0.000
8	.011	216	.296E-05	.001	344	.553E-05	.002	604	.670E-05	.005	433	.383E-05	.003
9	.006	252	.373E-05	.002	264	.416E-05	.002	272	.283E-05	.002	79	.698E-06	.000
10	.001	119	.886E-06	.000	69	.829E-06	.000	51	.256E-06	.000	0	0.	0.000
11	.000	85	.160E-06	.000	29	.145E-06	.000	30	.116E-07	.000	0	0.	0.000
12	.027	602	.112E-04	.005	841	.140E-04	.006	1286	.146E-04	.010	922	.815E-05	.006
13	.032	786	.151E-04	.007	1070	.179E-04	.008	1490	.170E-04	.012	854	.755E-05	.005
17	.000	84	.139E-06	.000	34	.231E-06	.000	38	.105E-06	.000	0	0.	0.000
14	.013	421	.734E-05	.003	481	.787E-05	.004	575	.636E-05	.004	242	.214E-05	.001
15	.003	157	.170E-05	.001	128	.184E-05	.001	161	.154E-05	.001	35	.318E-06	.000
16	.001	106	.609E-06	.000	54	.572E-06	.000	46	.108E-06	.000	0	0.	0.000
18	.032	782	.150E-04	.007	1043	.175E-04	.008	1491	.170E-04	.012	1012	.894E-05	.006
19	.021	542	.992E-05	.004	676	.112E-04	.005	965	.109E-04	.007	607	.536E-05	.004
20	.010	333	.546E-05	.002	360	.580E-05	.003	462	.504E-05	.003	243	.215E-05	.001
22	.011	362	.608E-05	.003	399	.647E-05	.003	495	.543E-05	.004	217	.192E-05	.001
23	.001	102	.523E-06	.000	56	.606E-06	.000	51	.256E-06	.000	0	0.	0.000
25	0.000	77	0.	0.000	20	0.	0.000	29	0.	0.000	0	0.	0.000
32	.000	78	.107E-07	.000	21	.854E-08	.000	29	0.	0.000	0	0.	0.000
31	.000	77	0.	0.000	22	.256E-07	.000	29	0.	0.000	0	0.	0.000
30	.001	108	.651E-06	.000	44	.401E-06	.000	47	.210E-06	.000	0	0.	0.000
29	.006	233	.332E-05	.001	223	.346E-05	.002	268	.278E-05	.002	109	.963E-06	.001
28	.016	516	.936E-05	.004	580	.956E-05	.004	722	.807E-05	.006	375	.332E-05	.002
27	.028	802	.155E-04	.007	940	.157E-04	.007	1247	.142E-04	.010	758	.670E-05	.005
26	.020	555	.102E-04	.005	668	.111E-04	.005	911	.103E-04	.007	605	.535E-05	.004

RUN # 13

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	26.46 M/S	4.50 M/S	26.46 M/S	4.50 M/S	27.20 M/S	4.50 M/S	27.20 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.72E+02		.17E+02		.15E+02		.0	
CALIBRATION FACTOR	.43E-01		.23E-01		.16E-01		.12E-01	
RANGE	100		100		100		100	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.59 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
91	.022	615	.173E-04	.005	737	.184E-04	.006
92	.016	441	.118E-04	.004	535	.132E-04	.004
86	.013	347	.878E-05	.003	431	.106E-04	.003
93	.007	235	.521E-05	.002	241	.571E-05	.002
87	.016	450	.121E-04	.004	556	.137E-04	.004
88	.001	117	.145E-05	.000	62	.115E-05	.000
89	.006	265	.617E-05	.002	245	.581E-05	.002
90	.012	391	.102E-04	.003	448	.110E-04	.003
7	.002	95	.749E-06	.000	64	.120E-05	.000
8	.010	229	.502E-05	.002	290	.696E-05	.002
9	.006	272	.639E-05	.002	230	.571E-05	.002
10	.001	137	.209E-05	.001	70	.135E-05	.000
11	.000	82	.335E-06	.000	27	.255E-06	.000
12	.019	497	.136E-04	.004	655	.163E-04	.005
13	.024	645	.183E-04	.005	838	.209E-04	.006
17	.000	76	.143E-06	.000	27	.255E-06	.000
14	.011	380	.983E-05	.003	424	.104E-04	.003
15	.003	191	.381E-05	.001	151	.342E-05	.001
16	.001	124	.167E-05	.001	66	.125E-05	.000
18	.021	580	.162E-04	.005	732	.182E-04	.005
19	.017	504	.138E-04	.004	589	.146E-04	.004
20	.008	265	.617E-05	.002	276	.660E-05	.002
22	.009	318	.786E-05	.002	329	.796E-05	.002
23	.001	103	.100E-05	.000	52	.892E-06	.000
25	.000	73	.478E-07	.000	16	0.	0.000
32	.000	70	0.	0.000	18	.255E-07	.000
31	.000	72	.159E-07	.000	16	0.	0.000
30	.001	98	.845E-06	.000	43	.663E-06	.000
29	.004	197	.400E-05	.001	163	.372E-05	.001
28	.006	240	.537E-05	.002	234	.553E-05	.002
27	.018	550	.153E-04	.005	643	.160E-04	.005
26	.013	393	.102E-04	.003	458	.112E-04	.003

SAMPLE PT.	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	880	.150E-04	.007	654	.863E-05	.004
92	649	.110E-04	.005	516	.681E-05	.003
86	532	.900E-05	.004	467	.616E-05	.003
93	308	.510E-05	.002	200	.264E-05	.001
87	673	.114E-04	.005	575	.758E-05	.003
88	45	.530E-06	.000	0	0.	0.000
89	269	.442E-05	.002	119	.157E-05	.001
90	508	.858E-05	.004	358	.472E-05	.002
7	85	.123E-05	.001	77	.102E-05	.000
8	460	.775E-05	.004	429	.566E-05	.003
9	256	.420E-05	.002	102	.135E-05	.001
10	45	.530E-06	.000	0	0.	0.000
11	20	.956E-07	.000	0	0.	0.000
12	812	.139E-04	.006	562	.873E-05	.004
13	990	.170E-04	.008	695	.917E-05	.004
17	20	.956E-07	.000	0	0.	0.000
14	454	.764E-05	.003	237	.313E-05	.001
15	133	.206E-05	.001	42	.554E-06	.000
16	44	.513E-06	.000	0	0.	0.000
18	878	.150E-04	.007	671	.885E-05	.004
19	701	.119E-04	.005	517	.682E-05	.003
20	322	.535E-05	.002	216	.285E-05	.001
22	359	.599E-05	.003	180	.237E-05	.001
23	41	.461E-06	.000	0	0.	0.000
25	15	.869E-08	.000	0	0.	0.000
32	14	0.	0.000	0	0.	0.000
31	14	0.	0.000	0	0.	0.000
30	36	.374E-06	.000	0	0.	0.000
29	170	.270E-05	.001	85	.113E-05	.001
28	274	.451E-05	.002	139	.183E-05	.001
27	735	.125E-04	.006	525	.692E-05	.003
26	530	.896E-05	.004	406	.535E-05	.002

RUN # 14

	UNIT 13 MODEL	UNIT 13 PROTOTYPE	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.40 M/S	1.50 M/S	8.26 M/S	1.50 M/S	9.48 M/S
EXIT VEL.	4.66 M/S	26.10 M/S	4.04 M/S	22.28 M/S	3.68 M/S	23.23 M/S
VOL. FLOW	.32E-03M3/S	.75E+03M3/S	.53E-04M3/S	.12E+03M3/S	.42E-04M3/S	.11E+03M3/S
SOURCE STRENGTH	.15E+06	.16E+02	.10E+06	.21E+02	.10E+06	.34E+02
BACKGROUND	.12E+03		.18E+02		.20E+02	
CALIBRATION FACTOR	.40E-01		.21E-01		.14E-01	
RANGE	100		100		100	
STACK HEIGHT	3.45 CM	22.43 M	3.85 CM	25.03 M	21.00 CM	136.50 M
STACK DIAMETER	.93 CM	6.05 M	.41 CM	2.67 M	.38 CM	2.47 M

SAMPLE PT.	TOTAL (PPM)	UNIT 13 RAW (AREA)	UNIT 13 NORMALIZED CONC(-)	UNIT 13 PROTOTYPE CONC(PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.025	3322	.954E-05	.014	1147	.159E-04	.005	1314	.159E-04	.006
92	.017	2263	.639E-05	.009	725	.998E-05	.003	869	.105E-04	.004
86	.019	3161	.906E-05	.013	483	.656E-05	.002	814	.979E-05	.004
85	.014	2366	.670E-05	.010	406	.548E-05	.002	590	.703E-05	.003
87	.023	3741	.108E-04	.016	603	.826E-05	.003	1043	.126E-04	.005
88	.005	459	.997E-06	.001	600	.822E-05	.003	115	.117E-05	.000
89	.018	1662	.460E-05	.007	1915	.268E-04	.009	589	.701E-05	.003
90	.021	2383	.675E-05	.010	1452	.202E-04	.007	1062	.128E-04	.005
7	.000	134	.565E-07	.000	24	.847E-07	.000	25	.616E-07	.000
8	.039	7621	.223E-04	.033	596	.816E-05	.003	744	.892E-05	.004
9	.044	5098	.148E-04	.022	4338	.610E-04	.020	551	.654E-05	.003
10	.029	1813	.505E-05	.007	4716	.663E-04	.021	78	.715E-06	.000
11	.003	316	.598E-06	.001	479	.651E-05	.002	25	.616E-07	.000
12	.026	3793	.109E-04	.016	895	.124E-04	.004	1313	.159E-04	.006
13	.035	4293	.124E-04	.018	1997	.279E-04	.009	1672	.204E-04	.008
17	.000	134	.565E-07	.000	26	.113E-06	.000	35	.185E-06	.000
14	.030	2986	.854E-05	.013	2953	.414E-04	.013	874	.105E-04	.004
15	.021	1846	.515E-05	.008	2755	.386E-04	.012	288	.330E-05	.001
16	.008	656	.161E-05	.002	1128	.157E-04	.005	74	.666E-06	.000
18	.026	3622	.104E-04	.015	936	.130E-04	.004	1342	.163E-04	.006
19	.029	3739	.108E-04	.016	1343	.187E-04	.006	1542	.188E-04	.007
20	.011	1278	.346E-05	.005	793	.109E-04	.004	494	.584E-05	.002
22	.022	2156	.607E-05	.009	2151	.301E-04	.010	710	.850E-05	.003
23	.006	562	.133E-05	.002	719	.990E-05	.003	104	.104E-05	.000
25	.000	134	.565E-07	.000	42	.339E-06	.000	22	.246E-07	.000
32	.000	129	.417E-07	.000	49	.438E-06	.000	23	.370E-07	.000
31	.000	146	.922E-07	.000	70	.734E-06	.000	29	.111E-06	.000
30	.004	494	.113E-05	.002	546	.745E-05	.002	100	.986E-06	.000
29	.015	1546	.426E-05	.006	1500	.209E-04	.007	477	.563E-05	.002
28	.021	2390	.677E-05	.010	1495	.207E-04	.007	911	.110E-04	.004
27	.024	3139	.900E-05	.013	1080	.150E-04	.005	1147	.139E-04	.005
26	.016	2434	.690E-05	.010	538	.734E-05	.002	751	.901E-05	.004

RUN # 15

	UNIT 13 MODEL	UNIT 13 PROTOTYPE	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	16.79 M/S	3.00 M/S	16.52 M/S	3.00 M/S	18.95 M/S
EXIT VEL.	4.66 M/S	26.10 M/S	4.04 M/S	22.28 M/S	3.68 M/S	23.23 M/S
VOL. FLOW	.32E-03M3/S	.75E+03M3/S	.53E-04M3/S	.12E+03M3/S	.42E-04M3/S	.11E+03M3/S
SOURCE STRENGTH	.15E+06	.16E+02	.10E+06	.21E+02	.10E+06	.34E+02
BACKGROUND	.14E+03		.21E+02		.21E+02	
CALIBRATION FACTOR	.40E-01		.21E-01		.14E-01	
RANGE	100		100		100	
STACK HEIGHT	3.45 CM	22.43 M	3.85 CM	25.03 M	21.00 CM	136.50 M
STACK DIAMETER	.93 CM	6.05 M	.41 CM	2.67 M	.38 CM	2.47 M

SAMPLE PT.	TOTAL (PPM)	UNIT 13 RAW (AREA)	UNIT 13 NORMALIZED CONC(-)	UNIT 13 PROTOTYPE CONC(PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.015	2114	.117E-04	.009	599	.163E-04	.003	702	.168E-04	.003
92	.011	1820	.100E-04	.007	333	.882E-05	.001	462	.109E-04	.002
86	.010	1715	.937E-05	.007	238	.614E-05	.001	419	.982E-05	.002
85	.008	1428	.767E-05	.006	246	.637E-05	.001	326	.753E-05	.001
87	.012	2060	.114E-04	.008	300	.789E-05	.001	500	.118E-04	.002
88	.003	473	.198E-05	.001	412	.111E-04	.002	72	.127E-05	.000
89	.010	1174	.616E-05	.005	942	.260E-04	.004	341	.790E-05	.002
90	.016	2096	.116E-04	.009	972	.269E-04	.004	671	.160E-04	.003
7	.000	149	.565E-07	.000	22	.423E-07	.000	22	.370E-07	.000
8	.023	4564	.263E-04	.019	216	.552E-05	.001	617	.147E-04	.003
9	.037	4516	.260E-04	.019	3090	.867E-04	.014	829	.199E-04	.004
10	.025	1937	.107E-04	.008	3710	.104E-03	.017	181	.396E-05	.001
11	.002	265	.747E-06	.001	352	.936E-05	.002	26	.136E-06	.000
12	.014	2326	.130E-04	.010	452	.122E-04	.002	617	.147E-04	.003
13	.023	3022	.172E-04	.013	1214	.337E-04	.005	1002	.242E-04	.005
17	0.000	137	0.	0.000	18	0.	0.000	16	0.	0.000
14	.021	2443	.137E-04	.010	1756	.490E-04	.008	717	.172E-04	.003
15	.010	1221	.644E-05	.005	863	.238E-04	.004	358	.832E-05	.002
16	.006	596	.272E-05	.002	787	.216E-04	.003	98	.191E-05	.000
18	.014	2231	.124E-04	.009	481	.130E-04	.002	632	.151E-04	.003
19	.018	2497	.140E-04	.010	777	.214E-04	.003	798	.192E-04	.004
20	.007	1012	.519E-05	.004	485	.131E-04	.002	303	.696E-05	.001
22	.014	1658	.904E-05	.007	1219	.338E-04	.005	505	.119E-04	.002
23	.004	463	.192E-05	.001	446	.120E-04	.002	75	.134E-05	.000
25	.000	160	.122E-06	.000	37	.466E-06	.000	18	0.	0.000
32	0.000	135	0.	0.000	19	0.	0.000	13	0.	0.000
31	.000	161	.129E-06	.000	51	.861E-06	.000	13	0.	0.000
30	.003	442	.180E-05	.001	351	.933E-05	.001	78	.142E-05	.000
29	.008	977	.498E-05	.004	774	.213E-04	.003	290	.664E-05	.001
28	.014	1769	.970E-05	.007	920	.254E-04	.004	550	.131E-04	.003
27	.014	2012	.111E-04	.008	640	.175E-04	.003	608	.145E-04	.003
26	.009	1536	.831E-05	.006	324	.857E-05	.001	398	.931E-05	.002

RUN # 16

	UNIT 13 MODEL	UNIT 13 PROTOTYPE	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	25.19 M/S	4.50 M/S	24.79 M/S	4.50 M/S	28.43 M/S
EXIT VEL.	4.66 M/S	26.10 M/S	4.04 M/S	22.28 M/S	3.68 M/S	23.23 M/S
VOL. FLOW	.32E-03M3/S	.75E+03M3/S	.53E-04M3/S	.12E+03M3/S	.42E-04M3/S	.11E+03M3/S
SOURCE STRENGTH	.15E+06	.16E+02	.10E+06	.21E+02	.10E+06	.34E+02
BACKGROUND	.14E+03		.20E+02		.15E+02	
CALIBRATION FACTOR	.40E-01		.21E-01		.14E-01	
RANGE	100		100		100	
STACK HEIGHT	3.45 CM	22.43 M	3.85 CM	25.03 M	21.00 CM	136.50 M
STACK DIAMETER	.93 CM	6.05 M	.41 CM	2.67 M	.38 CM	2.47 M

SAMPLE PT.	TOTAL (PPM)	UNIT 13 RAW (AREA)	UNIT 13 NORMALIZED CONC(-)	UNIT 13 PROTOTYPE CONC(PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.006	948	.722E-05	.004	243	.944E-05	.001	284	.995E-05	.001
92	.007	1165	.915E-05	.004	264	.103E-04	.001	351	.124E-04	.002
86	.006	1205	.951E-05	.005	156	.576E-05	.001	265	.924E-05	.001
95	.004	826	.613E-05	.003	127	.453E-05	.000	213	.732E-05	.001
87	.007	1363	.109E-04	.005	170	.635E-05	.001	310	.109E-04	.001
88	.003	386	.220E-05	.001	305	.121E-04	.001	58	.159E-05	.000
89	.008	996	.764E-05	.004	715	.294E-04	.003	248	.862E-05	.001
90	.010	1362	.109E-04	.005	612	.251E-04	.003	468	.167E-04	.002
7	.000	140	.446E-08	.000	15	0.	0.000	18	.111E-06	.000
8	.017	3253	.278E-04	.014	181	.682E-05	.001	534	.192E-04	.003
9	.026	3320	.284E-04	.014	1967	.825E-04	.009	651	.235E-04	.003
10	.022	1861	.154E-04	.008	3021	.127E-03	.014	146	.484E-05	.001
11	.002	244	.933E-06	.000	404	.163E-04	.002	14	0.	0.000
12	.009	1510	.122E-04	.006	259	.101E-04	.001	434	.155E-04	.002
13	.014	1915	.158E-04	.008	698	.287E-04	.003	708	.256E-04	.003
17	0.000	131	0.	0.000	12	0.	0.000	13	0.	0.000
14	.015	1685	.138E-04	.007	1214	.506E-04	.005	562	.202E-04	.003
15	.015	1671	.137E-04	.007	1186	.494E-04	.005	553	.199E-04	.003
16	.005	516	.336E-05	.002	590	.241E-04	.003	77	.229E-05	.000
18	.009	1433	.115E-04	.006	266	.104E-04	.001	444	.159E-04	.002
19	.011	1571	.128E-04	.006	487	.199E-04	.002	560	.202E-04	.003
20	.005	689	.490E-05	.002	302	.119E-04	.001	217	.747E-05	.001
22	.011	1263	.100E-04	.005	890	.368E-04	.004	378	.134E-04	.002
23	.003	375	.210E-05	.001	322	.128E-04	.001	52	.137E-05	.000
25	0.000	134	0.	0.000	20	0.	0.000	14	0.	0.000
32	.000	128	0.	0.000	15	0.	0.000	23	.296E-06	.000
31	.000	143	.312E-07	.000	39	.805E-06	.000	20	.185E-06	.000
30	.002	321	.162E-05	.001	215	.826E-05	.001	57	.155E-05	.000
29	.006	808	.597E-05	.003	587	.240E-04	.003	210	.721E-05	.001
28	.009	1240	.982E-05	.005	611	.250E-04	.003	390	.139E-04	.002
27	.009	1399	.112E-04	.006	435	.176E-04	.002	423	.151E-04	.002
26	.006	990	.759E-05	.004	203	.775E-05	.001	281	.984E-05	.001

RUN # 20

	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	7.98 M/S	1.50 M/S	7.82 M/S
EXIT VEL.	1.60 M/S	8.52 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.62E-04M3/S	.14E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.23E+02	.10E+06	.34E+02
BACKGROUND	.77E+02		.11E+02	
CALIBRATION FACTOR	.38E-01		.20E-01	
RANGE	100		100	
STACK HEIGHT	4.80 CM	31.20 M	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.014	922	.124E-04	.005	1405	.145E-04	.010
92	.009	495	.615E-05	.002	1028	.106E-04	.007
86	.010	482	.596E-05	.002	1078	.111E-04	.007
93	.007	381	.447E-05	.002	760	.777E-05	.005
87	.013	587	.751E-05	.003	1504	.155E-04	.010
88	.003	537	.677E-05	.003	46	.363E-06	.000
89	.011	1421	.198E-04	.008	416	.420E-05	.003
90	.016	1466	.204E-04	.008	1158	.119E-04	.008
7	.000	77	0.	0.000	23	.125E-06	.000
8	.009	688	.899E-05	.004	789	.807E-05	.005
9	.026	4070	.588E-04	.023	372	.375E-05	.002
10	.021	3607	.520E-04	.020	124	.117E-05	.001
11	.002	395	.468E-05	.002	16	.519E-07	.000
12	.015	879	.118E-04	.005	1549	.160E-04	.011
13	.023	2066	.293E-04	.011	1636	.169E-04	.011
17	.000	87	.147E-06	.000	21	.104E-06	.000
14	.003	427	.515E-05	.002	115	.108E-05	.001
15	.009	1419	.198E-04	.008	122	.115E-05	.001
16	.004	665	.865E-05	.003	34	.239E-06	.000
18	.017	977	.132E-04	.005	1663	.171E-04	.011
19	.019	1436	.200E-04	.008	1647	.170E-04	.011
20	.007	752	.993E-05	.004	423	.428E-05	.003
22	.014	1747	.246E-04	.010	573	.583E-05	.004
23	.002	433	.524E-05	.002	31	.208E-06	.000
25	.000	100	.339E-06	.000	13	.208E-07	.000
32	.000	78	.147E-07	.000	8	0.	0.000
31	.000	130	.780E-06	.000	12	.104E-07	.000
30	.002	428	.517E-05	.002	39	.291E-06	.000
29	.008	1093	.150E-04	.006	352	.354E-05	.002
28	.014	1341	.186E-04	.007	916	.939E-05	.006
27	.015	1166	.160E-04	.006	1326	.136E-04	.009
26	.010	603	.774E-05	.003	1002	.103E-04	.007

RUN # 21

	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	15.95 M/S	3.00 M/S	15.64 M/S
EXIT VEL.	1.60 M/S	8.52 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.62E-04M3/S	.14E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.23E+02	.10E+06	.34E+02
BACKGROUND	.89E+02		.28E+02	
CALIBRATION FACTOR	.38E-01		.20E-01	
RANGE	100		100	
STACK HEIGHT	4.80 CM	31.20 M	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.009	561	.139E-04	.003	985	.199E-04	.007
92	.005	319	.677E-05	.001	624	.124E-04	.004
86	.004	244	.456E-05	.001	474	.927E-05	.003
93	.004	263	.512E-05	.001	449	.875E-05	.003
87	.005	285	.577E-05	.001	639	.127E-04	.004
88	.002	117	.824E-06	.000	268	.499E-05	.002
89	.008	917	.244E-04	.005	469	.916E-05	.003
90	.009	729	.188E-04	.004	814	.163E-04	.005
7	.000.	79	0.	0.000	29	.311E-07	.000
8	.008	293	.600E-05	.001	993	.200E-04	.007
9	.019	2372	.672E-04	.013	862	.173E-04	.006
10	.018	3077	.880E-04	.017	181	.319E-05	.001
11	.003	586	.146E-04	.003	28	.104E-07	.000
12	.007	367	.818E-05	.002	806	.162E-04	.005
13	.013	875	.231E-04	.005	1294	.263E-04	.009
17	0.000	80	0.	0.000	26	0.	0.000
14	.013	1420	.392E-04	.008	854	.172E-04	.006
15	.011	1509	.418E-04	.008	406	.786E-05	.003
16	.005	868	.229E-04	.004	93	.136E-05	.000
18	.007	395	.901E-05	.002	813	.163E-04	.005
19	.010	633	.160E-04	.003	1016	.205E-04	.007
20	.004	404	.927E-05	.002	388	.748E-05	.002
22	.010	1119	.303E-04	.006	607	.120E-04	.004
23	.003	525	.128E-04	.003	95	.140E-05	.000
25	.000	108	.559E-06	.000	33	.114E-06	.000
32	.000	82	0.	0.000	32	.934E-07	.000
31	.000	128	.115E-05	.000	35	.156E-06	.000
30	.003	437	.102E-04	.002	99	.148E-05	.000
29	.006	790	.206E-04	.004	360	.690E-05	.002
28	.008	747	.194E-04	.004	695	.139E-04	.005
27	.008	544	.134E-04	.003	752	.150E-04	.005
26	.004	307	.642E-05	.001	497	.975E-05	.003

RUN # 22

	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	23.93 M/S	4.50 M/S	23.46 M/S
EXIT VEL.	1.60 M/S	8.52 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.62E-04M3/S	.14E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.23E+02	.10E+06	.34E+02
BACKGROUND	.78E+02		.80E+01	
CALIBRATION FACTOR	.38E-01		.20E-01	
RANGE	100		100	
STACK HEIGHT	4.80 CM	31.20 M	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.007	405	.142E-04	.002	818	.248E-04	.005
92	.005	218	.611E-05	.001	582	.176E-04	.004
86	.004	187	.476E-05	.001	492	.148E-04	.003
93	.003	169	.398E-05	.001	446	.134E-04	.003
87	.005	206	.559E-05	.001	618	.187E-04	.004
88	.002	348	.118E-04	.002	72	.196E-05	.000
89	.006	665	.255E-04	.003	344	.103E-04	.002
90	.007	524	.194E-04	.003	635	.192E-04	.004
7	.000	68	0.	0.000	9	.307E-07	.000
8	.006	202	.541E-05	.001	860	.261E-04	.006
9	.016	1822	.759E-04	.010	846	.257E-04	.006
10	.015	2534	.107E-03	.014	148	.429E-05	.001
11	.002	380	.132E-04	.002	9	.307E-07	.000
12	.006	276	.863E-05	.001	790	.240E-04	.005
13	.012	721	.280E-04	.004	1172	.357E-04	.008
17	.000	68	0.	0.000	10	.613E-07	.000
14	.011	1119	.453E-04	.006	751	.228E-04	.005
15	.008	1107	.448E-04	.006	301	.898E-05	.002
16	.003	573	.215E-04	.003	66	.178E-05	.000
18	.007	312	.102E-04	.001	819	.249E-04	.005
19	.009	484	.177E-04	.002	951	.289E-04	.006
20	.004	336	.112E-04	.001	329	.984E-05	.002
22	.008	813	.320E-04	.004	543	.164E-04	.004
23	.002	361	.123E-04	.002	56	.147E-05	.000
25	.000	83	.239E-06	.000	8	0.	0.000
32	0.000	69	0.	0.000	7	0.	0.000
31	.000	107	.128E-05	.000	10	.613E-07	.000
30	.001	269	.833E-05	.001	51	.132E-05	.000
29	.005	546	.204E-04	.003	288	.859E-05	.002
28	.007	615	.234E-04	.003	592	.179E-04	.004
27	.007	441	.158E-04	.002	727	.220E-04	.005
26	.004	236	.689E-05	.001	475	.143E-04	.003

RUN # 23

		MODEL	PROTOTYPE
		UNIT 12	
FREE STREAM VEL.		1.50 M/S	7.82 M/S
EXIT VEL.		4.03 M/S	21.04 M/S
VOL. FLOW		.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH		.15E+06	.34E+02
BACKGROUND		.66E+02	
CALIBRATION FACTOR		.38E-01	
RANGE		100	
STACK HEIGHT		28.00 CM	182.00 M
STACK DIAMETER		.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	0.000	65	0.	0.000
2	.000	68	.260E-07	.000
3	0.000	65	0.	0.000
4	.000	67	.130E-07	.000
5	.000	68	.260E-07	.000
7	0.000	66	0.	0.000
8	.000	89	.299E-06	.000
9	.000	71	.651E-07	.000
10	.000	71	.651E-07	.000
11	.000	70	.520E-07	.000
12	.005	703	.829E-05	.005
13	.003	460	.513E-05	.003
17	.000	71	.651E-07	.000
14	.001	145	.103E-05	.001
15	.000	75	.117E-06	.000
16	0.000	65	0.	0.000
18	.009	1093	.134E-04	.009
19	.007	869	.104E-04	.007
20	.001	214	.193E-05	.001
22	.001	208	.185E-05	.001
23	0.000	66	0.	0.000
25	.000	70	.520E-07	.000
32	0.000	65	0.	0.000
31	0.000	66	0.	0.000
30	.000	72	.781E-07	.000
29	.001	181	.150E-05	.001
28	.005	620	.721E-05	.005
27	.007	930	.112E-04	.007
26	.005	673	.790E-05	.005

RUN # 24

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	15.64 M/S
EXIT VEL.	4.03 M/S	21.04 M/S
VOL. FLOW	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02
BACKGROUND	.68E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	.000	69	.260E-07	.000
2	.000	70	.520E-07	.000
4	.000	71	.781E-07	.000
3	.000	71	.781E-07	.000
5	.000	72	.104E-06	.000
7	.000	75	.182E-06	.000
8	.002	295	.591E-05	.002
9	.000	110	.109E-05	.000
10	.000	82	.364E-06	.000
11	.000	76	.208E-06	.000
13	.005	645	.150E-04	.005
17	.000	73	.130E-06	.000
14	.002	270	.526E-05	.002
15	.000	98	.781E-06	.000
16	.000	77	.234E-06	.000
18	.006	773	.183E-04	.006
19	.006	719	.169E-04	.006
20	.001	237	.440E-05	.001
22	.002	262	.505E-05	.002
23	.000	79	.286E-06	.000
25	.000	73	.130E-06	.000
32	.000	72	.104E-06	.000
31	.000	72	.104E-06	.000
30	.000	83	.390E-06	.000
29	.001	197	.336E-05	.001
28	.003	418	.911E-05	.003
27	.004	588	.135E-04	.004
26	.004	492	.110E-04	.004

RUN # 25

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	23.46 M/S
EXIT VEL.	4.03 M/S	21.04 M/S
VOL. FLOW	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02
BACKGROUND	.68E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	.000	70	.976E-07	.000
2	.000	73	.215E-06	.000
4	.000	72	.176E-06	.000
3	.000	68	.195E-07	.000
5	0.000	67	0.	0.000
7	.000	74	.254E-06	.000
8	.001	240	.673E-05	.001
9	.000	105	.146E-05	.000
10	.000	76	.332E-06	.000
11	.000	77	.371E-06	.000
12	.004	544	.186E-04	.004
13	.004	579	.200E-04	.004
17	.000	72	.176E-06	.000
14	.002	254	.728E-05	.002
15	.000	101	.131E-05	.000
16	.000	77	.371E-06	.000
18	.005	630	.220E-04	.005
19	.005	621	.216E-04	.005
20	.001	210	.556E-05	.001
22	.001	199	.513E-05	.001
23	.000	69	.585E-07	.000
25	.000	69	.585E-07	.000
32	0.000	66	0.	0.000
31	.000	74	.254E-06	.000
30	.000	80	.488E-06	.000
29	.001	164	.377E-05	.001
28	.002	348	.109E-04	.002
27	.004	493	.166E-04	.004
26	.003	373	.119E-04	.003

RUN # 29

	MODEL	PROTOTYPE (UNIT 12)
FREE STREAM VEL.	1.50 M/S	7.33 M/S
EXIT VEL.	4.55 M/S	22.20 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.77E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	.000	81	.255E-07	.000
2	.000	114	.236E-06	.000
4	.000	82	.319E-07	.000
3	.000	81	.255E-07	.000
5	.000	81	.255E-07	.000
8	.001	169	.586E-06	.001
9	.000	91	.892E-07	.000
10	.000	91	.892E-07	.000
11	.001	142	.414E-06	.001
12	.015	1198	.714E-05	.015
13	.010	809	.466E-05	.010
17	.000	98	.134E-06	.000
14	.002	198	.771E-06	.002
15	.000	91	.892E-07	.000
16	.000	99	.140E-06	.000
18	.025	2032	.125E-04	.025
19	.018	1472	.889E-05	.018
20	.003	273	.125E-05	.003
22	.002	239	.103E-05	.002
23	.000	101	.153E-06	.000
25	0.000	77	0.	0.000
31	.000	87	.637E-07	.000
30	.000	108	.198E-06	.000
29	.002	223	.930E-06	.002
28	.009	758	.434E-05	.009
27	.021	1687	.103E-04	.021
26	.017	1349	.811E-05	.017

RUN # 30

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	14.65 M/S
EXIT VEL.	4.55 M/S	22.20 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.86E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	.000	87	.127E-07	.000
2	.001	164	.994E-06	.001
4	.000	92	.765E-07	.000
3	.001	128	.535E-06	.001
5	.000	88	.255E-07	.000
7	.000	90	.510E-07	.000
8	.004	416	.421E-05	.004
9	.002	236	.191E-05	.002
10	.000	98	.153E-06	.000
11	.000	96	.127E-06	.000
12	.014	1187	.140E-04	.014
13	.013	1072	.126E-04	.013
17	.000	90	.510E-07	.000
14	.004	373	.366E-05	.004
15	.001	132	.586E-06	.001
16	.000	99	.166E-06	.000
18	.018	1444	.173E-04	.018
19	.017	1373	.164E-04	.017
20	.004	363	.353E-05	.004
22	.004	367	.358E-05	.004
23	.000	101	.191E-06	.000
25	.000	106	.255E-06	.000
32	.000	88	.255E-07	.000
31	.000	94	.102E-06	.000
30	.000	110	.306E-06	.000
29	.002	240	.196E-05	.002
28	.008	737	.830E-05	.008
27	.014	1141	.134E-04	.014
26	.010	834	.953E-05	.010

RUN # 31

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	10.08 M/S
EXIT VEL.	4.55 M/S	10.18 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.61E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	.000	92	.278E-06	.000
2	.000	87	.234E-06	.000
3	.000	88	.243E-06	.000
4	.000	96	.314E-06	.000
5	.000	92	.278E-06	.000
7	.001	100	.349E-06	.001
8	.004	397	.297E-05	.004
9	.002	191	.115E-05	.002
10	0.000	55	0.	0.000
11	.000	98	.331E-06	.000
12	.010	857	.704E-05	.010
13	.011	886	.729E-05	.011
14	.004	369	.272E-05	.004
17	.001	104	.384E-06	.001
15	.001	147	.764E-06	.001
16	.001	101	.358E-06	.001
18	.013	1041	.866E-05	.013
19	.013	1021	.848E-05	.013
20	.003	297	.209E-05	.003
22	.004	346	.252E-05	.004
23	.001	99	.340E-06	.001
25	.000	88	.243E-06	.000
32	.000	91	.269E-06	.000
31	0.000	21	0.	0.000
30	.001	114	.473E-06	.001
29	.002	238	.157E-05	.002
28	.007	561	.442E-05	.007
27	.010	842	.690E-05	.010
26	.007	614	.489E-05	.007

RUN # 32

	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	10.06 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.63E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	0.000	63	0.	0.000
2	0.000	0	0.	0.000
4	0.000	63	0.	0.000
3	.000	71	.475E-07	.000
5	0.000	57	0.	0.000
7	.000	68	.297E-07	.000
8	.021	1667	.952E-05	.021
9	.008	661	.355E-05	.008
10	.001	119	.332E-06	.001
11	.000	96	.196E-06	.000
12	.030	2337	.135E-04	.030
13	.039	3023	.176E-04	.039
17	.000	68	.297E-07	.000
14	.020	1624	.927E-05	.020
15	.005	454	.232E-05	.005
16	.001	159	.570E-06	.001
18	.038	2991	.174E-04	.038
19	.042	3273	.191E-04	.042
20	.011	921	.509E-05	.011
22	.016	1252	.706E-05	.016
23	.001	140	.457E-06	.001
25	.000	66	.178E-07	.000
32	.000	71	.475E-07	.000
31	.000	64	.594E-08	.000
30	.001	159	.570E-06	.001
29	.010	851	.468E-05	.010
28	.025	1959	.113E-04	.025
27	.031	2435	.141E-04	.031
26	.021	1638	.935E-05	.021

RUN # 33

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	20.12 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.86E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	0.000	79	0.	0.000
2	0.000	84	0.	0.000
4	0.000	82	0.	0.000
3	0.000	83	0.	0.000
5	0.000	82	0.	0.000
7	.000	106	.237E-06	.000
8	.013	1068	.117E-04	.013
9	.016	1271	.141E-04	.016
10	.002	253	.198E-05	.002
11	.000	124	.451E-06	.000
12	.017	1383	.154E-04	.017
13	.027	2116	.241E-04	.027
17	.000	95	.107E-06	.000
14	.016	1326	.147E-04	.016
15	.006	521	.516E-05	.006
16	.004	388	.359E-05	.004
18	.020	1577	.177E-04	.020
19	.023	1859	.211E-04	.023
20	.007	611	.623E-05	.007
22	.014	1125	.123E-04	.014
23	.001	170	.997E-06	.001
25	0.000	80	0.	0.000
32	.000	91	.594E-07	.000
31	.000	88	.237E-07	.000
30	.001	149	.748E-06	.001
29	.007	628	.644E-05	.007
28	.015	1203	.133E-04	.015
27	.017	1399	.156E-04	.017
26	.011	913	.982E-05	.011

RUN # 34

	UNIT 12 MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	30.17 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.79E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	0.000	78	0.	0.000
2	0.000	72	0.	0.000
4	.000	82	.623E-07	.000
3	0.000	74	0.	0.000
5	0.000	73	0.	0.000
7	.000	88	.169E-06	.000
8	.013	1076	.178E-04	.013
9	.013	1074	.177E-04	.013
10	.003	274	.348E-05	.003
11	.000	91	.223E-06	.000
12	.011	954	.156E-04	.011
13	.018	1455	.245E-04	.018
17	.000	83	.801E-07	.000
14	.013	1037	.171E-04	.013
15	.005	450	.662E-05	.005
16	.001	160	.145E-05	.001
18	.012	1015	.167E-04	.012
19	.015	1218	.203E-04	.015
20	.005	466	.690E-05	.005
22	.009	794	.127E-04	.009
23	.001	148	.124E-05	.001
25	0.000	76	0.	0.000
32	0.000	75	0.	0.000
31	0.000	76	0.	0.000
30	.001	134	.988E-06	.001
29	.005	451	.663E-05	.005
28	.010	832	.134E-04	.010
27	.011	906	.147E-04	.011
26	.007	607	.941E-05	.007

RUN # 35

	UNIT 12 MODEL	PROTOTYPE
FREE STREAM VEL.	1.50 M/S	10.06 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.66E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	.000	69	.208E-07	.000
2	.000	66	.297E-08	.000
4	.000	66	.297E-08	.000
3	0.000	63	0.	0.000
5	0.000	61	0.	0.000
7	.000	88	.134E-06	.000
8	.001	119	.318E-06	.001
9	.000	89	.140E-06	.000
10	.000	66	.297E-08	.000
11	.000	85	.116E-06	.000
12	.015	1242	.698E-05	.015
13	.010	843	.462E-05	.010
17	.000	71	.327E-07	.000
14	.002	227	.959E-06	.002
15	.000	101	.211E-06	.000
16	.000	90	.145E-06	.000
18	.026	2026	.116E-04	.025
19	.020	1578	.898E-05	.020
20	.004	356	.172E-05	.004
23	.000	77	.683E-07	.000
25	0.000	65	0.	0.000
32	.000	66	.297E-08	.000
31	.000	67	.890E-08	.000
30	.000	93	.163E-06	.000
29	.004	338	.162E-05	.004
28	.013	1070	.596E-05	.013
27	.023	1789	.102E-04	.023
26	.016	1303	.735E-05	.016
22	.004	365	.178E-05	.004

RUN # 36

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	20.12 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.68E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	0.000	67	0.	0.000
2	0.000	68	0.	0.000
4	.000	72	.475E-07	.000
3	0.000	67	0.	0.000
5	0.000	67	0.	0.000
7	0.000	66	0.	0.000
8	.003	277	.248E-05	.003
9	.001	124	.664E-06	.001
10	0.000	66	0.	0.000
11	.001	110	.498E-06	.001
12	.014	1105	.123E-04	.014
13	.014	1157	.129E-04	.014
17	.000	76	.949E-07	.000
14	.005	418	.415E-05	.005
15	.001	155	.103E-05	.001
16	.000	98	.356E-06	.000
18	.017	1369	.154E-04	.017
19	.017	1375	.155E-04	.017
20	.004	392	.384E-05	.004
22	.005	481	.490E-05	.005
23	.000	102	.403E-06	.000
25	0.000	67	0.	0.000
32	.000	69	.119E-07	.000
31	.000	74	.712E-07	.000
30	.001	117	.581E-06	.001
29	.003	332	.313E-05	.003
28	.010	846	.923E-05	.010
27	.014	1146	.128E-04	.014
26	.009	788	.854E-05	.009

RUN # R37

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	30.17 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.90E+02	
CALIBRATION FACTOR	.38E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	.000	92	.446E-07	.000
2	.000	98	.151E-06	.000
4	.000	92	.446E-07	.000
3	.000	91	.267E-07	.000
5	.000	94	.802E-07	.000
7	.000	97	.134E-06	.000
8	.004	427	.602E-05	.004
9	.002	208	.211E-05	.002
10	.000	94	.802E-07	.000
11	.000	95	.980E-07	.000
12	.011	959	.155E-04	.011
13	.012	986	.160E-04	.012
17	.000	94	.802E-07	.000
15	0.000	72	0.	0.000
16	.000	100	.187E-06	.000
18	.013	1063	.174E-04	.013
19	.014	1144	.188E-04	.014
20	.003	326	.421E-05	.003
22	.004	384	.525E-05	.004
23	.000	101	.205E-06	.000
25	0.000	87	0.	0.000
32	.000	94	.802E-07	.000
31	0.000	89	0.	0.000
30	.000	108	.330E-06	.000
29	.002	261	.306E-05	.002
28	.007	654	.101E-04	.007
27	.011	912	.147E-04	.011
26	.008	712	.111E-04	.008

RUN # 38

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.82 M/S	1.50 M/S	8.82 M/S	1.50 M/S	9.07 M/S	1.50 M/S	9.07 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.77E+02		.0		.11E+02		.22E+02	
CALIBRATION FACTOR	.43E-01		.23E-01		.16E-01		.12E-01	
RANGE	100		100		100		100	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.023	602	.564E-05	.005	397	.341E-05	.003	1271	.738E-05	.010	856	.371E-05	.005
92	.010	304	.244E-05	.002	174	.149E-05	.001	577	.331E-05	.005	384	.161E-05	.002
86	.004	143	.708E-06	.001	39	.335E-06	.000	240	.134E-05	.002	171	.664E-06	.001
93	.018	480	.433E-05	.004	295	.253E-05	.002	1081	.626E-05	.009	628	.269E-05	.004
87	.022	519	.474E-05	.004	252	.216E-05	.002	1295	.752E-05	.010	909	.394E-05	.005
88	.000	71	0.	0.000	8	.687E-07	.000	14	.176E-07	.000	0	0.	0.000
89	.000	75	0.	0.000	11	.945E-07	.000	11	0.	0.000	0	0.	0.000
90	.004	205	.137E-05	.001	113	.970E-06	.001	230	.128E-05	.002	115	.420E-06	.001
7	.000	73	0.	0.000	7	.601E-07	.000	13	.117E-07	.000	0	0.	0.000
8	.000	75	0.	0.000	10	.859E-07	.000	12	.585E-08	.000	0	0.	0.000
9	.000	75	0.	0.000	10	.859E-07	.000	13	.117E-07	.000	0	0.	0.000
10	.000	86	.966E-07	.000	17	.146E-06	.000	25	.820E-07	.000	0	0.	0.000
11	.000	73	0.	0.000	11	.945E-07	.000	14	.176E-07	.000	0	0.	0.000
12	.006	192	.123E-05	.001	59	.507E-06	.000	379	.215E-05	.003	238	.962E-06	.001
13	.003	166	.955E-06	.001	49	.421E-06	.000	183	.101E-05	.001	113	.406E-06	.001
17	.000	78	.107E-07	.000	12	.103E-06	.000	29	.105E-06	.000	0	0.	0.000
14	.001	91	.150E-06	.000	27	.232E-06	.000	50	.228E-06	.000	35	.644E-07	.000
15	.000	92	.161E-06	.000	12	.103E-06	.000	33	.129E-06	.000	30	.378E-07	.000
16	.022	544	.501E-05	.005	290	.249E-05	.002	1299	.754E-05	.010	825	.357E-05	.005
18	.000	13	0.	0.000	6	.515E-07	.000	29	.105E-06	.000	24	.111E-07	.000
19	.010	320	.261E-05	.002	181	.155E-05	.001	572	.328E-05	.004	291	.120E-05	.002
20	.003	149	.773E-06	.001	88	.756E-06	.001	208	.115E-05	.002	53	.140E-06	.000
22	.001	130	.569E-06	.001	32	.275E-06	.000	45	.199E-06	.000	0	0.	0.000
23	.000	90	.140E-06	.000	8	.687E-07	.000	21	.585E-07	.000	0	0.	0.000
25	.000	83	.644E-07	.000	17	.146E-06	.000	25	.820E-07	.000	0	0.	0.000
32	.001	128	.547E-06	.000	12	.103E-06	.000	24	.761E-07	.000	5	0.	0.000
31	.001	90	.140E-06	.000	37	.318E-06	.000	40	.170E-06	.000	0	0.	0.000
30	.001	89	.129E-06	.000	31	.266E-06	.000	51	.234E-06	.000	0	0.	0.000
29	.000	46	0.	0.000	7	.601E-07	.000	27	.937E-07	.000	11	0.	0.000
28	.006	206	.138E-05	.001	166	.143E-05	.001	305	.172E-05	.002	131	.486E-06	.001
27	.029	740	.712E-05	.006	621	.533E-05	.005	1550	.901E-05	.012	553	.369E-05	.005
26	.026	664	.630E-05	.006	477	.410E-05	.004	1459	.848E-05	.012	870	.377E-05	.005

RUN # 39

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	17.64 M/S	3.00 M/S	17.64 M/S	3.00 M/S	18.13 M/S	3.00 M/S	18.13 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.83E+03		.20E+03		.35E+03		.15E+03	
CALIBRATION FACTOR	.43E-02		.23E-02		.16E-02		.12E-02	
RANGE	10		10		10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.010	3156	.500E-05	.002	2233	.349E-05	.002	5420	.593E-05	.004	3775	.322E-05	.002
92	.015	3853	.650E-05	.003	2829	.451E-05	.002	8725	.980E-05	.007	6061	.525E-05	.004
86	.005	1909	.232E-05	.001	657	.781E-06	.000	3110	.323E-05	.002	2546	.213E-05	.001
93	.019	4862	.866E-05	.004	3823	.622E-05	.003	10910	.124E-04	.008	6774	.589E-05	.004
87	.021	4810	.855E-05	.004	3232	.520E-05	.002	12111	.138E-04	.009	9236	.807E-05	.006
88	.013	2823	.428E-05	.002	1891	.290E-05	.001	8284	.929E-05	.006	5418	.468E-05	.003
89	.001	1056	.492E-06	.000	604	.690E-06	.000	522	.199E-06	.000	257	.986E-07	.000
90	.010	3319	.535E-05	.002	2711	.431E-05	.002	5312	.581E-05	.004	2899	.245E-05	.002
7	.000	912	.182E-06	.000	299	.167E-06	.000	370	.211E-07	.000	178	.284E-07	.000
8	.000	828	.215E-08	.000	223	.361E-07	.000	355	.351E-08	.000	212	.586E-07	.000
9	.000	932	.225E-06	.000	315	.194E-06	.000	403	.597E-07	.000	185	.346E-07	.000
10	.000	820	0.	0.000	224	.378E-07	.000	364	.141E-07	.000	201	.489E-07	.000
11	.000	997	.365E-06	.000	255	.910E-07	.000	367	.176E-07	.000	208	.551E-07	.000
12	.008	2180	.290E-05	.001	945	.128E-05	.001	5026	.547E-05	.004	4026	.345E-05	.002
13	.008	2645	.390E-05	.002	1333	.194E-05	.001	4831	.524E-05	.004	2893	.244E-05	.002
17	.000	878	.109E-06	.000	290	.151E-06	.000	445	.109E-06	.000	0	0.	0.000
14	.002	1295	.100E-05	.000	651	.771E-06	.000	1140	.923E-06	.001	458	.277E-06	.000
15	.000	934	.230E-06	.000	326	.213E-06	.000	461	.128E-06	.000	153	.622E-08	.000
16	.000	921	.202E-06	.000	304	.175E-06	.000	379	.316E-07	.000	173	.240E-07	.000
18	.027	6245	.116E-04	.005	4166	.681E-05	.003	15128	.173E-04	.012	11291	.990E-05	.007
19	.011	3178	.505E-05	.002	2099	.326E-05	.001	6419	.710E-05	.005	4484	.385E-05	.003
20	.005	2066	.266E-05	.001	1380	.202E-05	.001	2647	.259E-05	.002	1359	.108E-05	.001
22	.002	1425	.128E-05	.001	898	.120E-05	.001	1091	.865E-06	.001	482	.298E-06	.000
23	.000	912	.182E-06	.000	312	.189E-06	.000	416	.749E-07	.000	190	.391E-07	.000
25	.000	958	.281E-06	.000	339	.235E-06	.000	384	.375E-07	.000	178	.284E-07	.000
32	0.000	827	0.	0.000	202	0.	0.000	352	0.	0.000	145	0.	0.000
31	.000	843	.343E-07	.000	238	.618E-07	.000	352	0.	0.000	163	.151E-07	.000
30	.000	901	.159E-06	.000	334	.227E-06	.000	362	.117E-07	.000	202	.497E-07	.000
29	.001	1095	.575E-06	.000	675	.812E-06	.000	575	.261E-06	.000	239	.826E-07	.000
28	.010	3440	.561E-05	.003	3037	.487E-05	.002	4913	.534E-05	.004	2400	.200E-05	.001
27	.032	8361	.162E-04	.007	7296	.122E-04	.005	16306	.187E-04	.013	10426	.913E-05	.006
26	.025	6546	.123E-04	.006	5389	.891E-05	.004	13409	.153E-04	.010	9140	.799E-05	.005

RUN # 40

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	26.46 M/S	4.50 M/S	26.46 M/S	4.50 M/S	27.20 M/S	4.50 M/S	27.20 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.44E+03		.11E+03		.16E+03		.0	
CALIBRATION FACTOR	.46E-02		.24E-02		.17E-02		.13E-02	
RANGE	10		10		10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	U9 RAW (AREA)	U9 NORMALIZED CONC(-)	U9 PROTOTYPE CONC(PPM)	U10 RAW (AREA)	U10 NORMALIZED CONC(-)	U10 PROTOTYPE CONC(PPM)	U11 RAW (AREA)	U11 NORMALIZED CONC(-)	U11 PROTOTYPE CONC(PPM)	U12 RAW (AREA)	U12 NORMALIZED CONC(-)	U12 PROTOTYPE CONC(PPM)
91	.335	7460	.241E-04	.072	6130	.165E-04	.050	16220	.301E-04	.137	11590	.165E-04	.075
92	.205	4730	.147E-04	.044	3480	.927E-05	.028	10040	.185E-04	.085	7420	.105E-04	.048
86	.061	1730	.443E-05	.013	610	.139E-05	.004	3120	.554E-05	.025	2830	.402E-05	.018
93	.117	3080	.906E-05	.027	2180	.570E-05	.017	5730	.104E-04	.048	3840	.546E-05	.025
87	.186	4170	.128E-04	.038	2650	.699E-05	.021	9380	.173E-04	.079	7300	.104E-04	.047
88	.006	870	.148E-05	.004	180	.206E-06	.001	230	.131E-05	.001	0	0.	0.000
89	.016	1170	.251E-05	.008	630	.144E-05	.004	660	.936E-05	.004	0	0.	0.000
90	.114	3060	.900E-05	.027	2340	.614E-05	.018	5400	.981E-05	.045	3660	.520E-05	.024
7	.006	900	.158E-05	.005	160	.151E-06	.000	250	.169E-05	.001	0	0.	0.000
8	.005	890	.155E-05	.005	150	.124E-06	.000	210	.936E-07	.000	0	0.	0.000
9	.010	940	.172E-05	.005	382	.761E-06	.002	433	.511E-05	.002	0	0.	0.000
10	.009	999	.192E-05	.006	195	.247E-06	.001	438	.521E-05	.002	0	0.	0.000
11	.010	997	.191E-05	.006	230	.343E-06	.001	334	.326E-05	.001	265	.377E-06	.002
12	.098	2292	.636E-05	.019	923	.225E-05	.007	5294	.962E-05	.044	4289	.609E-05	.028
13	.142	3355	.100E-04	.030	1588	.407E-05	.012	7640	.140E-04	.064	5514	.783E-05	.035
17	.010	875	.149E-05	.004	264	.437E-06	.001	404	.457E-05	.002	346	.492E-06	.002
14	.038	1505	.366E-05	.011	833	.200E-05	.006	1835	.314E-05	.014	1016	.144E-05	.007
15	.011	883	.152E-05	.005	330	.618E-06	.002	426	.498E-05	.002	283	.402E-06	.002
16	.006	850	.141E-05	.004	202	.266E-06	.001	271	.208E-05	.001	0	0.	0.000
18	.241	5354	.169E-04	.051	3454	.920E-05	.028	12328	.228E-04	.104	9087	.129E-04	.059
19	.287	6426	.206E-04	.062	4531	.122E-04	.036	14580	.270E-04	.123	10105	.144E-04	.066
20	.070	2142	.584E-05	.018	1339	.339E-05	.010	3398	.606E-05	.028	2191	.311E-05	.014
22	.036	1518	.370E-05	.011	1043	.258E-05	.008	1555	.261E-05	.012	806	.115E-05	.005
23	.006	821	.131E-05	.004	196	.250E-06	.001	277	.219E-05	.001	0	0.	0.000
25	.006	845	.139E-05	.004	199	.258E-06	.001	286	.236E-06	.001	0	0.	0.000
32	.006	831	.134E-05	.004	218	.310E-06	.001	291	.245E-06	.001	0	0.	0.000
31	.006	828	.133E-05	.004	210	.288E-06	.001	288	.240E-06	.001	0	0.	0.000
30	.006	819	.130E-05	.004	204	.272E-06	.001	291	.245E-06	.001	0	0.	0.000
29	.013	1026	.201E-05	.006	546	.121E-05	.004	504	.644E-06	.003	0	0.	0.000
28	.114	3316	.987E-05	.030	3091	.820E-05	.025	4954	.898E-05	.041	2935	.417E-05	.019
27	.303	7262	.234E-04	.070	6566	.177E-04	.053	14116	.261E-04	.119	9194	.131E-04	.060
26	.218	5328	.168E-04	.050	4502	.121E-04	.036	10314	.190E-04	.087	6838	.972E-05	.044

RUN # 41

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.82 M/S	1.50 M/S	8.82 M/S	1.50 M/S	9.07 M/S	1.50 M/S	9.07 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.36E+03		.10E+03		.22E+03		.96E+02	
CALIBRATION FACTOR	.41E-02		.22E-02		.15E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
91	.006	1387	.105E-05	.001	1490	.112E-05	.001
92	.006	1282	.939E-06	.001	1402	.106E-05	.001
86	.001	787	.435E-06	.000	249	.119E-06	.000
93	.000	0	0.	0.000	135	.261E-07	.000
87	.000	42	0.	0.000	0	0.	0.000
88	.001	884	.534E-06	.000	125	.179E-07	.000
89	.001	845	.494E-06	.000	167	.522E-07	.000
90	.001	820	.469E-06	.000	342	.195E-06	.000
7	.001	1000	.552E-06	.001	241	.112E-06	.000
8	.000	775	.423E-06	.000	94	0.	0.000
9	.000	789	.437E-06	.000	86	0.	0.000
10	.001	767	.415E-06	.000	155	.424E-07	.000
11	.000	324	0.	0.000	58	0.	0.000
12	.001	622	.267E-06	.000	145	.342E-07	.000
13	.001	772	.420E-06	.000	136	.269E-07	.000
17	.001	724	.371E-06	.000	190	.709E-07	.000
14	.001	854	.503E-06	.000	375	.222E-06	.000
15	.000	766	.414E-06	.000	161	.473E-07	.000
16	.000	810	.458E-06	.000	108	.407E-08	.000
18	.006	1151	.806E-06	.001	1122	.830E-06	.001
19	.002	867	.516E-06	.000	514	.335E-06	.000
20	.001	832	.481E-06	.000	250	.120E-06	.000
22	.000	582	.226E-06	.000	104	.815E-09	.000
23	.000	816	.465E-06	.000	110	.570E-08	.000
25	.000	829	.478E-06	.000	107	.326E-08	.000
32	.001	1091	.745E-06	.001	113	.815E-08	.000
31	.000	821	.470E-06	.000	109	.489E-08	.000
30	.001	784	.432E-06	.000	279	.143E-06	.000
29	.000	701	.347E-06	.000	106	.244E-08	.000
28	.001	845	.494E-06	.000	221	.962E-07	.000
27	.007	1838	.151E-05	.001	2180	.169E-05	.002
26	0.000	0	0.	0.000	0	0.	0.000

SAMPLE PT.	TOTAL (PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.006	3191	.165E-05	.002	3519	.144E-05	.002
92	.006	3230	.167E-05	.002	3543	.145E-05	.002
86	.001	395	.956E-07	.000	492	.167E-06	.000
93	.000	320	.539E-07	.000	706	.257E-06	.000
87	.000	41	0.	0.000	416	.135E-06	.000
88	.001	281	.322E-07	.000	108	.506E-08	.000
89	.001	367	.800E-07	.000	467	.156E-06	.000
90	.001	594	.206E-06	.000	228	.556E-07	.000
7	.001	493	.150E-06	.000	847	.317E-06	.000
8	.000	217	0.	0.000	98	.843E-09	.000
9	.000	242	.106E-07	.000	86	0.	0.000
10	.001	409	.103E-06	.000	82	0.	0.000
11	.000	217	0.	0.000	446	.148E-06	.000
12	.001	412	.105E-06	.000	692	.251E-06	.000
13	.001	364	.783E-07	.000	151	.232E-07	.000
17	.001	369	.811E-07	.000	225	.544E-07	.000
14	.001	810	.326E-06	.000	105	.379E-08	.000
15	.000	297	.411E-07	.000	0	0.	0.000
16	.000	281	.322E-07	.000	0	0.	0.000
18	.006	3565	.186E-05	.003	3408	.140E-05	.002
19	.002	1014	.440E-06	.001	855	.320E-06	.000
20	.001	998	.431E-06	.001	110	.590E-08	.000
22	.000	318	.528E-07	.000	98	.843E-09	.000
23	.000	259	.200E-07	.000	96	0.	0.000
25	.000	247	.133E-07	.000	96	0.	0.000
32	.001	238	.833E-08	.000	101	.211E-08	.000
31	.000	268	.250E-07	.000	90	0.	0.000
30	.001	347	.689E-07	.000	105	.422E-08	.000
29	.000	307	.467E-07	.000	97	.422E-09	.000
28	.001	537	.174E-06	.000	269	.729E-07	.000
27	.007	5079	.270E-05	.004	54	0.	0.000
26	0.000	0	0.	0.000	0	0.	0.000

RUN # 42

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	17.64 M/S	3.00 M/S	17.64 M/S	3.00 M/S	18.13 M/S	3.00 M/S	18.13 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.83E+03		.26E+03		.38E+03		.23E+03	
CALIBRATION FACTOR	.41E-02		.22E-02		.15E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	U9 RAW (AREA)	U9 NORMALIZED CONC(-)	U9 PROTOTYPE CONC(PPM)	U10 RAW (AREA)	U10 NORMALIZED CONC(-)	U10 PROTOTYPE CONC(PPM)	U11 RAW (AREA)	U11 NORMALIZED CONC(-)	U11 PROTOTYPE CONC(PPM)	U12 RAW (AREA)	U12 NORMALIZED CONC(-)	U12 PROTOTYPE CONC(PPM)
91	.010	2349	.310E-05	.001	3322	.500E-05	.002	6157	.642E-05	.004	4379	.350E-05	.002
92	.008	1831	.204E-05	.001	2568	.377E-05	.002	4815	.493E-05	.003	4252	.339E-05	.002
86	.001	966	.281E-06	.000	534	.455E-06	.000	1021	.713E-06	.000	913	.577E-06	.000
93	.010	2361	.312E-05	.001	3117	.466E-05	.002	5919	.616E-05	.004	4137	.330E-05	.002
87	.007	1745	.187E-05	.001	2305	.334E-05	.002	5960	.620E-05	.004	0	0.	0.000
88	.000	981	.312E-06	.000	264	.147E-07	.000	466	.967E-07	.000	0	0.	0.000
89	.000	804	0.	0.000	262	.114E-07	.000	441	.689E-07	.000	229	.843E-09	.000
90	.002	1191	.740E-06	.000	814	.911E-06	.000	1283	.100E-05	.001	681	.382E-06	.000
7	.000	824	0.	0.000	245	0.	0.000	347	0.	0.000	242	.118E-07	.000
8	.000	888	.122E-06	.000	342	.142E-06	.000	440	.678E-07	.000	226	0.	0.000
9	.000	797	0.	0.000	234	0.	0.000	353	0.	0.000	232	.337E-08	.000
10	.000	832	.815E-08	.000	236	0.	0.000	500	.134E-06	.000	219	0.	0.000
11	.000	914	.175E-06	.000	373	.192E-06	.000	457	.867E-07	.000	263	.295E-07	.000
12	.001	865	.754E-07	.000	341	.140E-06	.000	806	.475E-06	.000	1040	.685E-06	.000
13	.000	820	0.	0.000	300	.733E-07	.000	572	.214E-06	.000	452	.189E-06	.000
17	.000	873	.917E-07	.000	351	.156E-06	.000	491	.124E-06	.000	278	.422E-07	.000
14	.000	955	.259E-06	.000	253	0.	0.000	486	.119E-06	.000	234	.506E-08	.000
15	.000	807	0.	0.000	233	0.	0.000	440	.678E-07	.000	238	.843E-08	.000
16	.000	890	.126E-06	.000	335	.130E-06	.000	420	.456E-07	.000	233	.422E-08	.000
18	.009	1691	.176E-05	.001	2192	.316E-05	.001	5614	.582E-05	.004	4640	.372E-05	.003
19	.004	1348	.106E-05	.000	1411	.188E-05	.001	2786	.267E-05	.002	2122	.160E-05	.001
20	.001	1051	.454E-06	.000	654	.650E-06	.000	786	.452E-06	.000	409	.153E-06	.000
22	.000	922	.192E-06	.000	376	.197E-06	.000	507	.142E-06	.000	299	.599E-07	.000
23	.000	812	0.	0.000	247	0.	0.000	365	0.	0.000	233	.422E-08	.000
25	.000	828	0.	0.000	255	0.	0.000	447	.756E-07	.000	228	0.	0.000
32	.000	896	.139E-06	.000	354	.161E-06	.000	379	0.	0.000	252	.202E-07	.000
31	.000	901	.149E-06	.000	342	.142E-06	.000	443	.711E-07	.000	246	.152E-07	.000
30	.000	886	.118E-06	.000	332	.125E-06	.000	466	.967E-07	.000	226	0.	0.000
29	.000	840	.244E-07	.000	267	.196E-07	.000	432	.589E-07	.000	240	.101E-07	.000
28	.002	1227	.813E-06	.000	897	.105E-05	.000	1254	.972E-06	.001	685	.386E-06	.000
27	.013	2962	.435E-05	.002	4163	.637E-05	.003	7371	.777E-05	.005	4595	.368E-05	.003
26	.013	2697	.381E-05	.002	3923	.598E-05	.003	7430	.784E-05	.005	5129	.413E-05	.003

RUN # 43

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	26.46 M/S	4.50 M/S	26.46 M/S	4.50 M/S	27.20 M/S	4.50 M/S	27.20 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.10E+06	.51E+02
BACKGROUND	.93E+03		.34E+03		.53E+03		.30E+03	
CALIBRATION FACTOR	.41E-02		.22E-02		.15E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
91	.002	346	0.	0.000	439	.232E-06	.000	947	.688E-06	.000	2561	.285E-05	.001
92	.010	2351	.435E-05	.001	2905	.626E-05	.002	6289	.959E-05	.004	4760	.563E-05	.003
86	.002	1123	.599E-06	.000	685	.834E-06	.000	1614	.180E-05	.001	1290	.125E-05	.001
93	.007	2007	.330E-05	.001	2314	.482E-05	.001	4704	.695E-05	.003	2988	.339E-05	.002
87	.009	1895	.296E-05	.001	2243	.464E-05	.001	5645	.852E-05	.004	4756	.563E-05	.003
88	.000	1026	.303E-06	.000	446	.249E-06	.000	574	.667E-07	.000	339	.443E-07	.000
89	.000	1031	.318E-06	.000	449	.257E-06	.000	594	.100E-06	.000	341	.468E-07	.000
90	.002	1270	.105E-05	.000	934	.144E-05	.000	1443	.152E-05	.001	800	.627E-06	.000
7	.000	1073	.446E-06	.000	361	.416E-07	.000	638	.173E-06	.000	361	.721E-07	.000
8	.000	925	0.	0.000	351	.171E-07	.000	559	.417E-07	.000	338	.430E-07	.000
9	.000	1009	.251E-06	.000	438	.230E-06	.000	551	.283E-07	.000	324	.253E-07	.000
10	.001	1023	.293E-06	.000	506	.396E-06	.000	602	.113E-06	.000	1086	.989E-06	.000
11	.000	1107	.550E-06	.000	385	.100E-06	.000	703	.282E-06	.000	338	.430E-07	.000
12	.002	1085	.483E-06	.000	691	.824E-06	.000	1756	.204E-05	.001	1511	.153E-05	.001
13	.001	1060	.406E-06	.000	550	.504E-06	.000	1105	.952E-06	.000	772	.592E-06	.000
17	.000	1032	.321E-06	.000	519	.428E-06	.000	693	.265E-06	.000	367	.797E-07	.000
14	.000	1020	.284E-06	.000	450	.259E-06	.000	691	.262E-06	.000	353	.620E-07	.000
15	.000	896	0.	0.000	333	0.	0.000	573	.650E-07	.000	316	.152E-07	.000
16	.000	957	.917E-07	.000	356	.293E-07	.000	631	.162E-06	.000	319	.190E-07	.000
18	.009	2069	.349E-05	.001	2590	.549E-05	.002	5999	.911E-05	.004	4761	.564E-05	.003
19	.006	1720	.242E-05	.001	1811	.359E-05	.001	3600	.511E-05	.002	2691	.302E-05	.001
20	.001	1115	.575E-06	.000	584	.587E-06	.000	930	.660E-06	.000	529	.285E-06	.000
22	.000	1053	.385E-06	.000	518	.425E-06	.000	694	.267E-06	.000	363	.746E-07	.000
23	.000	1011	.257E-06	.000	434	.220E-06	.000	629	.158E-06	.000	313	.114E-07	.000
25	0.000	927	0.	0.000	344	0.	0.000	534	0.	0.000	304	0.	0.000
32	.000	1023	.293E-06	.000	472	.313E-06	.000	543	.150E-07	.000	363	.746E-07	.000
31	.000	991	0.	0.000	352	.196E-07	.000	547	.217E-07	.000	341	.468E-07	.000
30	.000	1013	.263E-06	.000	460	.284E-06	.000	629	.158E-06	.000	327	.291E-07	.000
29	.000	743	0.	0.000	323	0.	0.000	514	0.	0.000	1001	.881E-06	.000
28	.002	1450	.160E-05	.000	1107	.187E-05	.001	1469	.156E-05	.001	832	.668E-06	.000
27	.010	2878	.596E-05	.002	3394	.746E-05	.002	5861	.889E-05	.004	4091	.479E-05	.002
26	.011	2797	.571E-05	.002	3459	.762E-05	.002	6621	.101E-04	.005	4606	.544E-05	.002

RUN # 44

	UNIT 12 MODEL	PROTOTYPE
FREE STREAM VEL.	1.50 M/S	7.62 M/S
EXIT VEL.	4.03 M/S	21.04 M/S
VOL. FLOW	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02
BACKGROUND	.50E+03	
CALIBRATION FACTOR	.41E-02	
RANGE	10	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
91	.007	8318	.108E-04	.007
92	.009	10377	.137E-04	.009
86	.002	2950	.339E-05	.002
93	.007	8000	.104E-04	.007
87	.009	9780	.128E-04	.009
88	.001	1160	.911E-06	.001
89	.000	800	.413E-06	.000
90	.001	2110	.222E-05	.001
7	.000	680	.247E-06	.000
8	.000	770	.372E-06	.000
9	.000	660	.220E-06	.000
10	.000	700	.275E-06	.000
11	.000	710	.289E-06	.000
12	.003	3360	.395E-05	.003
13	.001	1600	.152E-05	.001
17	.000	760	.358E-06	.000
14	.000	770	.372E-06	.000
15	.000	720	.303E-06	.000
16	.000	1030	.731E-06	.000
18	.008	8807	.115E-04	.008
19	.004	4766	.590E-05	.004
20	.001	1116	.850E-06	.001
22	.000	838	.466E-06	.000
23	.000	811	.429E-06	.000
25	.001	1130	.870E-06	.001
32	.000	844	.474E-06	.000
31	.000	754	.350E-06	.000
30	.001	1230	.101E-05	.001
29	.000	773	.376E-06	.000
28	.001	2058	.215E-05	.001
27	.009	9787	.128E-04	.009
26	.008	9047	.118E-04	.008

RUN # 45

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	15.64 M/S
EXIT VEL.	4.03 M/S	21.04 M/S
VOL. FLOW	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02
BACKGROUND	.66E+03	
CALIBRATION FACTOR	.41E-02	
RANGE	10	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
91	.008	8906	.228E-04	.008
92	.006	6797	.170E-04	.006
86	.000	1048	.108E-05	.000
93	.004	5506	.134E-04	.004
87	.006	7434	.187E-04	.006
88	.004	5213	.126E-04	.004
89	.000	802	.398E-06	.000
90	.002	3207	.705E-05	.002
7	.000	1138	.133E-05	.000
8	.000	827	.467E-06	.000
9	.000	1081	.117E-05	.000
10	.001	1639	.271E-05	.001
11	.000	728	.194E-06	.000
12	.003	3940	.907E-05	.003
13	.002	2860	.609E-05	.002
17	.000	730	.199E-06	.000
14	.000	790	.365E-06	.000
15	.000	580	.608E-07	.000
16	.000	690	.885E-07	.000
18	.007	8200	.209E-04	.007
19	.004	4940	.118E-04	.004
20	.001	1430	.213E-05	.001
22	.000	870	.586E-06	.000
23	.000	700	.116E-06	.000
25	0.000	658	0.	0.000
32	.000	697	.108E-06	.000
31	.000	661	.829E-08	.000
30	.000	687	.802E-07	.000
29	.001	1286	.174E-05	.001
28	.002	2753	.579E-05	.002
27	.006	7645	.193E-04	.006
26	.005	6595	.164E-04	.005

RUN # 46

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	23.46 M/S
EXIT VEL.	4.03 M/S	21.04 M/S
VOL. FLOW	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02
BACKGROUND	.64E+03	
CALIBRATION FACTOR	.41E-02	
RANGE	10	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
92	.004	5420	.198E-04	.004
86	.002	2570	.800E-05	.002
93	.003	3990	.139E-04	.003
87	.005	5570	.204E-04	.005
88	.004	4950	.179E-04	.004
89	.000	730	.373E-06	.000
90	.002	2970	.966E-05	.002
7	0.000	630	0.	0.000
9	0.000	600	0.	0.000
10	0.000	590	0.	0.000
11	0.000	620	0.	0.000
12	.002	2300	.688E-05	.002
13	.003	3370	.113E-04	.003
17	.000	800	.664E-06	.000
14	.000	860	.912E-06	.000
15	0.000	560	0.	0.000
16	0.000	560	0.	0.000
18	.006	6960	.262E-04	.006
19	.004	4840	.174E-04	.004
20	.002	2425	.740E-05	.002
22	.001	1394	.313E-05	.001
23	0.000	589	0.	0.000
25	0.000	572	0.	0.000
32	.000	670	.124E-06	.000
30	0.000	580	0.	0.000
29	0.000	610	0.	0.000
28	.002	2300	.688E-05	.002
27	.005	6000	.222E-04	.005
26	.004	4960	.179E-04	.004

RUN # 47

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	1.50 M/S	7.82 M/S
EXIT VEL.	4.03 M/S	21.04 M/S
VOL. FLOW	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02
BACKGROUND	.68E+02	
CALIBRATION FACTOR	.41E-01	
RANGE	100	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
91	.002	257	.262E-05	.002
92	.004	517	.621E-05	.004
86	.001	124	.781E-06	.001
93	.003	415	.480E-05	.003
87	.003	445	.522E-05	.003
88	0.000	65	0.	0.000
89	.000	68	.691E-08	.000
90	.000	91	.325E-06	.000
7	.000	72	.622E-07	.000
8	0.000	66	0.	0.000
10	0.000	65	0.	0.000
9	.000	72	.622E-07	.000
11	.000	70	.346E-07	.000
12	.000	80	.173E-06	.000
13	.000	74	.899E-07	.000
17	.000	78	.145E-06	.000
14	.000	70	.346E-07	.000
15	.000	68	.691E-08	.000
16	.000	69	.207E-07	.000
18	.003	357	.400E-05	.003
19	.001	139	.988E-06	.001
20	.000	76	.118E-06	.000
22	.000	68	.691E-08	.000
23	.000	68	.691E-08	.000
25	0.000	67	0.	0.000
32	.000	68	.691E-08	.000
31	0.000	67	0.	0.000
30	.000	70	.346E-07	.000
29	.000	68	.691E-08	.000
28	.000	92	.339E-06	.000
27	.002	311	.337E-05	.002
26	.004	493	.588E-05	.004

RUN # 48

		UNIT 12	
	MODEL	PROTOTYPE	
FREE STREAM VEL.	3.00 M/S	15.64 M/S	
EXIT VEL.	4.03 M/S	21.04 M/S	
VOL. FLOW	.70E-04M3/S	.15E+03M3/S	
SOURCE STRENGTH	.15E+06	.34E+02	
BACKGROUND	.73E+02		
CALIBRATION FACTOR	.41E-01		
RANGE	100		
STACK HEIGHT	28.00 CM	182.00 M	
STACK DIAMETER	.47 CM	3.06 M	

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
91	.002	308	.650E-05	.002
92	.002	284	.583E-05	.002
86	.001	136	.174E-05	.001
93	.003	404	.915E-05	.003
87	.003	439	.101E-04	.003
88	0.000	72	0.	0.000
89	0.000	72	0.	0.000
90	.000	87	.387E-06	.000
7	.000	74	.276E-07	.000
8	.000	76	.829E-07	.000
9	0.000	68	0.	0.000
10	.000	76	.829E-07	.000
11	0.000	73	0.	0.000
12	.001	158	.235E-05	.001
13	.000	88	.415E-06	.000
17	.000	77	.111E-06	.000
14	.000	76	.829E-07	.000
15	.000	77	.111E-06	.000
16	.000	74	.276E-07	.000
18	.003	377	.841E-05	.003
19	.001	222	.412E-05	.001
20	.000	82	.249E-06	.000
22	.000	74	.276E-07	.000
23	0.000	73	0.	0.000
25	0.000	73	0.	0.000
32	0.000	73	0.	0.000
31	0.000	70	0.	0.000
30	.000	74	.276E-07	.000
29	.000	76	.829E-07	.000
28	.000	100	.747E-06	.000
27	.002	318	.677E-05	.002
26	.003	417	.951E-05	.003

RUN # 49

		MODEL	PROTOTYPE
		UNIT 12	
FREE STREAM VEL.		4.50 M/S	23.46 M/S
EXIT VEL.		4.03 M/S	21.04 M/S
VOL. FLOW		.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH		.15E+06	.34E+02
BACKGROUND		.59E+02	
CALIBRATION FACTOR		.41E-01	
RANGE		100	
STACK HEIGHT		28.00 CM	182.00 M
STACK DIAMETER		.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
91	.002	302	.101E-04	.002
92	.001	199	.581E-05	.001
86	.000	73	.581E-06	.000
93	.002	323	.109E-04	.002
87	.003	380	.133E-04	.003
88	.000	60	.415E-07	.000
89	0.000	53	0.	0.000
90	.000	102	.178E-05	.000
7	0.000	58	0.	0.000
8	0.000	59	0.	0.000
9	.000	69	.415E-06	.000
10	.000	66	.290E-06	.000
11	0.000	59	0.	0.000
12	.001	144	.353E-05	.001
13	.000	83	.995E-06	.000
17	.000	62	.124E-06	.000
14	0.000	56	0.	0.000
15	0.000	55	0.	0.000
16	0.000	57	0.	0.000
18	.003	341	.117E-04	.003
19	.001	130	.294E-05	.001
20	.000	69	.415E-06	.000
22	.000	61	.829E-07	.000
23	0.000	58	0.	0.000
25	.000	61	.829E-07	.000
32	0.000	58	0.	0.000
31	.000	74	.622E-06	.000
30	.000	72	.539E-06	.000
29	.000	71	.498E-06	.000
26	.002	323	.109E-04	.002

RUN # 50

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.82 M/S	1.50 M/S	8.82 M/S	1.50 M/S	9.07 M/S	1.50 M/S	9.07 M/S
EXIT VEL.	3.94 M/S	23.17 M/S	3.94 M/S	23.17 M/S	3.94 M/S	23.82 M/S	3.94 M/S	23.82 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.40E+05	.51E+02
BACKGROUND	.81E+03		.10E+03		.97E+03		.14E+03	
CALIBRATION FACTOR	.38E-02		.20E-02		.14E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.60 M	.55 CM	3.60 M	.55 CM	3.60 M	.55 CM	3.60 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
77	.000	749	0.	0.000	160	.429E-07	.000
78	.001	918	.933E-07	.000	781	.518E-06	.000
67	.002	943	.116E-06	.000	851	.572E-06	.001
76	.001	785	0.	0.000	148	.337E-07	.000
70	.001	757	0.	0.000	326	.170E-06	.000
79	.000	652	0.	0.000	110	.459E-08	.000
87	.000	727	0.	0.000	185	.620E-07	.000
84	.002	758	0.	0.000	353	.191E-06	.000
90	.000	843	.260E-07	.000	197	.712E-07	.000
88	.010	2536	.155E-05	.001	5319	.399E-05	.004
71	.000	765	0.	0.000	173	.524E-07	.000
72	.004	798	0.	0.000	347	.186E-06	.000
93	.000	842	.251E-07	.000	180	.582E-07	.000
92	.011	641	0.	0.000	707	.462E-06	.000
65	.023	928	.102E-06	.000	3460	.257E-05	.002
63	.015	3090	.204E-05	.002	6317	.476E-05	.004
74	.000	738	0.	0.000	95	0.	0.000
73	.005	989	.157E-06	.000	504	.306E-06	.000
80	.011	6007	.466E-05	.004	7589	.573E-05	.005
75	.015	631	0.	0.000	610	.387E-06	.000
62	.011	994	.162E-06	.000	1615	.116E-05	.001
68	.039	7620	.611E-05	.005	14694	.112E-04	.010
61	.007	5944	.460E-05	.004	3030	.224E-05	.002
69	.000	646	0.	0.000	149	.345E-07	.000
85	.007	742	0.	0.000	290	.142E-06	.000
82	.020	806	0.	0.000	1034	.712E-06	.001
86	.030	1237	.380E-06	.000	3452	.256E-05	.002
66	.013	2684	.168E-05	.002	3974	.296E-05	.003
81	.014	10765	.893E-05	.008	5852	.440E-05	.004
52	.001	855	.368E-07	.000	124	.153E-07	.000
64	.003	1219	.363E-06	.000	196	.705E-07	.000
83	.023	1088	.246E-06	.000	1604	.115E-05	.001
53	.044	1338	.919E-06	.001	5993	.451E-05	.004
51	.061	11974	.100E-04	.009	18071	.138E-04	.012
55	.018	9885	.814E-05	.007	7596	.574E-05	.005
117	.001	842	.251E-07	.000	199	.727E-07	.000
114	.014	806	0.	0.000	585	.368E-06	.000
54	.001	1064	.224E-06	.000	207	.789E-07	.000
110	.027	935	.109E-06	.000	1923	.139E-05	.001
113	.036	2540	.155E-05	.001	5350	.402E-05	.004
109	.059	10616	.880E-05	.008	17757	.135E-04	.012
111	.023	9894	.815E-05	.007	9302	.704E-05	.006
107	.002	773	0.	0.000	246	.109E-06	.000
106	.015	728	0.	0.000	864	.582E-06	.001
115	.027	1099	.256E-06	.000	2811	.207E-05	.002
108	.044	2807	.179E-05	.002	6292	.474E-05	.004
112	.059	9705	.798E-05	.007	16895	.129E-04	.012
116	.042	6908	.547E-05	.005	11805	.896E-05	.008

SAMPLE PT.	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
77	1209	.125E-06	.000	212	.713E-07	.000
78	1362	.205E-06	.000	295	.153E-06	.000
67	2466	.782E-06	.001	288	.147E-06	.000
76	1570	.314E-06	.000	216	.753E-07	.000
70	1907	.490E-06	.001	423	.280E-06	.000
79	1180	.110E-06	.000	228	.871E-07	.000
87	1185	.113E-06	.000	318	.176E-06	.000
84	2278	.683E-06	.001	1163	.101E-05	.001
90	1194	.117E-06	.000	299	.157E-06	.000
88	5753	.250E-05	.003	1125	.975E-06	.001
71	1270	.157E-06	.000	297	.155E-06	.000
72	2271	.690E-06	.001	2284	.212E-05	.003
93	1162	.101E-06	.000	299	.157E-06	.000
92	5085	.215E-05	.003	6002	.580E-05	.008
65	12758	.616E-05	.008	8944	.872E-05	.012
63	9335	.437E-05	.006	2005	.185E-05	.003
74	1152	.955E-07	.000	0	0.	0.000
73	2717	.913E-06	.001	2744	.258E-05	.004
80	3242	.119E-05	.002	210	.693E-07	.000
75	4989	.210E-05	.003	8483	.826E-05	.011
62	5785	.251E-05	.003	5120	.493E-05	.007
68	21536	.107E-04	.015	6652	.645E-05	.009
61	2253	.670E-06	.001	233	.921E-07	.000
69	1214	.128E-06	.000	287	.146E-06	.000
85	3035	.108E-05	.001	4233	.405E-05	.006
82	7785	.356E-05	.005	10873	.106E-04	.015
86	14842	.724E-05	.010	12527	.124E-04	.017
66	7470	.339E-05	.005	2896	.273E-05	.004
81	3725	.144E-05	.002	391	.249E-06	.000
52	1195	.118E-06	.000	485	.342E-06	.000
64	1744	.405E-06	.001	1551	.140E-05	.002
83	9102	.425E-05	.006	11837	.116E-04	.016
53	21022	.105E-04	.014	18757	.184E-04	.025
51	27420	.138E-04	.019	15132	.148E-04	.020
55	6474	.287E-05	.004	1048	.899E-06	.001
117	1220	.131E-06	.000	508	.364E-06	.000
114	5654	.245E-05	.003	7731	.752E-05	.010
54	2529	.814E-06	.001	0	0.	0.000
110	11577	.554E-05	.008	13725	.135E-04	.018
113	15646	.766E-05	.010	14993	.147E-04	.020
109	27549	.139E-04	.019	15142	.149E-04	.020
111	9819	.462E-05	.006	2025	.187E-05	.003
107	1568	.313E-06	.000	1303	.115E-05	.002
106	5172	.272E-05	.004	8310	.809E-05	.011
115	12606	.608E-05	.008	12385	.121E-04	.017
108	19737	.980E-05	.013	18416	.181E-04	.025
112	26618	.134E-04	.018	15965	.157E-04	.021
116	19558	.971E-05	.013	11608	.114E-04	.016

RUN # 51

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	17.64 M/S	3.00 M/S	17.64 M/S	3.00 M/S	18.13 M/S	3.00 M/S	18.13 M/S
EXIT VEL.	3.94 M/S	23.17 M/S	3.94 M/S	23.17 M/S	3.94 M/S	23.82 M/S	3.94 M/S	23.82 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.40E+05	.51E+02
BACKGROUND	.69E+03		.13E+03		.24E+03		.14E+03	
CALIBRATION FACTOR	.38E-02		.20E-02		.14E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.60 M	.55 CM	3.60 M	.55 CM	3.60 M	.55 CM	3.60 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
77	.000	856	.297E-06	.000	270	.208E-06	.000	286	.449E-07	.000	205	.137E-06	.000
78	.001	726	.637E-07	.000	251	.179E-06	.000	672	.448E-06	.000	910	.153E-05	.001
67	.002	565	0.	0.000	224	.138E-06	.000	1084	.878E-06	.001	1395	.249E-05	.002
76	.001	936	.441E-06	.000	547	.633E-06	.000	889	.675E-06	.000	322	.368E-06	.000
70	.001	631	0.	0.000	735	.920E-06	.000	1074	.868E-06	.001	244	.214E-06	.000
79	.001	1361	.120E-05	.001	157	.352E-07	.000	292	.512E-07	.000	178	.832E-07	.000
87	.000	797	.191E-06	.000	247	.173E-06	.000	234	0.	0.000	139	.594E-08	.000
84	.006	996	.548E-06	.000	653	.795E-06	.000	1696	.152E-05	.001	3636	.693E-05	.005
90	.001	1180	.879E-06	.000	800	.102E-05	.000	504	.273E-06	.000	159	.455E-07	.000
88	.010	2377	.303E-05	.001	4200	.623E-05	.003	6445	.648E-05	.004	1471	.264E-05	.002
71	.001	860	.304E-06	.000	271	.210E-06	.000	404	.168E-06	.000	525	.770E-06	.001
72	.008	736	.817E-07	.000	242	.165E-06	.000	1552	.137E-05	.001	5395	.104E-04	.007
93	.001	999	.552E-06	.000	496	.554E-06	.000	284	.428E-07	.000	144	.158E-07	.000
92	.024	1091	.719E-06	.000	1500	.209E-05	.001	16071	.165E-04	.011	8327	.162E-04	.011
65	.026	985	.349E-06	.000	2795	.408E-05	.002	14056	.144E-04	.010	10251	.200E-04	.014
63	.014	2860	.389E-05	.002	6000	.898E-05	.004	7057	.712E-05	.005	2348	.438E-05	.003
74	.001	814	.222E-06	.000	386	.386E-06	.000	391	.155E-06	.000	235	.196E-06	.000
73	.007	931	.432E-06	.000	500	.561E-06	.000	1344	.115E-05	.001	4206	.806E-05	.005
80	.010	5588	.879E-05	.004	5343	.798E-05	.004	3294	.319E-05	.002	244	.214E-06	.000
75	.015	612	0.	0.000	519	.590E-06	.000	5425	.541E-05	.004	8363	.163E-04	.011
62	.010	833	.256E-06	.000	1048	.140E-05	.001	4722	.468E-05	.003	4713	.906E-05	.006
68	.035	6247	.997E-05	.004	12220	.185E-04	.008	17949	.185E-04	.013	7026	.136E-04	.009
61	.033	5850	.926E-05	.004	11459	.173E-04	.008	16629	.171E-04	.012	7183	.140E-04	.010
69	.000	751	.109E-06	.000	161	.414E-07	.000	370	.133E-06	.000	359	.442E-06	.000
85	.008	803	.202E-06	.000	574	.674E-06	.000	1837	.166E-05	.001	4744	.913E-05	.006
82	.018	760	.125E-06	.000	981	.130E-05	.001	6952	.701E-05	.005	9396	.183E-04	.013
86	.023	1097	.730E-06	.000	3390	.499E-05	.002	11354	.116E-04	.008	9188	.179E-04	.012
66	.012	2278	.285E-05	.001	3438	.506E-05	.002	6102	.612E-05	.004	2938	.555E-05	.004
81	.014	7136	.116E-04	.005	6854	.103E-04	.005	4690	.464E-05	.003	800	.132E-05	.001
52	.001	426	.243E-06	.000	371	.363E-06	.000	348	.110E-06	.000	307	.339E-06	.000
64	.002	1045	.636E-06	.000	593	.703E-06	.000	583	.355E-06	.000	791	.130E-05	.001
83	.016	948	.462E-06	.000	1247	.170E-05	.001	5872	.588E-05	.004	8605	.168E-04	.011
53	.028	1078	.695E-06	.000	3322	.488E-05	.002	13112	.134E-04	.009	12223	.239E-04	.016
51	.041	6567	.105E-04	.005	10545	.159E-04	.007	19152	.197E-04	.014	11299	.221E-04	.015
55	.017	7451	.121E-04	.005	6698	.101E-04	.005	6372	.640E-05	.004	1768	.323E-05	.002
117	.000	786	.171E-06	.000	209	.115E-06	.000	309	.689E-07	.000	281	.287E-06	.000
114	.006	1007	.568E-06	.000	948	.125E-05	.001	1970	.180E-05	.001	3081	.583E-05	.004
54	.001	727	.655E-07	.000	254	.184E-06	.000	1128	.924E-06	.001	189	.105E-06	.000
110	.020	1062	.667E-06	.000	2020	.289E-05	.001	7539	.762E-05	.005	9796	.191E-04	.013
113	.023	1622	.167E-05	.001	3563	.525E-05	.002	11006	.112E-04	.008	9005	.176E-04	.012
109	.036	5517	.866E-05	.004	8148	.123E-04	.006	17767	.183E-04	.013	10572	.207E-04	.014
111	.015	6503	.104E-04	.005	6279	.941E-05	.004	6256	.628E-05	.004	1592	.288E-05	.002
107	.001	727	.655E-07	.000	183	.750E-07	.000	529	.299E-06	.000	827	.137E-05	.001
106	.010	845	.277E-06	.000	835	.107E-05	.000	3781	.369E-05	.003	5248	.101E-04	.007
115	.018	1160	.843E-06	.000	2453	.355E-05	.002	7948	.704E-05	.005	8088	.157E-04	.011
108	.029	2307	.290E-05	.001	4921	.733E-05	.003	13665	.140E-04	.010	10917	.214E-04	.015
112	.034	5152	.803E-05	.004	8672	.131E-04	.006	16261	.167E-04	.011	9906	.193E-04	.013
116	.014	5380	.842E-05	.004	5475	.818E-05	.004	5149	.512E-05	.004	2149	.399E-05	.003

RUN # 52

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	26.46 M/S	4.50 M/S	26.46 M/S	4.50 M/S	27.20 M/S	4.50 M/S	27.20 M/S
EXIT VEL.	3.94 M/S	23.17 M/S	3.94 M/S	23.17 M/S	3.94 M/S	23.82 M/S	3.94 M/S	23.82 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.40E+05	.51E+02
BACKGROUND	.76E+03		.21E+03		.27E+03		.15E+03	
CALIBRATION FACTOR	.41E-02		.22E-02		.15E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.60 M	.55 CM	3.60 M	.55 CM	3.60 M	.55 CM	3.60 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
77	.000	599	0.	0.000	205	0.	0.000
78	.001	885	.369E-06	.000	466	.632E-06	.000
67	.003	758	.852E-08	.000	269	.155E-06	.000
76	.002	802	.133E-06	.000	421	.523E-06	.000
70	.003	659	0.	0.000	1246	.252E-05	.001
79	.001	927	.488E-06	.000	454	.603E-06	.000
87	.001	1088	.946E-06	.000	827	.151E-05	.000
84	.008	1015	.741E-06	.000	707	.122E-05	.000
90	.001	1032	.787E-06	.000	739	.129E-05	.000
88	.015	1847	.310E-05	.001	4614	.107E-04	.003
71	.001	755	0.	0.000	230	.606E-07	.000
72	.007	662	0.	0.000	478	.661E-06	.000
93	.000	912	.446E-06	.000	446	.584E-06	.000
92	.013	623	0.	0.000	1207	.243E-05	.001
65	.002	170	0.	0.000	315	.267E-06	.000
63	.013	2325	.446E-05	.001	3359	.764E-05	.002
74	.009	1758	.285E-05	.001	2257	.497E-05	.001
73	.005	894	.395E-06	.000	665	.111E-05	.000
80	.001	32	0.	0.000	96	0.	0.000
75	.013	886	.372E-06	.000	1146	.228E-05	.001
62	.012	1029	.778E-06	.000	1378	.284E-05	.001
68	.029	4465	.105E-04	.003	6776	.159E-04	.005
61	.014	4172	.970E-05	.003	2512	.559E-05	.002
69	.000	765	.284E-07	.000	205	0.	0.000
85	.006	854	.281E-06	.000	733	.128E-05	.000
82	.015	953	.562E-06	.000	1222	.246E-05	.001
86	.015	1077	.914E-06	.000	1978	.430E-05	.001
66	.009	613	0.	0.000	1111	.220E-05	.001
91	.012	5459	.134E-04	.004	4220	.973E-05	.003
52	.000	647	0.	0.000	200	0.	0.000
64	.001	810	.156E-06	.000	334	.313E-06	.000
83	.013	793	.108E-06	.000	1334	.274E-05	.001
53	.021	1250	.141E-05	.000	2634	.589E-05	.002
51	.031	4699	.112E-04	.003	7397	.174E-04	.005
55	.013	5867	.145E-04	.004	4688	.109E-04	.003
117	.000	949	.267E-06	.000	340	.327E-06	.000
114	.008	856	.287E-06	.000	875	.162E-05	.000
54	.003	1898	.325E-05	.001	1176	.235E-05	.001
110	.014	1036	.798E-06	.000	2147	.471E-05	.001
113	.017	1495	.210E-05	.001	3125	.708E-05	.002
109	.028	4327	.101E-04	.003	6849	.161E-04	.005
111	.011	4381	.103E-04	.003	4237	.977E-05	.003
107	.001	777	.625E-07	.000	271	.160E-06	.000
106	.008	948	.548E-06	.000	1052	.205E-05	.001
115	.007	936	.514E-06	.000	972	.186E-05	.001
108	.018	1645	.253E-05	.001	3227	.732E-05	.002
112	.025	4132	.959E-05	.003	6196	.145E-04	.004
116	.013	4620	.110E-04	.003	4190	.966E-05	.003

SAMPLE PT.	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
77	341	.112E-06	.000	197	.135E-06	.000
78	611	.558E-06	.000	658	.158E-05	.001
67	1526	.207E-05	.001	1394	.389E-05	.002
76	1454	.195E-05	.001	877	.227E-05	.001
70	3159	.477E-05	.002	392	.746E-06	.000
79	395	.202E-06	.000	229	.235E-06	.000
87	833	.925E-06	.000	182	.877E-07	.000
84	3660	.560E-05	.003	3882	.117E-04	.005
90	381	.178E-06	.000	204	.157E-06	.000
88	9683	.155E-04	.007	2803	.830E-05	.004
71	421	.245E-06	.000	508	.111E-05	.001
72	1559	.212E-05	.001	4091	.123E-04	.006
93	393	.198E-06	.000	213	.185E-06	.000
92	5183	.811E-05	.004	5813	.177E-04	.008
65	861	.971E-06	.000	1330	.368E-05	.002
63	7312	.116E-04	.005	2958	.879E-05	.004
74	5341	.837E-05	.004	2473	.727E-05	.003
73	1383	.183E-05	.001	2830	.838E-05	.004
80	285	.198E-07	.000	655	.157E-05	.001
75	4452	.690E-05	.003	6813	.209E-04	.010
62	4897	.764E-05	.003	5126	.156E-04	.007
68	14357	.233E-04	.011	7725	.237E-04	.011
61	12610	.204E-04	.009	464	.971E-06	.000
69	365	.152E-06	.000	425	.849E-06	.000
85	1607	.220E-05	.001	3500	.105E-04	.005
82	5288	.828E-05	.004	7159	.219E-04	.010
86	6515	.103E-04	.005	6832	.209E-04	.010
66	3655	.559E-05	.003	4255	.128E-04	.006
91	4603	.715E-05	.003	1167	.317E-05	.001
52	294	.347E-07	.000	472	.996E-06	.000
64	595	.532E-06	.000	793	.200E-05	.001
83	4763	.742E-05	.003	6375	.195E-04	.009
53	8863	.142E-04	.006	8902	.274E-04	.013
51	13094	.212E-04	.010	8952	.276E-04	.013
55	4941	.771E-05	.004	1537	.433E-05	.002
117	394	.200E-06	.000	309	.486E-06	.000
114	2747	.409E-05	.002	3900	.117E-04	.005
54	2334	.340E-05	.002	243	.279E-06	.000
110	5251	.822E-05	.004	6310	.193E-04	.009
113	7119	.113E-04	.005	6526	.200E-04	.009
109	11975	.193E-04	.009	7790	.239E-04	.011
111	4072	.628E-05	.003	1539	.434E-05	.002
107	514	.398E-06	.000	596	.138E-05	.001
106	2677	.397E-05	.002	3700	.111E-04	.005
115	2562	.378E-05	.002	3333	.996E-05	.005
108	7854	.125E-04	.006	6830	.209E-04	.010
112	10796	.174E-04	.008	7245	.222E-04	.010
116	4805	.749E-05	.003	2294	.670E-05	.003

RUN # 53

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.82 M/S	1.50 M/S	8.82 M/S	1.50 M/S	9.07 M/S	1.50 M/S	9.07 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.40E+05	.51E+02
BACKGROUND	.27E+03		.14E+03		.29E+03		.12E+03	
CALIBRATION FACTOR	.41E-02		.22E-02		.15E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.001	895	.595E-06	.001	439	.239E-06	.000	394	.578E-07	.000	210	.930E-07	.000
78	.001	776	.483E-06	.000	331	.152E-06	.000	456	.920E-07	.000	256	.141E-06	.000
67	.001	766	.473E-06	.000	218	.606E-07	.000	417	.705E-07	.000	215	.982E-07	.000
76	.001	719	.429E-06	.000	228	.687E-07	.000	585	.163E-06	.000	659	.562E-06	.001
70	.001	739	.448E-06	.000	182	.315E-07	.000	632	.189E-06	.000	199	.815E-07	.000
79	.002	875	.576E-06	.001	378	.190E-06	.000	749	.253E-06	.000	895	.808E-06	.001
87	.001	972	.668E-06	.001	513	.299E-06	.000	465	.969E-07	.000	185	.668E-07	.000
84	.001	558	.276E-06	.000	164	.170E-07	.000	339	.275E-07	.000	264	.149E-06	.000
89	.001	602	.318E-06	.000	210	.541E-07	.000	473	.101E-06	.000	837	.748E-06	.001
88	.002	863	.565E-06	.001	598	.367E-06	.000	1012	.398E-06	.001	246	.131E-06	.000
71	.000	612	.327E-06	.000	166	.186E-07	.000	329	.220E-07	.000	168	.491E-07	.000
72	.001	728	.437E-06	.000	183	.323E-07	.000	650	.199E-06	.000	423	.315E-06	.000
93	.001	824	.528E-06	.000	245	.824E-07	.000	428	.765E-07	.000	202	.846E-07	.000
92	.000	299	.303E-07	.000	199	.452E-07	.000	315	.143E-07	.000	360	.250E-06	.000
65	.003	660	.373E-06	.000	380	.191E-06	.000	1585	.714E-06	.001	1346	.128E-05	.002
63	.005	784	.490E-06	.000	765	.502E-06	.000	2926	.145E-05	.002	1345	.128E-05	.002
74	.002	314	.454E-07	.000	635	.397E-06	.000	801	.282E-06	.000	640	.542E-06	.001
73	.001	588	.305E-06	.000	173	.242E-07	.000	526	.131E-06	.000	607	.508E-06	.001
90	0.000	79	0.	0.000	27	0.	0.000	78	0.	0.000	0	0.	0.000
75	.002	265	0.	0.000	236	.751E-07	.000	812	.288E-06	.000	870	.782E-06	.001
62	.005	914	.613E-06	.001	1002	.694E-06	.001	2788	.138E-05	.002	1365	.130E-05	.002
68	.017	4358	.387E-05	.003	6911	.547E-05	.005	8359	.444E-05	.006	1857	.181E-05	.002
61	.006	1654	.131E-05	.001	2831	.217E-05	.002	3196	.160E-05	.002	909	.823E-06	.001
69	.000	684	.396E-06	.000	143	0.	0.000	289	0.	0.000	121	0.	0.000
85	.003	850	.553E-06	.000	331	.152E-06	.000	1173	.497E-06	.001	1564	.151E-05	.002
82	.010	837	.540E-06	.000	973	.670E-06	.001	4191	.215E-05	.003	4203	.426E-05	.006
86	.008	709	.419E-06	.000	687	.439E-06	.000	3444	.174E-05	.002	3568	.360E-05	.005
66	.006	633	.347E-06	.000	1193	.848E-06	.001	3349	.169E-05	.002	2099	.207E-05	.003
91	.001	41	0.	0.000	228	.687E-07	.000	528	.132E-06	.000	367	.257E-06	.000
52	.003	843	.546E-06	.000	910	.619E-06	.001	1673	.762E-06	.001	1002	.920E-06	.001
64	.002	800	.505E-06	.000	282	.112E-06	.000	629	.187E-06	.000	622	.523E-06	.001
83	.016	810	.515E-06	.000	1347	.972E-06	.001	6870	.362E-05	.005	6719	.689E-05	.009
53	.029	1605	.127E-05	.001	5838	.460E-05	.004	15276	.825E-05	.011	9111	.939E-05	.013
51	.038	7785	.712E-05	.006	12798	.102E-04	.009	18927	.103E-04	.014	5937	.607E-05	.008
55	.011	6243	.566E-05	.005	4927	.386E-05	.003	2729	.134E-05	.002	422	.314E-06	.000
117	.001	756	.464E-06	.000	218	.606E-07	.000	441	.837E-07	.000	270	.156E-06	.000
114	.000	409	.135E-06	.000	212	.557E-07	.000	321	.176E-07	.000	327	.215E-06	.000
54	0.000	53	0.	0.000	0	0.	0.000	0	0.	0.000	0	0.	0.000
110	.023	1128	.816E-06	.001	2199	.165E-05	.001	9736	.520E-05	.007	9330	.962E-05	.013
113	.019	1223	.906E-06	.001	2459	.187E-05	.002	8430	.448E-05	.006	7607	.782E-05	.011
109	.044	10488	.967E-05	.009	13867	.111E-04	.010	19580	.106E-04	.015	7455	.766E-05	.010
111	.014	6713	.610E-05	.005	5023	.394E-05	.004	4940	.256E-05	.004	947	.863E-06	.001
107	.002	770	.477E-06	.000	216	.590E-07	.000	614	.179E-06	.000	844	.755E-06	.001
106	.014	924	.623E-06	.001	1481	.108E-05	.001	4541	.234E-05	.003	6592	.676E-05	.009
115	.026	1253	.934E-06	.001	2773	.212E-05	.002	11560	.621E-05	.009	10443	.108E-04	.015
108	.039	2503	.212E-05	.002	6040	.476E-05	.004	18786	.102E-04	.014	13352	.138E-04	.019
112	.049	9875	.909E-05	.008	14555	.116E-04	.010	22083	.120E-04	.016	9527	.982E-05	.013
116	.016	6561	.596E-05	.005	5752	.453E-05	.004	5945	.311E-05	.004	1454	.139E-05	.002

RUN # 54

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	17.64 M/S	3.00 M/S	17.64 M/S	3.00 M/S	18.13 M/S	3.00 M/S	18.13 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.40E+05	.51E+02
BACKGROUND	.12E+03		.12E+03		.20E+03		.0	
CALIBRATION FACTOR	.41E-02		.22E-02		.15E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
77	.001	840	.136E-05	.001	228	.181E-06	.000	212	.176E-07	.000	0	0.	0.000
78	.000	128	.151E-07	.000	71	0.	0.000	118	0.	0.000	240	.501E-06	.000
67	.000	592	.893E-06	.000	106	0.	0.000	209	.143E-07	.000	0	0.	0.000
76	.001	826	.134E-05	.001	195	.128E-06	.000	233	.408E-07	.000	0	0.	0.000
70	.001	689	.108E-05	.000	102	0.	0.000	439	.268E-06	.000	0	0.	0.000
79	.001	824	.133E-05	.001	182	.107E-06	.000	211	.165E-07	.000	0	0.	0.000
87	.001	541	.797E-06	.000	146	.485E-07	.000	314	.130E-06	.000	688	.144E-05	.001
84	.001	724	.114E-05	.001	112	0.	0.000	304	.119E-06	.000	241	.503E-06	.000
90	.001	687	.107E-05	.000	313	.318E-06	.000	312	.128E-06	.000	141	.295E-06	.000
88	.002	772	.123E-05	.001	489	.603E-06	.000	905	.781E-06	.001	290	.606E-06	.000
71	.001	637	.979E-06	.000	196	.129E-06	.000	318	.134E-06	.000	263	.549E-06	.000
72	.000	120	0.	0.000	46	0.	0.000	102	0.	0.000	342	.714E-06	.000
93	.001	234	.216E-06	.000	75	0.	0.000	158	0.	0.000	524	.109E-05	.001
92	.003	788	.126E-05	.001	545	.693E-06	.000	1203	.111E-05	.001	1073	.224E-05	.002
65	.005	923	.152E-05	.001	635	.838E-06	.000	2111	.211E-05	.001	1402	.293E-05	.002
63	.004	922	.152E-05	.001	758	.104E-05	.000	2028	.202E-05	.001	1182	.247E-05	.002
74	.002	665	.103E-05	.000	759	.104E-05	.000	1059	.950E-06	.001	572	.119E-05	.001
73	.002	705	.111E-05	.000	131	.242E-07	.000	579	.422E-06	.000	814	.170E-05	.001
80	0.000	74	0.	0.000	0	0.	0.000	52	0.	0.000	0	0.	0.000
75	.006	684	.107E-05	.000	414	.481E-06	.000	2115	.211E-05	.001	2574	.538E-05	.004
62	.001	66	0.	0.000	29	0.	0.000	157	0.	0.000	372	.777E-06	.001
68	.016	3942	.723E-05	.003	6416	.102E-04	.005	8043	.864E-05	.006	1671	.349E-05	.002
61	.005	3488	.638E-05	.003	1650	.249E-05	.001	759	.620E-06	.000	115	.240E-06	.000
69	.000	684	.107E-05	.000	116	0.	0.000	196	0.	0.000	0	0.	0.000
85	.001	656	.101E-05	.000	109	0.	0.000	164	0.	0.000	365	.762E-06	.001
82	.011	740	.117E-05	.001	729	.990E-06	.000	4080	.428E-05	.003	4918	.103E-04	.007
86	.015	1126	.190E-05	.001	2262	.347E-05	.002	6253	.667E-05	.005	5420	.113E-04	.008
66	.006	1127	.191E-05	.001	1244	.182E-05	.001	2519	.256E-05	.002	1970	.411E-05	.003
81	.009	5542	.103E-04	.005	3507	.548E-05	.002	2214	.222E-05	.002	194	.405E-06	.000
52	.001	751	.119E-05	.001	106	0.	0.000	237	.452E-07	.000	149	.311E-06	.000
64	.002	843	.137E-05	.001	343	.367E-06	.000	484	.317E-06	.000	387	.808E-06	.001
83	.013	972	.161E-05	.001	1442	.214E-05	.001	4928	.521E-05	.004	5720	.119E-04	.008
53	.023	1325	.228E-05	.001	3426	.535E-05	.002	10734	.116E-04	.008	8389	.175E-04	.012
51	.031	6565	.122E-04	.005	9983	.159E-04	.007	14798	.161E-04	.011	4957	.104E-04	.007
55	.013	6773	.126E-04	.006	5653	.894E-05	.004	3461	.360E-05	.002	420	.877E-06	.001
117	.001	943	.156E-05	.001	465	.564E-06	.000	367	.188E-06	.000	219	.457E-06	.000
114	.009	795	.128E-05	.001	751	.103E-05	.000	2812	.288E-05	.002	3967	.829E-05	.006
54	.009	822	.133E-05	.001	755	.103E-05	.000	2698	.276E-05	.002	3905	.816E-05	.006
110	.017	868	.142E-05	.001	1636	.246E-05	.001	6075	.647E-05	.004	7354	.154E-04	.011
113	.021	1562	.273E-05	.001	3582	.560E-05	.003	9114	.982E-05	.007	7385	.154E-04	.011
109	.032	6434	.120E-04	.005	10087	.161E-04	.007	15039	.163E-04	.011	5924	.124E-04	.008
111	.012	6336	.118E-04	.005	4673	.736E-05	.003	3331	.345E-05	.002	723	.151E-05	.001
107	.002	725	.115E-05	.001	162	.743E-07	.000	448	.278E-06	.000	534	.112E-05	.001
106	.010	902	.148E-05	.001	953	.135E-05	.001	3012	.310E-05	.002	4622	.965E-05	.007
115	.018	1020	.170E-05	.001	1995	.304E-05	.001	6951	.744E-05	.005	7457	.156E-04	.011
108	.029	2220	.398E-05	.002	4920	.776E-05	.003	13078	.142E-04	.010	9935	.208E-04	.014
112	.029	2056	.366E-05	.002	5041	.796E-05	.004	12554	.136E-04	.009	9867	.206E-04	.014
116	.003	227	.203E-06	.000	558	.714E-06	.000	1461	.139E-05	.001	1174	.245E-05	.002

RUN # 55

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	26.46 M/S	4.50 M/S	25.46 M/S	4.50 M/S	27.20 M/S	4.50 M/S	27.20 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S	4.00 M/S	24.17 M/S	4.00 M/S	24.17 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02	.10E+06	.51E+02	.40E+05	.51E+02
BACKGROUND	.84E+03		.26E+03		.44E+03		.21E+03	
CALIBRATION FACTOR	.41E-02		.22E-02		.15E-02		.11E-02	
RANGE	10		10		10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	U9 RAW (AREA)	U9 NORMALIZED CONC(-)	U9 PROTOTYPE CONC(PPM)	U10 RAW (AREA)	U10 NORMALIZED CONC(-)	U10 PROTOTYPE CONC(PPM)	U11 RAW (AREA)	U11 NORMALIZED CONC(-)	U11 PROTOTYPE CONC(PPM)	U12 RAW (AREA)	U12 NORMALIZED CONC(-)	U12 PROTOTYPE CONC(PPM)
77	.000	830	0.	0.000	271	.339E-07	.000	490	.892E-07	.000	258	.154E-06	.000
78	.000	713	0.	0.000	281	.582E-07	.000	445	.149E-07	.000	254	.141E-06	.000
67	.000	934	.258E-06	.000	625	.892E-06	.000	485	.809E-07	.000	281	.226E-06	.000
76	.000	874	.880E-07	.000	286	.703E-07	.000	483	.776E-07	.000	232	.721E-07	.000
70	.001	983	.398E-06	.000	748	.119E-05	.000	586	.248E-06	.000	255	.144E-06	.000
79	.000	881	.108E-06	.000	283	.630E-07	.000	475	.644E-07	.000	0	0.	0.000
87	.001	1008	.469E-06	.000	726	.114E-05	.000	513	.127E-06	.000	267	.182E-06	.000
84	.001	870	.767E-07	.000	302	.109E-06	.000	777	.563E-06	.000	466	.805E-06	.000
90	.000	906	.179E-06	.000	425	.407E-06	.000	554	.195E-06	.000	275	.207E-06	.000
88	.004	1434	.168E-05	.001	2397	.519E-05	.002	2148	.283E-05	.001	320	.348E-06	.000
71	.000	823	0.	0.000	265	.194E-07	.000	457	.347E-07	.000	243	.107E-06	.000
72	.002	352	.256E-07	.000	305	.116E-06	.000	846	.677E-06	.000	1104	.280E-05	.001
93	.001	1014	.496E-06	.000	734	.116E-05	.000	691	.421E-06	.000	252	.135E-06	.000
92	.005	987	.409E-06	.000	576	.773E-06	.000	2163	.285E-05	.001	2298	.655E-05	.003
65	.008	957	.324E-06	.000	1310	.255E-05	.001	4872	.733E-05	.003	2567	.739E-05	.003
63	.004	1680	.238E-05	.001	1860	.388E-05	.001	2733	.379E-05	.002	500	.912E-06	.000
74	.000	929	.244E-06	.000	535	.674E-06	.000	379	0.	0.000	238	.909E-07	.000
73	.002	968	.355E-06	.000	435	.431E-06	.000	775	.560E-06	.000	1170	.301E-05	.001
80	.002	317	0.	0.000	213	0.	0.000	782	.572E-06	.000	1400	.373E-05	.002
75	.007	1003	.454E-06	.000	791	.129E-05	.000	2888	.405E-05	.002	3510	.103E-04	.005
62	.004	799	0.	0.000	832	.130E-05	.000	2465	.335E-05	.002	1764	.487E-05	.002
68	.013	3661	.800E-05	.002	5959	.138E-04	.004	8377	.131E-04	.006	0	0.	0.000
61	.006	2755	.543E-05	.002	2960	.655E-05	.002	3895	.571E-05	.003	0	0.	0.000
69	0.000	843	0.	0.000	257	0.	0.000	436	0.	0.000	209	0.	0.000
85	.004	818	0.	0.000	340	.201E-06	.000	1398	.159E-05	.001	2227	.632E-05	.003
82	.010	870	.767E-07	.000	757	.121E-05	.000	3908	.574E-05	.003	4797	.144E-04	.007
86	.013	1099	.727E-06	.000	2133	.455E-05	.001	5908	.904E-05	.004	5094	.153E-04	.007
66	.005	1869	.291E-05	.001	2132	.454E-05	.001	2562	.351E-05	.002	1044	.262E-05	.001
91	0.000	0	0.	0.000	0	0.	0.000	0	0.	0.000	0	0.	0.000
52	.001	976	.378E-06	.000	288	.751E-07	.000	464	.463E-07	.000	578	.116E-05	.001
64	.001	927	.239E-06	.000	431	.422E-06	.000	713	.458E-06	.000	625	.130E-05	.001
83	.011	835	0.	0.000	1011	.183E-05	.001	4517	.674E-05	.003	5037	.151E-04	.007
53	.019	1459	.175E-05	.001	3375	.755E-05	.002	8191	.128E-04	.006	7728	.236E-04	.011
51	.024	4700	.110E-04	.003	7677	.180E-04	.005	11208	.178E-04	.008	5178	.156E-04	.007
55	.009	5402	.129E-04	.004	3839	.868E-05	.003	3378	.486E-05	.002	507	.934E-06	.000
117	.001	1030	.531E-06	.000	602	.836E-06	.000	538	.169E-06	.000	318	.342E-06	.000
114	.007	899	.131E-06	.000	589	.804E-06	.000	2522	.345E-05	.002	3660	.108E-04	.005
54	.000	970	.361E-06	.000	300	.104E-06	.000	624	.311E-06	.000	205	0.	0.000
110	.012	972	.366E-06	.000	1222	.234E-05	.001	4921	.741E-05	.003	5731	.173E-04	.008
113	.015	1389	.155E-05	.000	2520	.548E-05	.002	6765	.105E-04	.005	6123	.185E-04	.008
109	.023	4357	.998E-05	.003	6403	.149E-04	.004	11145	.177E-04	.008	5614	.169E-04	.008
111	.008	4673	.109E-04	.003	3338	.747E-05	.002	2866	.401E-05	.002	629	.132E-05	.001
107	.001	880	.105E-06	.000	343	.208E-06	.000	588	.251E-06	.000	534	.102E-05	.000
106	.008	969	.358E-06	.000	811	.134E-05	.000	3017	.426E-05	.002	4006	.119E-04	.005
115	.012	1077	.664E-06	.000	1518	.306E-05	.001	5021	.757E-05	.003	5307	.160E-04	.007
108	.020	1763	.261E-05	.001	3548	.797E-05	.002	8421	.132E-04	.006	7713	.235E-04	.011
112	.023	4049	.910E-05	.003	6161	.143E-04	.004	9944	.157E-04	.007	6037	.183E-04	.008
116	.008	4043	.909E-05	.003	3244	.724E-05	.002	3165	.451E-05	.002	870	.207E-05	.001

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RUN # 56

	UNIT 12 MODEL	UNIT 12 PROTOTYPE	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 13 MODEL	UNIT 13 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	9.48 M/S	1.50 M/S	8.31 M/S	1.50 M/S	8.40 M/S
EXIT VEL.	3.68 M/S	23.23 M/S	4.02 M/S	22.28 M/S	4.66 M/S	26.10 M/S
VOL. FLOW	.42E-04M3/S	.11E+03M3/S	.53E-04M3/S	.12E+03M3/S	.32E-03M3/S	.75E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.21E+02	.10E+06	.16E+02
BACKGROUND	.63E+03		.75E+03		.26E+03	
CALIBRATION FACTOR	.38E-02		.20E-02		.14E-02	
RANGE	10		10		10	
STACK HEIGHT	21.00 CM	136.50 M	3.85 CM	25.03 M	3.45 CM	22.43 M
STACK DIAMETER	.38 CM	2.47 M	.41 CM	2.67 M	.93 CM	6.05 M

SAMPLE PT.	TOTAL (PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 13 RAW (AREA)	UNIT 13 NORMALIZED CONC(-)	UNIT 13 PROTOTYPE CONC(PPM)
77	.005	690	.114E-06	.000	11470	.147E-04	.005	933	.105E-06	.000
78	.000	18	0.	0.000	1383	.872E-06	.000	128	0.	0.000
67	.029	1791	.237E-05	.001	55701	.753E-04	.024	17295	.267E-05	.004
76	.016	1475	.172E-05	.001	28689	.383E-04	.012	11722	.179E-05	.003
70	.016	978	.703E-06	.000	4204	.474E-05	.002	62449	.974E-05	.014
79	.002	735	.206E-05	.000	4306	.488E-05	.002	737	.741E-07	.000
87	.002	726	.188E-06	.000	3741	.410E-05	.001	2241	.310E-06	.000
84	.039	3894	.666E-05	.003	76683	.104E-03	.033	13638	.209E-05	.003
90	.036	3629	.612E-05	.002	71998	.976E-04	.031	12586	.193E-05	.003
88	.029	2493	.380E-05	.002	5794	.692E-05	.002	108211	.169E-04	.025
71	.013	1519	.181E-05	.001	4451	.508E-05	.002	44970	.700E-05	.010
72	.027	6811	.126E-04	.005	46004	.620E-04	.020	10222	.156E-05	.002
93	.000	647	.266E-07	.000	164	0.	0.000	505	.377E-07	.000
92	.041	8684	.165E-04	.007	62329	.844E-04	.027	33785	.525E-05	.008
65	.040	9339	.178E-04	.007	52346	.707E-04	.023	46447	.723E-05	.011
63	.016	3510	.588E-05	.002	7318	.900E-05	.003	49281	.768E-05	.011
74	.007	2003	.280E-05	.001	4717	.544E-05	.002	19949	.308E-05	.005
73	.015	4432	.776E-05	.003	25356	.337E-04	.011	6463	.971E-06	.001
80	.013	3682	.623E-05	.002	21469	.284E-04	.009	5582	.833E-06	.001
75	.027	7908	.149E-04	.006	39794	.535E-04	.017	18780	.290E-05	.004
62	.013	4391	.768E-05	.003	15487	.202E-04	.006	14655	.225E-05	.003
68	.036	8655	.164E-04	.006	18429	.242E-04	.008	93461	.146E-04	.021
61	.013	1107	.967E-06	.000	943	.269E-06	.000	55548	.866E-05	.013
69	.002	1246	.125E-05	.000	3711	.406E-05	.001	856	.927E-07	.000
85	.014	5368	.968E-05	.004	20095	.265E-04	.008	9440	.144E-05	.002
82	.024	8818	.167E-04	.007	28819	.385E-04	.012	23677	.357E-05	.005
86	.023	8149	.154E-04	.006	23446	.311E-04	.010	29715	.461E-05	.007
66	.005	1451	.167E-05	.001	3986	.444E-05	.001	13917	.214E-05	.003
81	.019	1440	.165E-05	.001	2001	.172E-05	.001	77857	.122E-04	.018
52	.002	1131	.102E-05	.000	3614	.393E-05	.001	1053	.124E-06	.000
64	.001	674	.818E-07	.000	1704	.131E-05	.000	824	.877E-07	.000
83	.021	8271	.156E-04	.006	22545	.299E-04	.010	22214	.344E-05	.005
53	.029	10831	.208E-04	.008	28504	.380E-04	.012	36640	.570E-05	.008
51	.033	9481	.181E-04	.007	22067	.292E-04	.009	72627	.113E-04	.017
55	.022	2995	.483E-05	.002	4135	.464E-05	.001	79171	.124E-04	.018
117	.002	1138	.103E-05	.000	3411	.365E-05	.001	971	.111E-06	.000
114	.013	5336	.951E-05	.004	13489	.175E-04	.006	16021	.247E-05	.004
54	.006	2711	.425E-05	.002	6610	.803E-05	.003	7787	.118E-05	.002
110	.018	7637	.143E-04	.006	17198	.225E-04	.007	23182	.359E-05	.005
113	.020	8327	.157E-04	.006	17499	.230E-04	.007	28575	.443E-05	.007
109	.030	8996	.171E-04	.007	16632	.218E-04	.007	71701	.112E-04	.016
111	.017	2889	.461E-05	.002	4278	.484E-05	.002	59617	.930E-05	.014
107	.002	1538	.185E-05	.001	3422	.367E-05	.001	2385	.332E-06	.000
106	.012	5385	.971E-05	.004	11353	.145E-04	.005	16342	.252E-05	.004
115	.015	7131	.133E-04	.005	12466	.161E-04	.005	22230	.344E-05	.005
108	.022	9812	.188E-04	.007	16204	.212E-04	.007	33857	.526E-05	.008
112	.027	8937	.170E-04	.007	15814	.206E-04	.007	60002	.936E-05	.014
116	.013	4186	.726E-05	.003	6740	.821E-05	.003	35030	.544E-05	.008

RUN # 57

	UNIT 12 MODEL	UNIT 12 PROTOTYPE	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 13 MODEL	UNIT 13 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	13.95 M/S	3.00 M/S	16.62 M/S	3.00 M/S	16.79 M/S
EXIT VEL.	3.68 M/S	23.23 M/S	4.02 M/S	22.28 M/S	4.66 M/S	26.10 M/S
VOL. FLOW	.42E-04M3/S	.11E+03M3/S	.53E-04M3/S	.12E+03M3/S	.32E-03M3/S	.75E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.21E+02	.10E+06	.16E+02
BACKGROUND	.67E+03		.10E+04		.24E+03	
CALIBRATION FACTOR	.38E-02		.20E-02		.14E-02	
RANGE	10		10		10	
STACK HEIGHT	21.00 CM	136.50 M	3.85 CM	25.03 M	3.45 CM	22.43 M
STACK DIAMETER	.38 CM	2.47 M	.41 CM	2.67 M	.93 CM	6.05 M

SAMPLE PT.	TOTAL (PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 13 RAW (AREA)	UNIT 13 NORMALIZED CONC(-)	UNIT 13 PROTOTYPE CONC(PPM)
77	.014	827	.650E-06	.000	32865	.873E-04	.014	923	.214E-06	.000
78	.049	1508	.343E-05	.001	108923	.295E-03	.047	3614	.106E-05	.001
67	.035	2068	.572E-05	.001	72138	.195E-03	.031	11855	.364E-05	.003
76	.008	928	.106E-05	.000	12716	.321E-04	.005	12992	.399E-05	.003
70	.013	731	.258E-06	.000	421	0.	0.000	57923	.181E-04	.013
79	.002	573	0.	0.000	6255	.144E-04	.002	1071	.260E-06	.000
87	0.000	0	0.	0.000	0	0.	0.000	0	0.	0.000
84	.036	4895	.173E-04	.003	70715	.191E-03	.030	9889	.302E-05	.002
90	0.000	0	0.	0.000	0	0.	0.000	0	0.	0.000
88	.017	1635	.395E-05	.001	3901	.794E-05	.001	65677	.205E-04	.015
71	.005	1141	.193E-05	.000	10142	.250E-04	.004	1560	.413E-06	.000
72	.022	4526	.158E-04	.003	40976	.110E-03	.017	6262	.189E-05	.001
93	.000	688	.818E-07	.000	151	0.	0.000	935	.217E-06	.000
92	.030	7574	.282E-04	.006	49700	.133E-03	.021	13313	.409E-05	.003
65	.030	8130	.305E-04	.006	42014	.112E-03	.018	26947	.837E-05	.006
63	.008	2374	.698E-05	.001	2019	.278E-05	.000	27102	.841E-05	.006
74	.001	630	0.	0.000	3182	.597E-05	.001	1167	.290E-06	.000
73	.011	3117	.100E-04	.002	19931	.519E-04	.008	4966	.148E-05	.001
80	.015	618	0.	0.000	410	0.	0.000	63760	.199E-04	.015
75	.019	6311	.231E-04	.005	27521	.727E-04	.012	11679	.358E-05	.003
62	.009	3749	.126E-04	.002	11996	.301E-04	.005	9638	.294E-05	.002
68	.023	5625	.203E-04	.004	13746	.349E-04	.006	58305	.182E-04	.013
61	.009	526	0.	0.000	291	0.	0.000	40773	.127E-04	.009
69	.001	781	.462E-06	.000	3441	.668E-05	.001	1393	.361E-06	.000
85	.009	3471	.115E-04	.002	14733	.376E-04	.006	4755	.141E-05	.001
82	.016	5857	.212E-04	.004	21232	.554E-04	.009	12230	.376E-05	.003
86	.014	6001	.218E-04	.004	15811	.406E-04	.006	15256	.470E-05	.003
66	.002	1271	.247E-05	.000	1709	.193E-05	.000	4135	.122E-05	.001
81	.001	503	0.	0.000	928	0.	0.000	2566	.728E-06	.001
52	.001	853	.756E-06	.000	2790	.490E-05	.001	1557	.412E-06	.000
64	.000	607	0.	0.000	560	0.	0.000	1133	.279E-06	.000
83	.012	4987	.177E-04	.003	15104	.386E-04	.006	10718	.328E-05	.002
53	.016	6940	.256E-04	.005	15977	.410E-04	.007	19258	.596E-05	.004
51	.022	6999	.259E-04	.005	14528	.371E-04	.006	47336	.148E-04	.011
55	.013	1959	.528E-05	.001	2233	.337E-05	.001	51065	.159E-04	.012
117	.000	797	.527E-06	.000	1088	.233E-06	.000	1295	.330E-06	.000
114	.008	3621	.121E-04	.002	10117	.250E-04	.004	5585	.167E-05	.001
54	.008	2220	.635E-05	.001	5564	.125E-04	.002	21241	.658E-05	.005
110	.011	5356	.192E-04	.004	11753	.295E-04	.005	12559	.386E-05	.003
113	.009	4013	.137E-04	.003	8206	.197E-04	.003	11787	.362E-05	.003
109	.019	6397	.234E-04	.005	11184	.279E-04	.004	41278	.129E-04	.009
111	.011	2144	.604E-05	.001	2497	.409E-05	.001	38120	.119E-04	.009
107	.001	1154	.199E-05	.000	2275	.349E-05	.001	1574	.418E-06	.000
106	.001	686	.736E-07	.000	1387	.105E-05	.000	1680	.451E-06	.000
115	.009	4503	.157E-04	.003	8533	.206E-04	.003	11391	.349E-05	.003
108	.014	6502	.239E-04	.005	10573	.262E-04	.004	20918	.648E-05	.005
112	.015	5552	.200E-04	.004	8964	.218E-04	.003	33735	.105E-04	.008
116	.009	1987	.539E-05	.001	2605	.439E-05	.001	31161	.969E-05	.007

RUN # 58

	UNIT 12 MODEL	UNIT 12 PROTOTYPE	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 13 MODEL	UNIT 13 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	28.43 M/S	4.50 M/S	24.93 M/S	4.50 M/S	25.19 M/S
EXIT VEL.	3.68 M/S	23.23 M/S	4.02 M/S	22.28 M/S	4.66 M/S	26.10 M/S
VOL. FLOW	.42E-04M3/S	.11E+03M3/S	.53E-04M3/S	.12E+03M3/S	.32E-03M3/S	.75E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.21E+02	.10E+06	.16E+02
BACKGROUND	.56E+03		.82E+02		.59E+03	
CALIBRATION FACTOR	.38E-02		.20E-02		.14E-02	
RANGE	10		10		10	
STACK HEIGHT	21.00 CM	136.50 M	3.85 CM	25.03 M	3.45 CM	22.43 M
STACK DIAMETER	.38 CM	2.47 M	.41 CM	2.67 M	.93 CM	6.05 M

SAMPLE PT.	TOTAL (PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 13 RAW (AREA)	UNIT 13 NORMALIZED CONC(-)	UNIT 13 PROTOTYPE CONC(PPM)
77	.012	812	.152E-05	.000	27056	.111E-03	.012	1155	.266E-06	.000
78	.037	1365	.492E-05	.001	83380	.342E-03	.036	2204	.759E-06	.000
67	.024	1789	.752E-05	.001	51537	.211E-03	.023	3309	.128E-05	.001
76	.006	1236	.412E-05	.001	8398	.342E-04	.004	7030	.303E-05	.001
70	.008	738	.107E-05	.000	403	.132E-05	.000	36069	.167E-04	.008
79	.002	455	0.	0.000	4916	.199E-04	.002	580	0.	0.000
87	.000	481	0.	0.000	90	.349E-07	.000	739	.707E-07	.000
84	.025	3633	.188E-04	.002	49587	.203E-03	.022	4068	.163E-05	.001
90	.000	619	.340E-06	.000	187	.434E-06	.000	670	.383E-07	.000
88	.010	2123	.956E-05	.001	2406	.955E-05	.001	34238	.158E-04	.008
71	.004	955	.240E-05	.000	7558	.307E-04	.003	845	.121E-06	.000
72	.013	2621	.126E-04	.002	25656	.105E-03	.011	2340	.823E-06	.000
93	.000	498	0.	0.000	125	.179E-06	.000	690	.477E-07	.000
92	.019	5316	.291E-04	.004	33155	.136E-03	.014	4922	.204E-05	.001
65	.019	7491	.425E-04	.006	26374	.108E-03	.012	10580	.469E-05	.002
63	.006	2049	.911E-05	.001	2937	.117E-04	.001	15469	.699E-05	.003
74	.001	704	.862E-06	.000	1922	.756E-05	.001	972	.180E-06	.000
73	.008	2477	.117E-04	.002	13497	.551E-04	.006	1474	.416E-06	.000
80	.011	625	.377E-06	.000	243	.664E-06	.000	46857	.217E-04	.011
75	.012	4376	.234E-04	.003	19270	.789E-04	.008	4941	.205E-05	.001
62	.007	3050	.153E-04	.002	10410	.425E-04	.005	4378	.178E-05	.001
68	.014	4344	.232E-04	.003	7840	.319E-04	.003	32929	.152E-04	.007
61	.008	935	.228E-05	.000	716	.261E-05	.000	31270	.144E-04	.007
69	.002	1125	.344E-05	.000	2644	.105E-04	.001	912	.152E-06	.000
85	.006	2179	.991E-05	.001	10335	.421E-04	.004	2056	.690E-06	.000
82	.011	4467	.239E-04	.003	14764	.603E-04	.006	5620	.236E-05	.001
86	.009	3911	.205E-04	.003	12538	.512E-04	.005	6329	.270E-05	.001
66	.003	1546	.603E-05	.001	2259	.895E-05	.001	5816	.246E-05	.001
81	.009	971	.250E-05	.000	457	.154E-05	.000	32659	.151E-04	.007
52	.002	1038	.291E-05	.000	2700	.108E-04	.001	709	.566E-07	.000
64	.000	668	.641E-06	.000	290	.857E-06	.000	720	.618E-07	.000
83	.008	3724	.194E-04	.003	11019	.450E-04	.005	5124	.213E-05	.001
53	.011	5101	.279E-04	.004	11971	.489E-04	.005	10400	.461E-05	.002
51	.013	5073	.277E-04	.004	8327	.339E-04	.004	25457	.117E-04	.006
55	.008	1436	.535E-05	.001	1003	.379E-05	.000	30495	.141E-04	.007
117	.000	579	.951E-07	.000	821	.304E-05	.000	710	.571E-07	.000
114	.005	2432	.115E-04	.002	6549	.266E-04	.003	2660	.973E-06	.000
54	.005	2288	.106E-04	.001	5914	.240E-04	.003	3832	.152E-05	.001
110	.007	3608	.187E-04	.002	8205	.334E-04	.004	5083	.211E-05	.001
113	.007	3676	.191E-04	.003	6964	.283E-04	.003	7195	.310E-05	.002
109	.012	4420	.237E-04	.003	7546	.307E-04	.003	23268	.107E-04	.005
111	.007	1737	.720E-05	.001	1549	.603E-05	.001	24791	.114E-04	.006
107	.001	1015	.277E-05	.000	2204	.872E-05	.001	819	.108E-06	.000
106	.004	2322	.108E-04	.001	4968	.201E-04	.002	2804	.104E-05	.001
115	.006	3179	.160E-04	.002	6380	.259E-04	.003	6003	.254E-05	.001
108	.008	3897	.204E-04	.003	7122	.289E-04	.003	9598	.423E-05	.002
112	.009	3671	.191E-04	.003	5647	.229E-04	.002	18945	.862E-05	.004
116	.007	2737	.133E-04	.002	4084	.165E-04	.002	14367	.647E-05	.003

RUN # 62

	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	7.98 M/S	1.50 M/S	7.82 M/S
EXIT VEL.	1.60 M/S	8.52 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.62E-04M3/S	.14E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.23E+02	.10E+05	.34E+02
BACKGROUND	.86E+03		.15E+03	
CALIBRATION FACTOR	.38E-02		.20E-02	
RANGE	10		10	
STACK HEIGHT	4.80 CM	31.20 M	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
77	.004	8131	.100E-04	.004	227	.790E-07	.000
78	.029	53296	.724E-04	.028	518	.381E-06	.000
67	.033	60594	.825E-04	.032	839	.715E-06	.000
76	.013	23281	.310E-04	.012	697	.567E-06	.000
70	.001	2706	.255E-05	.001	534	.398E-06	.000
79	.001	2552	.233E-05	.001	301	.156E-06	.000
87	.000	950	.120E-06	.000	227	.790E-07	.000
84	.031	55258	.752E-04	.029	2208	.214E-05	.001
90	.019	34598	.466E-04	.018	1480	.138E-05	.001
88	.007	11346	.145E-04	.006	1883	.180E-05	.001
71	.003	6020	.713E-05	.003	889	.767E-06	.001
72	.019	32701	.440E-04	.017	2557	.250E-05	.002
93	.000	844	0.	0.000	275	.129E-06	.000
92	.035	56726	.772E-04	.030	6959	.708E-05	.005
65	.034	54937	.747E-04	.029	6985	.710E-05	.005
63	.008	12841	.166E-04	.006	2806	.276E-05	.002
74	.001	2063	.166E-05	.001	228	.800E-07	.000
73	.012	18070	.238E-04	.009	4043	.404E-05	.003
80	.004	5874	.692E-05	.003	1300	.119E-05	.001
75	.023	31564	.424E-04	.017	8741	.893E-05	.005
62	.012	16277	.213E-04	.008	5086	.513E-05	.003
68	.021	29623	.397E-04	.016	8581	.876E-05	.006
61	.001	2651	.247E-05	.001	355	.212E-06	.000
69	.001	2141	.177E-05	.001	229	.811E-07	.000
85	.013	16322	.214E-04	.008	6995	.711E-05	.005
82	.023	25662	.343E-04	.013	13317	.137E-04	.009
86	.023	24955	.333E-04	.013	13962	.144E-04	.010
66	.025	29901	.401E-04	.016	13916	.143E-04	.009
81	.002	3906	.420E-05	.002	788	.662E-06	.000
52	.001	2042	.163E-05	.001	294	.149E-06	.000
64	.001	1508	.891E-06	.000	526	.390E-06	.000
83	.020	20761	.275E-04	.011	14162	.146E-04	.010
53	.029	26515	.354E-04	.014	21897	.226E-04	.015
51	.027	28026	.375E-04	.015	17649	.182E-04	.012
55	.004	5828	.686E-05	.003	2061	.198E-05	.001
117	.000	1427	.779E-06	.000	311	.166E-06	.000
114	.011	12520	.161E-04	.006	7555	.769E-05	.005
54	.000	1094	.319E-06	.000	244	.967E-07	.000
110	.017	16867	.221E-04	.009	12862	.132E-04	.009
113	.019	16780	.220E-04	.009	15358	.158E-04	.010
109	.025	23662	.315E-04	.012	18207	.188E-04	.012
111	.004	5609	.656E-05	.003	2597	.254E-05	.002
107	.001	2317	.201E-05	.001	753	.626E-06	.000
106	.010	10764	.137E-04	.005	7253	.738E-05	.005
115	.016	13977	.181E-04	.007	12545	.129E-04	.009
108	.021	17497	.230E-04	.009	18025	.186E-04	.012
112	.020	18189	.239E-04	.009	15706	.162E-04	.011
116	.004	5347	.620E-05	.002	3025	.299E-05	.002

RUN # 63

	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	15.95 M/S	3.00 M/S	15.64 M/S
EXIT VEL.	1.60 M/S	8.52 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.62E-04M3/S	.14E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.23E+02	.10E+06	.34E+02
BACKGROUND	.81E+03		.17E+03	
CALIBRATION FACTOR	.38E-02		.20E-02	
RANGE	10		10	
STACK HEIGHT	4.80 CM	31.20 M	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.009	17607	.464E-04	.009	328	.328E-06	.000
78	.054	97555	.267E-03	.052	2094	.400E-05	.001
67	.041	73809	.202E-03	.040	2952	.578E-05	.002
76	.010	18775	.497E-04	.010	1090	.191E-05	.001
70	.001	1723	.253E-05	.000	652	.100E-05	.000
79	.002	4431	.100E-04	.002	262	.191E-06	.000
87	0.000	760	0.	0.000	158	0.	0.000
84	.036	59891	.163E-03	.032	6320	.128E-04	.004
90	.000	911	.289E-06	.000	266	.200E-06	.000
88	.006	9038	.227E-04	.004	2502	.485E-05	.002
71	.004	7561	.187E-04	.004	1209	.216E-05	.001
72	.020	31629	.852E-04	.017	4924	.988E-05	.003
93	.000	861	.151E-06	.000	258	.183E-06	.000
92	.030	46423	.126E-03	.025	7577	.154E-04	.005
65	.012	20025	.531E-04	.010	3125	.614E-05	.002
63	.006	7833	.194E-04	.004	3081	.605E-05	.002
74	.000	942	.374E-06	.000	363	.401E-06	.000
73	.010	15037	.393E-04	.008	3615	.716E-05	.002
80	.000	1314	.140E-05	.000	463	.609E-06	.000
75	.018	24539	.656E-04	.013	7731	.157E-04	.005
62	.009	11919	.307E-04	.006	5189	.104E-04	.003
68	.014	16466	.433E-04	.008	8857	.181E-04	.006
61	.006	7718	.191E-04	.004	3945	.785E-05	.003
69	.001	2883	.574E-05	.001	476	.636E-06	.000
85	.009	12123	.313E-04	.006	4327	.864E-05	.003
82	.015	18199	.481E-04	.009	8062	.164E-04	.005
86	.013	15090	.395E-04	.008	8455	.172E-04	.006
66	.014	14855	.388E-04	.008	9631	.197E-04	.007
81	.001	2045	.342E-05	.001	993	.171E-05	.001
52	.001	2617	.500E-05	.001	560	.811E-06	.000
64	.001	1276	.130E-05	.000	612	.919E-06	.000
83	.012	13666	.355E-04	.007	7948	.162E-04	.005
53	.016	15915	.418E-04	.008	11155	.228E-04	.008
51	.015	14244	.371E-04	.007	10748	.220E-04	.007
55	.003	3401	.717E-05	.001	2047	.390E-05	.001
117	.000	1405	.165E-05	.000	356	.387E-06	.000
114	.007	7877	.195E-04	.004	4388	.877E-05	.003
54	.000	660	0.	0.000	362	.399E-06	.000
110	.010	10465	.267E-04	.005	7225	.147E-04	.005
113	.010	10226	.260E-04	.005	6831	.138E-04	.005
109	.012	11260	.289E-04	.006	9650	.197E-04	.007
111	.003	3499	.744E-05	.001	2631	.512E-05	.002
107	.003	2974	.599E-05	.001	2105	.402E-05	.001
106	.006	6217	.150E-04	.003	4289	.856E-05	.003
115	.008	7846	.195E-04	.004	5772	.116E-04	.004
108	.011	10197	.259E-04	.005	8705	.177E-04	.006
112	.010	9566	.242E-04	.005	8344	.170E-04	.006
116	.003	3806	.829E-05	.002	2730	.532E-05	.002

RUN # 64

	UNIT 14 MODEL	UNIT 14 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	23.93 M/S	4.50 M/S	23.46 M/S
EXIT VEL.	1.60 M/S	8.52 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.62E-04M3/S	.14E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.23E+02	.10E+06	.34E+02
BACKGROUND	.69E+03		.84E+02	
CALIBRATION FACTOR	.38E-02		.20E-02	
RANGE	10		10	
STACK HEIGHT	4.80 CM	31.20 M	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 14 RAW (AREA)	UNIT 14 NORMALIZED CONC(-)	UNIT 14 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
77	.000	0	0.	0.000	85	.312E-08	.000
78	.011	19737	.790E-04	.010	460	.117E-05	.000
67	.033	56997	.233E-03	.031	3063	.929E-05	.002
76	.012	20483	.820E-04	.011	2050	.613E-05	.001
70	.001	1654	.399E-05	.001	610	.164E-05	.000
79	.001	1630	.389E-05	.001	455	.116E-05	.000
87	.001	1116	.176E-05	.000	797	.222E-05	.000
84	.028	43601	.178E-03	.023	7181	.221E-04	.005
90	.000	777	.359E-06	.000	122	.118E-06	.000
88	.006	6909	.258E-04	.003	4196	.128E-04	.003
71	.004	8309	.316E-04	.004	363	.870E-06	.000
72	.016	24796	.999E-04	.013	4814	.147E-04	.003
93	.000	663	0.	0.000	106	.686E-07	.000
92	.021	28609	.116E-03	.015	9202	.284E-04	.006
65	0.000	146	0.	0.000	51	0.	0.000
63	.005	5223	.188E-04	.002	3301	.100E-04	.002
74	.002	2958	.940E-05	.001	1893	.564E-05	.001
73	.008	12429	.487E-04	.006	2900	.878E-05	.002
80	0.000	87	0.	0.000	78	0.	0.000
75	0.000	173	0.	0.000	58	0.	0.000
62	.006	6546	.243E-04	.003	3664	.112E-04	.002
68	.012	10920	.424E-04	.006	9738	.301E-04	.007
61	.001	1225	.222E-05	.000	671	.183E-05	.000
69	0.000	0	0.	0.000	0	0.	0.000
85	.008	10662	.413E-04	.005	3344	.102E-04	.002
82	.012	13795	.543E-04	.007	6857	.211E-04	.005
86	.009	10133	.391E-04	.005	5483	.168E-04	.004
66	.010	8911	.341E-04	.004	8471	.261E-04	.006
81	.005	4341	.151E-04	.002	4323	.132E-04	.003
52	.001	2881	.908E-05	.001	350	.829E-06	.000
64	.000	1149	.190E-05	.000	319	.733E-06	.000
83	.009	10369	.401E-04	.005	5977	.184E-04	.004
53	.012	11035	.429E-04	.006	8692	.268E-04	.006
51	.009	8584	.327E-04	.004	7418	.229E-04	.005
55	.003	3220	.105E-04	.001	3050	.925E-05	.002
117	.001	1585	.371E-05	.000	326	.755E-06	.000
114	.006	7112	.266E-04	.003	3485	.106E-04	.002
54	0.000	0	0.	0.000	0	0.	0.000
110	.008	8182	.311E-04	.004	5155	.158E-04	.003
113	.007	6687	.249E-04	.003	5791	.178E-04	.004
109	.008	6156	.227E-04	.003	7437	.229E-04	.005
111	.004	3080	.990E-05	.001	3418	.104E-04	.002
107	.001	2277	.658E-05	.001	528	.138E-05	.000
106	0.000	68	0.	0.000	0	0.	0.000
115	.006	6224	.229E-04	.003	4315	.132E-04	.003
108	.005	5619	.204E-04	.003	4042	.123E-04	.003
112	.008	5915	.217E-04	.003	7394	.228E-04	.005
116	0.000	0	0.	0.000	0	0.	0.000

RUN # 65

UNIT 12

	MODEL	PROTOTYPE
EE STREAM VEL.	1.50 M/S	7.82 M/S
IT VEL.	4.03 M/S	21.04 M/S
L. FLOW	.70E-04M3/S	.15E+03M3/S
URCE STRENGTH	.15E+06	.34E+02
ACKGROUND	.73E+03	
ALIBRATION FACTOR	.36E-02	
ANGE	10	
TACK HEIGHT	28.00 CM	182.00 M
TACK DIAMETER	.47 CM	3.06 M

AMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	0.000	730	0.	0.000
78	0.000	720	0.	0.000
67	0.000	720	0.	0.000
76	.000	1090	.434E-06	.000
70	.000	810	.963E-07	.000
79	0.000	720	0.	0.000
87	.000	770	.482E-07	.000
84	.001	1520	.951E-06	.001
90	0.000	730	0.	0.000
88	0.000	670	0.	0.000
71	0.000	720	0.	0.000
72	.000	1170	.530E-06	.000
93	.000	750	.241E-07	.000
92	.000	1170	.530E-06	.000
65	.001	1620	.107E-05	.001
63	.000	850	.145E-06	.000
74	.000	810	.963E-07	.000
73	.001	1470	.891E-06	.001
80	.001	1680	.114E-05	.001
75	.001	1930	.145E-05	.001
62	.001	1970	.149E-05	.001
68	.001	1420	.831E-06	.001
61	.001	1380	.783E-06	.001
69	.000	939	.252E-06	.000
85	.001	1968	.149E-05	.001
82	.002	3037	.278E-05	.002
86	.003	4035	.398E-05	.003
66	.002	3332	.313E-05	.002
81	.002	3156	.292E-05	.002
52	.000	971	.290E-06	.000
64	.001	2274	.186E-05	.001
83	.003	4048	.400E-05	.003
53	.006	8186	.898E-05	.006
51	.004	6026	.638E-05	.004
55	.001	1441	.856E-06	.001
117	.000	949	.264E-06	.000
114	.002	3756	.364E-05	.002
54	.001	2507	.214E-05	.001
110	.005	6550	.701E-05	.005
113	.006	8671	.956E-05	.006
109	.006	8405	.924E-05	.006
111	.001	1944	.146E-05	.001
107	.000	1260	.638E-06	.000
106	.003	5060	.521E-05	.003
115	.004	5700	.599E-05	.004
108	.009	12090	.137E-04	.009
112	.007	8970	.992E-05	.007
116	.002	3480	.331E-05	.002

RUN # 66

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	15.64 M/S
EXIT VEL.	4.03 M/S	21.04 M/S
VOL. FLOW	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02
BACKGROUND	.85E+03	
CALIBRATION FACTOR	.36E-02	
RANGE	10	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	0.000	800	0.	0.000
78	.000	994	.347E-06	.000
67	.000	1170	.771E-06	.000
76	.000	932	.198E-06	.000
70	.000	884	.819E-07	.000
79	.000	1327	.115E-05	.000
87	.000	1252	.968E-06	.000
84	.000	1155	.735E-06	.000
90	.000	927	.185E-06	.000
88	.000	1065	.518E-06	.000
71	.000	954	.250E-06	.000
72	.001	1506	.158E-05	.001
93	0.000	764	0.	0.000
92	.001	2194	.324E-05	.001
65	.002	3350	.602E-05	.002
63	.000	1135	.686E-06	.000
74	.000	1246	.954E-06	.000
73	.001	2045	.288E-05	.001
80	.000	964	.275E-06	.000
75	.001	2374	.367E-05	.001
62	.001	2448	.385E-05	.001
68	.001	2698	.445E-05	.001
61	.000	1311	.111E-05	.000
69	.000	889	.939E-07	.000
85	.001	2713	.449E-05	.001
82	.003	5223	.105E-04	.003
86	.003	4928	.992E-05	.003
81	.000	1006	.376E-06	.000
52	.000	1234	.925E-06	.000
64	.000	1221	.894E-06	.000
83	.004	5464	.111E-04	.004
53	.006	8198	.177E-04	.006
51	.004	6416	.134E-04	.004
55	.000	1222	.896E-06	.000
117	.000	946	.231E-06	.000
114	.003	4343	.841E-05	.003
54	.000	1013	.393E-06	.000
110	.005	6620	.139E-04	.005
113	.005	6852	.145E-04	.005
109	.005	6656	.140E-04	.005
111	.001	1523	.162E-05	.001
107	.000	1404	.133E-05	.000
106	.003	4752	.940E-05	.003
115	.004	5772	.119E-04	.004
108	.006	8373	.181E-04	.006
112	.004	6265	.130E-04	.004
116	.001	2217	.329E-05	.001

RUN # 67

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	23.46 M/S
EXIT VEL.	4.03 M/S	21.04 M/S
VOL. FLOW	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.15E+06	.34E+02
BACKGROUND	.85E+03	
CALIBRATION FACTOR	.36E-02	
RANGE	10	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	857	.217E-07	.000
78	.001	1525	.244E-05	.001
67	.000	987	.491E-06	.000
76	.000	873	.795E-07	.000
70	.000	1038	.676E-06	.000
79	.000	1290	.159E-05	.000
87	.000	894	.155E-06	.000
84	.000	1224	.135E-05	.000
90	.000	1454	.218E-05	.000
88	.000	1008	.567E-06	.000
71	.000	989	.499E-06	.000
72	.001	2140	.466E-05	.001
93	.000	889	.137E-06	.000
92	.002	3677	.102E-04	.002
65	.002	3791	.106E-04	.002
63	.000	1134	.102E-05	.000
74	.000	958	.387E-06	.000
73	.001	2306	.526E-05	.001
80	.000	925	.267E-06	.000
75	.001	1801	.343E-05	.001
62	.002	3003	.778E-05	.002
68	.002	2995	.738E-05	.002
61	.002	2948	.758E-05	.002
69	.000	1177	.118E-05	.000
85	.002	2734	.680E-05	.002
82	.003	4539	.133E-04	.003
86	.003	4686	.139E-04	.003
66	.002	3979	.113E-04	.002
81	.000	1460	.220E-05	.000
52	.000	978	.459E-06	.000
64	.000	925	.267E-06	.000
83	.003	5158	.156E-04	.003
53	.004	6366	.199E-04	.004
51	.003	5056	.152E-04	.003
55	.000	1320	.169E-05	.000
114	.002	3334	.897E-05	.002
54	0.000	851	0.	0.000
110	.003	5131	.155E-04	.003
113	.004	5470	.167E-04	.004
109	.004	5532	.169E-04	.004
111	.001	1480	.227E-05	.001
107	.000	1233	.138E-05	.000
106	.002	3486	.952E-05	.002
115	.002	3798	.106E-04	.002
108	.004	6197	.193E-04	.004
112	.004	5323	.162E-04	.004
116	.001	1696	.305E-05	.001

RUN # 68

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	1.50 M/S	7.33 M/S
EXIT VEL.	4.55 M/S	22.20 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02
BACKGROUND	.63E+03	
CALIBRATION FACTOR	.38E-02	
RANGE	10	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	658	.177E-07	.000
78	.001	1349	.433E-06	.001
67	.001	1137	.306E-06	.001
76	0.000	543	0.	0.000
79	0.000	81	0.	0.000
87	0.000	496	0.	0.000
84	.003	3161	.152E-05	.003
90	.002	1893	.761E-06	.002
71	.000	968	.204E-06	.000
72	.006	5462	.291E-05	.006
93	.002	2148	.914E-06	.002
92	.012	10216	.577E-05	.012
65	0.000	332	0.	0.000
63	.003	3163	.152E-05	.003
74	.001	1825	.720E-06	.001
73	.006	5145	.272E-05	.006
75	.005	4724	.246E-05	.005
62	.009	8190	.455E-05	.009
68	.013	11460	.652E-05	.013
69	.001	1681	.633E-06	.001
95	.001	1539	.548E-06	.001
82	.020	17082	.990E-05	.020
86	.020	17186	.996E-05	.020
66	.005	4378	.226E-05	.005
52	.005	5060	.267E-05	.005
64	.000	676	.286E-07	.000
83	.021	17420	.101E-04	.021
53	.028	23483	.138E-04	.028
51	.023	19517	.114E-04	.023
55	.002	2448	.109E-05	.002
117	.001	1593	.580E-06	.001
114	.016	13793	.792E-05	.016
54	.005	4731	.247E-05	.005
110	.022	18915	.110E-04	.022
113	.024	20167	.118E-04	.024
109	.017	14162	.814E-05	.017
111	.005	4299	.221E-05	.005
106	.003	3356	.164E-05	.003
115	.014	12316	.703E-05	.014
108	.029	23952	.140E-04	.029
112	.025	20794	.121E-04	.025
116	.020	16974	.983E-05	.020

RUN # 69

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	14.65 M/S
EXIT VEL.	4.55 M/S	22.20 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02
BACKGROUND	.66E+03	
CALIBRATION FACTOR	.38E-02	
RANGE	10	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	0.000	93	0.	0.000
78	0.000	40	0.	0.000
67	.002	2652	.240E-05	.002
76	.001	1848	.143E-05	.001
70	.002	2074	.170E-05	.002
79	.000	954	.353E-06	.000
87	0.000	517	0.	
84	.005	4845	.503E-05	.005
90	.000	726	.782E-07	.000
71	.000	1059	.479E-06	.000
72	.006	5315	.560E-05	.006
92	.014	12354	.141E-04	.014
65	.020	16752	.194E-04	.020
63	.005	4876	.507E-05	.005
74	.004	3565	.349E-05	.004
73	.005	4987	.521E-05	.005
75	.013	11437	.130E-04	.013
62	.008	7171	.783E-05	.008
68	.017	14309	.164E-04	.017
61	.000	916	.307E-06	.000
69	.001	1078	.502E-06	.001
85	.008	7223	.790E-05	.008
82	.007	6361	.686E-05	.007
86	.012	10205	.115E-04	.012
66	.008	7079	.772E-05	.008
81	.002	2062	.169E-05	.002
52	.001	1315	.787E-06	.001
64	.000	794	.160E-06	.000
83	.015	12475	.142E-04	.015
53	.023	19249	.224E-04	.023
51	.022	18163	.211E-04	.022
55	.004	3774	.375E-05	.004
117	.002	2165	.181E-05	.002
114	.010	8646	.961E-05	.010
110	.015	12546	.143E-04	.015
113	.015	12727	.145E-04	.015
109	.017	14601	.168E-04	.017
111	.005	4513	.463E-05	.005
107	.002	2559	.228E-05	.002
106	.009	8304	.920E-05	.009
115	.002	1904	.150E-05	.002
108	.017	14420	.166E-04	.017
112	.015	13133	.150E-04	.015
116	.004	4180	.423E-05	.004

RUN # 70

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	21.98 M/S
EXIT VEL.	4.55 M/S	22.20 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02
BACKGROUND	.72E+03	
CALIBRATION FACTOR	.38E-02	
RANGE	10	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	723	.144E-07	.000
78	.001	1177	.834E-06	.001
67	.005	4773	.732E-05	.005
76	.003	3079	.427E-05	.003
70	.001	1766	.190E-05	.001
79	.000	735	.361E-07	.000
87	0.000	550	0.	0.000
84	.005	4809	.739E-05	.005
90	.000	752	.668E-07	.000
71	.000	985	.487E-06	.000
72	.007	6278	.100E-04	.007
92	.000	806	.164E-06	.000
65	0.000	61	0.	0.000
63	.007	6231	.996E-05	.007
74	.000	799	.134E-06	.000
73	.004	3925	.579E-05	.004
75	.011	10022	.168E-04	.011
62	.006	5634	.888E-05	.006
68	.017	14218	.244E-04	.017
69	.000	960	.442E-06	.000
85	.005	5096	.791E-05	.005
82	.012	10200	.171E-04	.012
86	.011	9657	.161E-04	.011
66	.009	7807	.128E-04	.009
81	.005	4984	.771E-05	.005
52	.011	9477	.158E-04	.011
64	.000	932	.392E-06	.000
83	.010	9179	.153E-04	.010
53	.015	12630	.215E-04	.015
51	.014	11836	.201E-04	.014
55	.005	4998	.773E-05	.005
117	.000	1017	.545E-06	.000
114	.006	5514	.866E-05	.006
54	.001	1557	.152E-05	.001
110	.009	7729	.127E-04	.009
113	.008	7192	.117E-04	.008
109	.014	11788	.200E-04	.014
111	.005	4603	.702E-05	.005
107	.001	1325	.110E-05	.001
106	.005	5130	.797E-05	.005
115	.008	6972	.113E-04	.008
108	.011	9897	.166E-04	.011
112	.012	10381	.174E-04	.012
116	.005	4834	.743E-05	.005

RUN # 71

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	1.50 M/S	7.33 M/S
EXIT VEL.	4.55 M/S	22.20 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.87E+03	
CALIBRATION FACTOR	.37E-02	
RANGE	10	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	0.000	836	0.	0.000
78	.000	951	.501E-07	.000
67	.000	1032	.100E-06	.000
76	.000	1244	.231E-06	.000
70	.000	1047	.109E-06	.000
79	.000	967	.600E-07	.000
94	.001	1374	.312E-06	.001
90	.000	1013	.984E-07	.000
88	.000	974	.643E-07	.000
71	0.000	822	0.	0.000
72	.001	1387	.320E-06	.001
93	0.000	870	0.	0.000
92	.002	2809	.120E-05	.002
65	.003	3545	.165E-05	.003
63	.000	1090	.142E-06	.000
74	.000	1035	.102E-06	.000
73	.001	2024	.713E-06	.001
80	.000	1051	.112E-06	.000
75	.004	3982	.192E-05	.004
62	.002	2380	.933E-06	.002
68	.004	4190	.205E-05	.004
61	.000	900	.185E-07	.000
69	0.000	600	0.	0.000
85	.003	3220	.145E-05	.003
82	.008	6940	.375E-05	.008
86	.007	6520	.355E-05	.007
66	.006	5900	.311E-05	.006
81	.000	990	.742E-07	.000
52	.000	930	.371E-07	.000
64	.000	990	.742E-07	.000
83	.009	8230	.455E-05	.009
53	.014	11660	.667E-05	.014
51	.014	11920	.683E-05	.014
55	.001	1670	.495E-06	.001
117	.000	1040	.105E-06	.000
114	.008	7280	.396E-05	.008
54	.000	990	.742E-07	.000
110	.014	11760	.673E-05	.014
113	.014	12020	.689E-05	.014
109	.015	13110	.757E-05	.015
111	.001	1850	.606E-06	.001
107	.001	1750	.544E-06	.001
106	.011	9610	.540E-05	.011
108	.022	18050	.106E-04	.022
112	.017	14240	.826E-05	.017
116	.005	5050	.258E-05	.005

RUN # 72

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	14.65 M/S
EXIT VEL.	4.55 M/S	22.20 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.83E+03	
CALIBRATION FACTOR	.37E-02	
RANGE	10	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	0.000	850	0.	0.000
67	0.000	880	0.	0.000
76	0.000	849	0.	0.000
79	0.000	850	0.	0.000
87	.000	1123	.300E-06	.000
94	.000	1102	.274E-06	.000
90	.000	1002	.151E-06	.000
71	.000	1033	.189E-06	.000
72	.001	1596	.885E-06	.001
92	.003	3630	.340E-05	.003
65	.004	4128	.402E-05	.004
63	.001	1946	.119E-05	.001
74	.000	1131	.310E-06	.000
73	.001	1798	.113E-05	.001
75	.000	1057	.219E-06	.000
62	.004	3755	.355E-05	.004
68	.004	3734	.353E-05	.004
69	.000	1267	.478E-06	.000
85	.003	3161	.282E-05	.003
82	.010	8902	.992E-05	.010
86	.010	8712	.968E-05	.010
66	.007	6799	.732E-05	.007
52	.000	915	.433E-07	.000
64	.000	1149	.333E-06	.000
83	.009	8234	.909E-05	.009
53	.014	11808	.135E-04	.014
51	.012	10356	.117E-04	.012
117	.000	1111	.286E-06	.000
114	.006	5869	.619E-05	.006
110	.012	10390	.118E-04	.012
113	.013	10870	.124E-04	.013
109	.011	9859	.111E-04	.011
107	.000	1142	.324E-06	.000
106	.007	6280	.668E-05	.007
115	.011	9369	.105E-04	.011
108	.016	13245	.153E-04	.016
112	.013	10822	.123E-04	.013

RUN # 73

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	21.98 M/S
EXIT VEL.	4.55 M/S	22.20 M/S
VOL. FLOW	.14E-03M3/S	.29E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.75E+03	
CALIBRATION FACTOR	.37E-02	
RANGE	10	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.63 CM	4.10 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.001	1486	.136E-05	.001
78	.000	1197	.662E-06	.000
67	.001	1173	.784E-06	.001
76	.001	1466	.133E-05	.001
70	.001	1567	.152E-05	.001
79	.001	1542	.147E-05	.001
87	.000	760	.185E-07	.000
84	.001	1909	.215E-05	.001
90	.001	1373	.116E-05	.001
88	.000	989	.443E-06	.000
71	.000	916	.308E-06	.000
72	.002	2265	.281E-05	.002
93	.001	1831	.200E-05	.001
92	.003	2925	.403E-05	.003
65	.004	4124	.626E-05	.004
63	.002	1993	.231E-05	.002
74	.000	1138	.720E-06	.000
80	0.000	659	0.	0.000
75	.005	4337	.665E-05	.005
62	.004	4234	.646E-05	.004
68	.005	4850	.760E-05	.005
61	.001	1568	.152E-05	.001
69	.001	1598	.157E-05	.001
85	.003	3383	.488E-05	.003
82	.007	6291	.103E-04	.007
86	.008	6831	.113E-04	.008
66	.006	5891	.953E-05	.006
91	.000	977	.421E-06	.000
52	.000	753	.556E-08	.000
64	.000	916	.308E-06	.000
83	.007	6286	.103E-04	.007
53	.011	9516	.163E-04	.011
51	.008	7216	.120E-04	.008
55	.001	1413	.123E-05	.001
117	0.000	750	0.	0.000
114	.004	3917	.587E-05	.004
54	0.000	715	0.	0.000
110	.007	6682	.110E-04	.007
113	.009	7742	.130E-04	.009
109	.009	7859	.132E-04	.009
111	.001	1930	.219E-05	.001
107	.000	896	.271E-06	.000
106	.005	4918	.773E-05	.005
115	.008	6729	.111E-04	.008
108	.010	8393	.151E-04	.010
112	.009	7690	.129E-04	.009

RUN # 74

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	1.50 M/S	10.06 M/S
EXIT VEL.	3.98 M/S	25.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.62E+03	
CALIBRATION FACTOR	.37E-02	
RANGE	10	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	678	.334E-07	.000
78	.000	842	.127E-06	.000
67	.001	1530	.520E-06	.001
76	.000	880	.149E-06	.000
70	.000	934	.180E-06	.000
79	.000	691	.409E-07	.000
87	0.000	564	0.	0.000
84	.002	1929	.748E-06	.002
90	0.000	591	0.	0.000
88	.003	2834	.127E-05	.003
71	.001	1133	.293E-06	.001
72	.002	2399	.102E-05	.002
93	0.000	590	0.	0.000
92	.008	6866	.357E-05	.008
65	.010	8538	.452E-05	.010
63	.005	4572	.226E-05	.005
74	.000	756	.780E-07	.000
73	.003	3161	.145E-05	.003
80	.003	3208	.148E-05	.003
75	.008	6875	.357E-05	.008
62	.010	8520	.451E-05	.010
68	.016	12923	.703E-05	.016
61	.001	1020	.229E-06	.001
69	.000	814	.111E-06	.000
85	.004	3936	.189E-05	.004
82	.012	10320	.554E-05	.012
86	.017	14152	.773E-05	.017
66	.018	14853	.813E-05	.018
81	.005	4656	.231E-05	.005
52	.001	1100	.275E-06	.001
64	.000	803	.105E-06	.000
83	.015	12343	.670E-05	.015
53	.026	21533	.119E-04	.026
51	.022	17706	.976E-05	.022
55	.007	6382	.329E-05	.007
117	.000	932	.179E-06	.000
114	.011	9105	.485E-05	.011
54	.000	846	.129E-06	.000
110	.021	17204	.948E-05	.021
113	.020	16710	.919E-05	.020
109	.024	19225	.106E-04	.024
111	.006	5164	.260E-05	.006
107	.001	1667	.598E-06	.001
106	.013	11005	.593E-05	.013
115	.018	15055	.825E-05	.018
108	.023	18923	.105E-04	.023
112	.026	20926	.116E-04	.026
116	.012	10394	.558E-05	.012

RUN # 75

		UNIT 12 MODEL	PROTOTYPE
FREE STREAM VEL.		3.00 M/S	20.12 M/S
EXIT VEL.		3.98 M/S	26.71 M/S
VOL. FLOW		.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH		.15E+06	.51E+02
BACKGROUND		.64E+03	
CALIBRATION FACTOR		.37E-02	
RANGE		10	
STACK HEIGHT		21.00 CM	136.50 M
STACK DIAMETER		.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	585	.469E-07	.000
78	.001	1401	.865E-06	.001
67	.002	2134	.170E-05	.002
76	.002	2151	.172E-05	.002
70	.000	966	.368E-06	.000
79	.000	773	.147E-06	.000
87	0.000	605	0.	0.000
84	.006	5692	.577E-05	.006
90	.000	655	.126E-07	.000
88	.004	4100	.395E-05	.004
71	.001	1233	.673E-06	.001
72	.006	5177	.518E-05	.006
93	.000	686	.480E-07	.000
92	.016	13057	.142E-04	.016
65	.022	17772	.196E-04	.022
63	.005	4596	.452E-05	.005
74	.000	809	.189E-06	.000
73	.005	4748	.469E-05	.005
80	.000	828	.210E-06	.000
75	.010	8591	.908E-05	.010
62	.012	9994	.107E-04	.012
68	.012	10454	.112E-04	.012
61	.006	5357	.539E-05	.006
69	.000	1030	.441E-06	.000
85	.006	5311	.533E-05	.006
82	.013	11189	.120E-04	.013
86	.018	14719	.161E-04	.018
66	.016	13121	.143E-04	.016
81	.001	1742	.125E-05	.001
52	.000	831	.214E-06	.000
64	.000	666	.251E-07	.000
83	.012	10487	.112E-04	.012
53	.022	17711	.195E-04	.022
51	.017	14075	.153E-04	.017
55	.003	3206	.293E-05	.003
117	.000	839	.223E-06	.000
114	.008	7104	.738E-05	.008
54	.000	796	.174E-06	.000
110	.014	11601	.125E-04	.014
113	.016	13634	.148E-04	.016
109	.014	11572	.125E-04	.014
111	.003	3124	.283E-05	.003
107	.001	1145	.573E-06	.001
106	.008	6595	.680E-05	.008
115	.012	10211	.109E-04	.012
108	.016	13253	.144E-04	.016
112	.012	10147	.109E-04	.012
116	.004	3558	.333E-05	.004

RUN # 76

	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	30.17 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.15E+06	.51E+02
BACKGROUND	.66E+03	
CALIBRATION FACTOR	.37E-02	
RANGE	10	
STACK HEIGHT	21.00 CM	136.50 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	767	.179E-06	.000
78	.002	2616	.335E-05	.002
67	.006	5629	.851E-05	.006
76	.004	4094	.588E-05	.004
70	.001	1268	.104E-05	.001
79	.000	769	.183E-06	.000
87	0.000	601	0.	0.000
84	.008	7367	.115E-04	.008
90	.000	683	.351E-07	.000
98	.006	5703	.864E-05	.006
71	.000	983	.549E-06	.000
72	.008	7307	.114E-04	.008
93	.000	681	.317E-07	.000
92	.021	17433	.287E-04	.021
65	.023	18870	.312E-04	.023
63	.006	5263	.789E-05	.006
74	.000	923	.447E-06	.000
73	.006	5336	.801E-05	.006
80	.001	1776	.191E-05	.001
75	.002	2208	.265E-05	.002
62	.011	9149	.145E-04	.011
68	.015	12592	.204E-04	.015
61	.015	12862	.209E-04	.015
69	.001	1089	.731E 06	.001
85	.008	6732	.104E-04	.008
82	.014	12076	.196E-04	.014
86	.014	11875	.192E-04	.014
66	.015	12546	.204E-04	.015
81	.003	2672	.344E-05	.003
52	.000	1007	.591E-06	.000
64	.000	810	.253E-06	.000
83	.012	10374	.166E-04	.012
53	.018	15009	.246E-04	.018
51	.015	12794	.208E-04	.015
55	.004	3991	.571E-05	.004
117	.000	831	.289E-06	.000
114	.008	7152	.111E-04	.008
54	.000	793	.224E-06	.000
110	.012	10111	.162E-04	.012
113	.013	10926	.176E-04	.013
109	.015	12675	.206E-04	.015
111	.005	4429	.646E-05	.005
107	.001	1426	.131E-05	.001
106	.008	7193	.112E-04	.008
115	.010	8331	.131E-04	.010
108	.013	10788	.174E-04	.013
112	.013	10805	.174E-04	.013
116	.005	4720	.695E-05	.005

RUN # 77

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	1.50 M/S	10.06 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02
BACKGROUND	.66E+03	
CALIBRATION FACTOR	.37E-02	
RANGE	10	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	747	.447E-07	.000
78	.000	716	.281E-07	.000
67	.000	704	.217E-07	.000
76	0.000	640	0.	0.000
70	.000	697	.179E-07	.000
79	.000	708	.238E-07	.000
87	0.000	634	0.	0.000
84	.000	748	.453E-07	.000
90	.000	738	.399E-07	.000
88	.000	776	.603E-07	.000
71	.000	762	.529E-07	.000
72	.001	1196	.285E-06	.001
93	.000	707	.233E-07	.000
92	.001	1702	.556E-06	.001
65	.002	2182	.813E-06	.002
63	.000	1070	.218E-06	.000
74	.000	743	.426E-07	.000
73	.001	1541	.470E-06	.001
80	.000	683	.104E-07	.000
75	.004	4246	.192E-05	.004
62	.002	2477	.971E-06	.002
68	.005	4970	.231E-05	.005
61	.000	714	.271E-07	.000
69	.000	790	.678E-07	.000
85	.003	2922	.121E-05	.003
82	.007	6953	.337E-05	.007
86	.009	8505	.425E-05	.009
66	.009	8239	.406E-05	.009
81	.000	994	.177E-06	.000
52	.000	886	.119E-06	.000
64	.000	748	.453E-07	.000
83	.011	9926	.496E-05	.011
53	.018	15552	.798E-05	.018
51	.012	11117	.560E-05	.012
55	.001	1640	.523E-06	.001
117	.000	938	.147E-06	.000
114	.009	7998	.393E-05	.009
54	.000	681	.937E-08	.000
110	.016	14410	.736E-05	.016
113	.018	15603	.800E-05	.018
109	.018	16242	.834E-05	.018
111	.003	3257	.139E-05	.003
107	.002	1998	.715E-06	.002
106	.012	10377	.520E-05	.012
115	.010	9181	.456E-05	.010
108	.023	19913	.103E-04	.023
112	.019	16871	.868E-05	.019
116	.004	4257	.192E-05	.004

RUN # 78

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	3.00 M/S	20.12 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02
BACKGROUND	.79E+03	
CALIBRATION FACTOR	.37E-02	
RANGE	10	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	812	.268E-07	.000
78	.000	865	.836E-07	.000
67	.000	896	.117E-06	.000
76	.000	906	.127E-06	.000
70	.000	869	.868E-07	.000
79	.000	838	.546E-07	.000
87	0.000	770	0.	0.000
94	.001	1412	.670E-06	.001
90	.000	1008	.237E-06	.000
88	.000	894	.115E-06	.000
71	.000	886	.106E-06	.000
72	.003	3420	.282E-05	.003
93	.000	968	.194E-06	.000
92	.003	3546	.295E-05	.003
65	.006	5498	.505E-05	.006
63	.001	1495	.758E-06	.001
74	.000	1029	.259E-06	.000
73	.003	2913	.228E-05	.003
80	0.000	782	0.	0.000
75	.007	6821	.646E-05	.007
62	.005	4693	.418E-05	.005
68	.006	5868	.544E-05	.006
61	.000	820	.354E-07	.000
69	.000	866	.846E-07	.000
85	.004	4284	.375E-05	.004
82	.011	10189	.101E-04	.011
86	.010	9257	.907E-05	.010
66	.010	8879	.867E-05	.010
81	.001	1226	.470E-06	.001
52	.000	906	.127E-06	.000
64	.000	1155	.394E-06	.000
83	.013	11458	.114E-04	.013
53	.018	16161	.165E-04	.018
51	.013	11691	.117E-04	.013
55	.002	2470	.180E-05	.002
117	.000	926	.149E-06	.000
114	.009	8719	.850E-05	.009
54	.004	4468	.394E-05	.004
110	.014	12445	.125E-04	.014
113	.012	10988	.109E-04	.012
109	.014	12743	.128E-04	.014
111	.001	1985	.128E-05	.001
107	.001	1326	.577E-06	.001
106	.010	8948	.874E-05	.010
115	.013	11871	.119E-04	.013
108	.018	15931	.162E-04	.018
112	.015	13034	.131E-04	.015
116	.003	3651	.307E-05	.003

RUN # 79

UNIT 12

	MODEL	PROTOTYPE
FREE STREAM VEL.	4.50 M/S	30.17 M/S
EXIT VEL.	3.98 M/S	26.71 M/S
VOL. FLOW	.15E-03M3/S	.43E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02
BACKGROUND	.14E+04	
CALIBRATION FACTOR	.37E-02	
RANGE	10	
STACK HEIGHT	28.00 CM	182.00 M
STACK DIAMETER	.70 CM	4.55 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
77	.000	1435	.177E-07	.000
78	.000	1430	.964E-08	.000
67	.000	1456	.514E-07	.000
76	.000	1427	.482E-08	.000
70	0.000	1419	0.	0.000
79	.000	1462	.611E-07	.000
87	0.000	1368	0.	0.000
84	.001	2038	.987E-06	.001
90	.000	1556	.212E-06	.000
88	0.000	1110	0.	0.000
71	.000	1500	.122E-06	.000
72	.002	2843	.228E-05	.002
93	.000	1436	.193E-07	.000
92	.004	4919	.562E-05	.004
65	.005	6024	.739E-05	.005
63	.001	2151	.117E-05	.001
74	.000	1524	.161E-06	.000
73	.002	3174	.281E-05	.002
80	.002	3061	.263E-05	.002
75	.006	6888	.878E-05	.006
62	.004	4720	.530E-05	.004
68	.005	5235	.612E-05	.005
61	.000	1434	.161E-07	.000
69	.000	1606	.292E-06	.000
85	.003	4262	.456E-05	.003
92	.009	8807	.119E-04	.009
86	.008	7337	.103E-04	.008
66	.007	7452	.969E-05	.007
81	.000	1624	.321E-06	.000
52	.000	1596	.276E-06	.000
64	.000	1527	.166E-06	.000
83	.009	8853	.119E-04	.009
53	.013	12194	.173E-04	.013
51	.010	9902	.136E-04	.010
55	.001	2129	.113E-05	.001
117	.000	1604	.289E-06	.000
114	.006	6315	.786E-05	.006
54	.004	5153	.599E-05	.004
110	.010	9551	.131E-04	.010
113	.010	9478	.129E-04	.010
109	.010	9835	.135E-04	.010
111	.001	2226	.129E-05	.001
107	.001	2010	.942E-06	.001
106	.006	6542	.822E-05	.006
115	.009	8855	.119E-04	.009
108	.012	11235	.158E-04	.012
112	.009	9433	.129E-04	.009
116	.001	2657	.198E-05	.001

RUN # 80

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.82 M/S	1.50 M/S	8.82 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02
BACKGROUND	.86E+03		.40E+03	
CALIBRATION FACTOR	.39E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
1	.000	847	0.	0.000	412	.784E-08	.000
2	.000	856	0.	0.000	415	.102E-07	.000
3	.000	873	.141E-07	.000	419	.133E-07	.000
4	.000	1146	.271E-06	.000	542	.110E-06	.000
5	.000	997	.131E-06	.000	475	.572E-07	.000
6	.000	895	.349E-07	.000	400	0.	0.000
7	.000	854	0.	0.000	440	.298E-07	.000
8	.000	880	.207E-07	.000	457	.431E-07	.000
9	.001	1622	.720E-06	.001	539	.107E-06	.000
10	.003	2426	.148E-05	.001	2289	.148E-05	.001
11	.000	842	0.	0.000	753	.275E-06	.000
12	.000	835	0.	0.000	435	.259E-07	.000
13	.000	1003	.137E-06	.000	536	.105E-06	.000
14	.000	931	.688E-07	.000	455	.415E-07	.000
15	.003	3183	.219E-05	.002	1284	.691E-06	.001
16	.009	6402	.522E-05	.005	6694	.493E-05	.004
17	.000	881	.217E-07	.000	751	.274E-06	.000
18	.000	882	.226E-07	.000	499	.760E-07	.000
19	.000	871	.122E-07	.000	460	.455E-07	.000
20	.000	1010	.143E-06	.000	595	.151E-06	.000
21	.006	5644	.451E-05	.004	2073	.179E-05	.002
22	.012	8895	.757E-05	.007	8371	.625E-05	.006
23	.001	1081	.210E-06	.000	1527	.882E-06	.001
24	.000	788	0.	0.000	450	.376E-07	.000
25	.000	896	.358E-07	.000	536	.105E-06	.000
26	.000	995	.129E-06	.000	504	.799E-07	.000
27	.006	5829	.468E-05	.004	2939	.199E-05	.002
28	.016	10981	.954E-05	.009	10714	.808E-05	.007
29	.001	947	.838E-07	.000	1043	.502E-06	.000
30	.000	807	0.	0.000	430	.219E-07	.000
31	.000	868	.942E-08	.000	511	.854E-07	.000
32	.000	1037	.169E-06	.000	548	.114E-06	.000
33	.006	5481	.436E-05	.004	3321	.229E-05	.002
34	.016	11180	.972E-05	.009	10098	.760E-05	.007
35	.000	933	.707E-07	.000	641	.219E-06	.000
36	.000	777	0.	0.000	408	.470E-08	.000

RUN # 81

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	17.64 M/S	3.00 M/S	17.64 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02
BACKGROUND	.99E+03		.55E+03	
CALIBRATION FACTOR	.39E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)	RAW (AREA)	NORMALIZED CONC(-)	PROTOTYPE CONC(PPM)
1	.000	1040	.102E-06	.000	620	.118E-06	.000
2	.000	1022	.678E-07	.000	612	.105E-06	.000
3	.000	1123	.258E-06	.000	619	.116E-06	.000
4	.000	1090	.196E-06	.000	877	.520E-06	.000
5	.000	1092	.200E-06	.000	674	.202E-06	.000
6	.000	998	.226E-07	.000	582	.580E-07	.000
7	.000	1157	.322E-06	.000	630	.133E-06	.000
8	.000	1084	.185E-06	.000	652	.168E-06	.000
9	.002	3279	.432E-05	.002	1224	.106E-05	.000
10	.008	5417	.835E-05	.004	6507	.935E-05	.004
11	.002	1234	.467E-06	.000	3104	.401E-05	.002
12	.000	999	.245E-07	.000	613	.107E-06	.000
13	.000	1253	.503E-06	.000	654	.171E-06	.000
14	.000	1064	.147E-06	.000	672	.199E-06	.000
15	.004	4478	.658E-05	.003	1697	.181E-05	.001
16	.013	9221	.155E-04	.007	9689	.143E-04	.005
17	.001	1162	.332E-06	.000	1294	.117E-05	.001
18	.000	1048	.117E-06	.000	665	.188E-06	.000
19	.000	1024	.716E-07	.000	704	.249E-06	.000
20	.000	979	0.	0.000	677	.207E-06	.000
21	.005	5607	.871E-05	.004	2494	.306E-05	.001
22	.014	9961	.169E-04	.008	9351	.138E-04	.006
23	.005	2608	.306E-05	.001	5211	.731E-05	.003
24	.000	961	0.	0.000	622	.121E-06	.000
25	.000	1038	.980E-07	.000	663	.185E-06	.000
26	.000	1106	.226E-06	.000	654	.171E-06	.000
27	.004	4557	.673E-05	.003	2047	.235E-05	.001
28	.014	9805	.166E-04	.007	9172	.135E-04	.006
29	.002	1741	.142E-05	.001	2754	.346E-05	.002
30	.000	965	0.	0.000	649	.163E-06	.000
31	.000	986	0.	0.000	594	.768E-07	.000
32	.000	1088	.192E-06	.000	660	.180E-06	.000
33	.004	4263	.617E-05	.003	2225	.263E-05	.001
34	.011	8693	.145E-04	.007	7508	.109E-04	.005
35	.001	1339	.665E-06	.000	1612	.167E-05	.001
36	.000	960	0.	0.000	716	.268E-06	.000

RUN # 82

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	26.46 M/S	4.50 M/S	25.46 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02
BACKGROUND	.96E+03		.51E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
1	.000	892	0.	0.000	556	.116E-06	.000
2	.000	961	0.	0.000	725	.517E-06	.000
3	.000	1350	.110E-05	.000	539	.759E-07	.000
4	.001	1237	.782E-06	.000	1138	.150E-05	.000
5	.000	1053	.257E-06	.000	575	.161E-06	.000
6	.000	996	.941E-07	.000	489	0.	0.000
7	.000	860	0.	0.000	548	.973E-07	.000
8	.001	1579	.176E-05	.001	672	.392E-06	.000
9	.003	3556	.740E-05	.002	946	.104E-05	.000
10	.009	6171	.149E-04	.004	6270	.137E-04	.004
11	.002	1262	.853E-06	.000	2617	.501E-05	.002
12	.000	1009	.131E-06	.000	515	.190E-07	.000
13	.000	890	0.	0.000	559	.123E-06	.000
14	.000	1051	.251E-06	.000	543	.854E-07	.000
15	.003	3956	.854E-05	.003	1453	.225E-05	.001
16	.011	7702	.192E-04	.006	7902	.176E-04	.005
17	.001	1049	.245E-06	.000	1194	.163E-05	.000
18	.000	1021	.165E-06	.000	523	.380E-07	.000
19	.000	1009	.131E-06	.000	531	.570E-07	.000
20	.000	1018	.157E-06	.000	485	0.	0.000
21	.004	4294	.950E-05	.003	1906	.332E-05	.001
22	.009	6788	.166E-04	.005	6453	.141E-04	.004
23	.003	1963	.285E-05	.001	3266	.655E-05	.002
24	0.000	951	0.	0.000	473	0.	0.000
25	.000	979	.456E-07	.000	622	.273E-06	.000
26	.000	1055	.262E-06	.000	631	.294E-06	.000
27	.003	3681	.775E-05	.002	1736	.292E-05	.001
28	.009	6921	.170E-04	.005	6248	.136E-04	.004
29	.001	1142	.511E-06	.000	1054	.130E-05	.000
30	.000	963	0.	0.000	535	.665E-07	.000
31	0.000	949	0.	0.000	507	0.	0.000
32	.000	1053	.257E-06	.000	543	.854E-07	.000
33	.003	3310	.669E-05	.002	1722	.288E-05	.001
34	.008	6046	.145E-04	.004	5198	.111E-04	.003
35	.002	1828	.247E-05	.001	1958	.344E-05	.001
36	.000	975	.342E-07	.000	541	.807E-07	.000

RUN # 83

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	8.82 M/S	1.50 M/S	8.82 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02
BACKGROUND	.97E+03		.39E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.53 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
1	.000	1018	.473E-07	.000	438	.396E-07	.000
2	.000	998	.287E-07	.000	423	.277E-07	.000
3	.000	1420	.420E-06	.000	558	.134E-06	.000
4	.000	1004	.343E-07	.000	464	.601E-07	.000
5	.000	1286	.296E-06	.000	675	.227E-06	.000
6	.000	988	.195E-07	.000	413	.198E-07	.000
7	.000	995	.260E-07	.000	453	.514E-07	.000
8	.000	1009	.389E-07	.000	481	.736E-07	.000
9	0.000	966	0.	0.000	347	0.	0.000
10	.000	1097	.121E-06	.000	591	.161E-06	.000
11	.000	992	.232E-07	.000	472	.665E-07	.000
12	.000	967	0.	0.000	430	.332E-07	.000
13	.000	1038	.658E-07	.000	451	.498E-07	.000
14	.000	954	0.	0.000	431	.340E-07	.000
15	.001	1826	.796E-06	.001	701	.248E-06	.000
16	.002	2338	.127E-05	.001	1943	.123E-05	.001
17	.000	1173	.191E-06	.000	544	.123E-06	.000
18	.001	1449	.447E-06	.000	731	.271E-06	.000
19	.000	1342	.348E-06	.000	585	.156E-06	.000
20	.000	1115	.137E-06	.000	518	.103E-06	.000
21	.002	2807	.171E-05	.002	1120	.579E-06	.001
22	.005	3993	.281E-05	.003	4040	.289E-05	.003
23	.001	1075	.100E-06	.000	1153	.605E-06	.001
24	0.000	904	0.	0.000	359	0.	0.000
25	.000	1015	.445E-07	.000	497	.862E-07	.000
26	.000	1107	.130E-06	.000	483	.752E-07	.000
27	.003	3670	.251E-05	.002	1583	.945E-06	.001
28	.009	6137	.479E-05	.004	6738	.502E-05	.005
29	.000	1112	.134E-06	.000	680	.231E-06	.000
30	.000	992	.232E-07	.000	425	.293E-07	.000
31	.000	1247	.260E-06	.000	645	.203E-06	.000
32	.000	1221	.235E-06	.000	480	.728E-07	.000
33	.005	4794	.355E-05	.003	2499	.167E-05	.002
34	.010	6826	.543E-05	.005	7062	.528E-05	.005
35	.002	2013	.970E-06	.001	1897	.119E-05	.001
36	.000	975	.742E-08	.000	396	.633E-08	.000

RUN # 84

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE
REE STREAM VEL.	3.00 M/S	17.64 M/S	3.00 M/S	17.64 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02
BACKGROUND	.14E+04		.92E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
1	.000	1396	.133E-07	.000	945	.427E-07	.000
2	.000	1389	0.	0.000	945	.427E-07	.000
3	.000	1438	.932E-07	.000	960	.665E-07	.000
4	.000	1401	.228E-07	.000	952	.538E-07	.000
5	.001	1508	.226E-06	.000	1542	.987E-06	.000
6	.000	1269	0.	0.000	1020	.161E-06	.000
7	.001	2065	.129E-05	.001	1353	.688E-06	.000
8	.000	1393	.761E-08	.000	948	.475E-07	.000
9	.000	1744	.675E-06	.000	1003	.134E-06	.000
10	.001	1851	.879E-06	.000	1511	.938E-06	.000
11	.000	1414	.475E-07	.000	1038	.190E-06	.000
12	.000	1370	0.	0.000	946	.443E-07	.000
13	0.000	1360	0.	0.000	893	0.	0.000
14	.000	1831	.841E-06	.000	924	.949E-08	.000
15	.001	2564	.223E-05	.001	1311	.622E-06	.000
16	.004	3765	.452E-05	.002	3553	.417E-05	.002
17	.000	1664	.523E-06	.000	945	.427E-07	.000
18	.000	1378	0.	0.000	1207	.457E-06	.000
19	.000	1514	.238E-06	.000	1369	.714E-06	.000
20	.000	1397	.152E-07	.000	921	.475E-08	.000
21	.003	3578	.416E-05	.002	1972	.167E-05	.001
22	.006	5102	.706E-05	.003	4455	.560E-05	.003
23	.001	1546	.299E-06	.000	1469	.872E-06	.000
24	.001	2021	.120E-05	.001	1017	.157E-06	.000
25	.000	1358	0.	0.000	1208	.459E-06	.000
26	0.000	0	0.	0.000	0	0.	0.000
27	.003	3520	.405E-05	.002	2051	.179E-05	.001
28	.007	6167	.909E-05	.004	5573	.737E-05	.003
29	.000	1420	.590E-07	.000	1070	.240E-06	.000
30	.000	1373	0.	0.000	940	.348E-07	.000
31	.000	1600	.401E-06	.000	1043	.198E-06	.000
32	.001	1620	.439E-06	.000	1538	.981E-06	.000
33	.003	3697	.439E-05	.002	2623	.270E-05	.001
34	.007	5956	.869E-05	.004	5308	.695E-05	.003
35	.001	1601	.403E-06	.000	1504	.927E-06	.000
36	-.000	1480	.173E-06	.000	1057	.220E-06	.000

RUN # 85

	UNIT 9 MODEL	UNIT 9 PROTOTYPE	UNIT 10 MODEL	UNIT 10 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	26.46 M/S	4.50 M/S	26.46 M/S
EXIT VEL.	4.00 M/S	23.51 M/S	4.00 M/S	23.51 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.95E-04M3/S	.24E+03M3/S
SOURCE STRENGTH	.16E+06	.34E+02	.10E+06	.34E+02
BACKGROUND	.13E+04		.80E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.55 CM	3.58 M

SAMPLE PT.	TOTAL (PPM)	UNIT 9 RAW (AREA)	UNIT 9 NORMALIZED CONC(-)	UNIT 9 PROTOTYPE CONC(PPM)	UNIT 10 RAW (AREA)	UNIT 10 NORMALIZED CONC(-)	UNIT 10 PROTOTYPE CONC(PPM)
1	.000	1310	0.	0.000	819	.451E-07	.000
2	.000	1300	0.	0.000	813	.309E-07	.000
3	.000	1314	0.	0.000	826	.617E-07	.000
4	.000	1317	.285E-08	.000	815	.356E-07	.000
5	.000	1388	.205E-06	.000	912	.266E-06	.000
6	.000	1541	.642E-06	.000	785	0.	0.000
7	.000	983	0.	0.000	1117	.752E-06	.000
8	.000	1338	.628E-07	.000	831	.736E-07	.000
9	.000	1755	.125E-05	.000	897	.230E-06	.000
10	.001	2026	.203E-05	.001	1708	.215E-05	.001
11	.000	1268	0.	0.000	1212	.978E-06	.000
12	.001	1935	.177E-05	.001	950	.356E-06	.000
13	.001	1920	.172E-05	.001	926	.299E-06	.000
14	.000	1088	0.	0.000	986	.441E-06	.000
15	.001	2345	.294E-05	.001	1284	.115E-05	.000
16	.004	3603	.652E-05	.002	3393	.615E-05	.002
17	.000	1279	0.	0.000	854	.128E-06	.000
18	.000	1327	.314E-07	.000	856	.133E-06	.000
19	.000	1284	0.	0.000	984	.437E-06	.000
20	.000	1120	0.	0.000	847	.112E-06	.000
21	.002	3063	.498E-05	.001	1554	.179E-05	.001
22	.005	4692	.963E-05	.003	3824	.718E-05	.002
23	.001	1517	.573E-06	.000	1431	.150E-05	.000
24	.001	1875	.159E-05	.000	860	.142E-06	.000
25	.000	1271	0.	0.000	1012	.503E-06	.000
26	.000	1393	.220E-06	.000	836	.854E-07	.000
27	.003	3763	.693E-05	.002	1856	.251E-05	.001
28	.006	5636	.123E-04	.004	4464	.870E-05	.003
29	.001	1950	.181E-05	.001	1071	.643E-06	.000
30	.000	1297	0.	0.000	817	.403E-07	.000
31	.000	1267	0.	0.000	863	.712E-08	.000
32	.001	1862	.156E-05	.000	952	.361E-06	.000
33	.002	3102	.509E-05	.002	1809	.239E-05	.001
34	.005	4820	.100E-04	.003	3996	.759E-05	.002
35	.001	1750	.124E-05	.000	1668	.206E-05	.001
36	.000	1262	0.	0.000	1005	.487E-06	.000

RUN # 86

	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	9.07 M/S	1.50 M/S	7.82 M/S
EXIT VEL.	4.00 M/S	24.17 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02	.10E+06	.34E+02
BACKGROUND	.16E+04		.82E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
1	.000	1615	0.	0.000	825	.974E-08	.000
2	0.000	1615	0.	0.000	816	0.	0.000
3	.000	1643	.262E-07	.000	1416	.649E-06	.000
4	.000	1676	.570E-07	.000	856	.433E-07	.000
5	.001	2040	.397E-06	.001	1143	.354E-06	.000
6	.000	1612	0.	0.000	1015	.215E-06	.000
7	.000	1538	0.	0.000	952	.147E-06	.000
8	.002	1831	.202E-06	.000	2533	.186E-05	.001
9	.004	3642	.189E-05	.003	2108	.140E-05	.001
10	.001	2028	.386E-06	.001	867	.552E-07	.000
11	.000	1649	.318E-07	.000	851	.379E-07	.000
12	.000	1669	.504E-07	.000	849	.357E-07	.000
13	0.000	1587	0.	0.000	767	0.	0.000
14	.003	2055	.411E-06	.001	3763	.321E-05	.002
15	.013	8034	.600E-05	.009	7144	.685E-05	.005
16	.004	4560	.275E-05	.004	1507	.747E-06	.000
17	.000	1564	0.	0.000	879	.682E-07	.000
18	.000	1698	.775E-07	.000	1242	.461E-06	.000
19	.000	1532	0.	0.000	929	.122E-06	.000
20	.001	1798	.171E-06	.000	1983	.126E-05	.001
21	.020	11491	.923E-05	.013	10990	.109E-04	.007
22	.008	6791	.483E-05	.007	2344	.165E-05	.001
23	.001	2356	.692E-06	.001	986	.184E-06	.000
24	.000	1554	0.	0.000	942	.136E-06	.000
25	0.000	1592	0.	0.000	812	0.	0.000
26	.006	3585	.184E-05	.003	5841	.544E-05	.004
27	.020	11591	.932E-05	.013	10515	.105E-04	.007
28	.011	8976	.688E-05	.009	3449	.285E-05	.002
29	.000	1628	.121E-07	.000	950	.145E-06	.000
30	.001	1741	.118E-06	.000	1376	.606E-06	.000
31	.000	1544	0.	0.000	1200	.415E-06	.000
32	.007	4292	.250E-05	.003	6471	.612E-05	.004
33	.022	12739	.104E-04	.014	11642	.117E-04	.008
34	.013	10029	.786E-05	.011	4609	.410E-05	.003
35	.001	2180	.528E-06	.001	1142	.353E-06	.000
36	.000	1631	.149E-07	.000	902	.930E-07	.000

RUN # 87

	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	18.13 M/S	3.00 M/S	15.64 M/S
EXIT VEL.	4.00 M/S	24.17 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02	.10E+06	.34E+02
BACKGROUND	.14E+04		.64E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
1	.000	1425	.110E-06	.000	654	.238E-07	.000
2	.001	1773	.760E-06	.001	1044	.868E-06	.000
3	.001	2388	.191E-05	.001	870	.491E-06	.000
4	.001	1902	.100E-05	.001	633	0.	0.000
5	.001	1912	.102E-05	.001	673	.649E-07	.000
6	.001	1824	.856E-06	.001	685	.909E-07	.000
7	.001	2165	.149E-05	.001	968	.703E-06	.000
8	.005	3155	.334E-05	.002	4350	.802E-05	.003
9	.008	6074	.880E-05	.006	4021	.731E-05	.002
10	.004	3272	.356E-05	.002	2901	.489E-05	.002
11	.001	2141	.145E-05	.001	792	.322E-06	.000
12	.001	2102	.137E-05	.001	812	.366E-06	.000
13	.000	1366	0.	0.000	816	.374E-06	.000
14	.003	2175	.151E-05	.001	3922	.709E-05	.002
15	.016	9246	.147E-04	.010	8903	.179E-04	.006
16	.008	6765	.101E-04	.007	2260	.350E-05	.001
17	.001	1639	.510E-06	.000	1337	.150E-05	.000
18	.001	1968	.112E-05	.001	927	.614E-06	.000
19	.000	1368	.374E-08	.000	728	.184E-06	.000
20	.002	1791	.794E-06	.001	2162	.329E-05	.001
21	.016	9430	.151E-04	.010	9185	.185E-04	.006
22	.010	7783	.120E-04	.008	3455	.608E-05	.002
23	.002	1694	.613E-06	.000	2308	.360E-05	.001
24	.001	2090	.135E-05	.001	801	.342E-06	.000
25	.000	1385	.355E-07	.000	718	.162E-06	.000
26	.003	2397	.193E-05	.001	3382	.593E-05	.002
27	.014	8139	.127E-04	.009	7915	.157E-04	.005
28	.012	8242	.128E-04	.009	4939	.929E-05	.003
29	.000	1206	0.	0.000	691	.104E-06	.000
30	.000	1366	0.	0.000	704	.132E-06	.000
31	.000	1407	.766E-07	.000	607	0.	0.000
32	.003	2116	.140E-05	.001	2802	.467E-05	.002
33	.012	7009	.105E-04	.007	7141	.141E-04	.005
34	.011	8045	.125E-04	.009	4531	.841E-05	.003
35	.002	1996	.118E-05	.001	2118	.319E-05	.001
36	.007	1818	.844E-06	.001	9574	.193E-04	.006

RUN # 88

	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	27.20 M/S	4.50 M/S	23.46 M/S
EXIT VEL.	4.00 M/S	24.17 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02	.10E+06	.34E+02
BACKGROUND	.15E+04		.68E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	21.00 CM	136.50 M	21.00 CM	136.50 M
STACK DIAMETER	.55 CM	3.58 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
1	0.000	1490	0.	0.000	669	0.	0.000
2	.001	2134	.167E-05	.001	1273	.193E-05	.000
3	.002	2772	.346E-05	.002	1207	.171E-05	.000
4	.001	2334	.223E-05	.001	829	.487E-06	.000
5	.001	2258	.202E-05	.001	950	.879E-06	.000
6	.001	2171	.178E-05	.001	898	.711E-06	.000
7	.001	2243	.198E-05	.001	995	.103E-05	.000
8	.005	2986	.406E-05	.002	4680	.130E-04	.003
9	.009	6504	.139E-04	.006	4749	.132E-04	.003
10	.004	4592	.856E-05	.004	1366	.223E-05	.000
11	.001	2234	.195E-05	.001	868	.613E-06	.000
12	.000	1714	.495E-06	.000	674	0.	0.000
13	.001	1842	.853E-06	.000	858	.581E-06	.000
14	.002	2108	.160E-05	.001	2924	.729E-05	.002
15	.012	7394	.164E-04	.007	7333	.216E-04	.005
16	.008	6442	.137E-04	.006	2452	.575E-05	.001
17	.001	2182	.181E-05	.001	824	.471E-06	.000
18	.001	2223	.193E-05	.001	881	.655E-06	.000
19	.001	2042	.141E-05	.001	923	.792E-06	.000
20	.001	1974	.122E-05	.001	1386	.229E-05	.001
21	.012	7553	.169E-04	.008	7182	.211E-04	.005
22	.008	6571	.141E-04	.006	3034	.764E-05	.002
23	.000	1677	.391E-06	.000	727	.156E-06	.000
24	.001	2293	.212E-05	.001	821	.461E-06	.000
25	0.000	853	0.	0.000	385	0.	0.000
26	.002	2551	.284E-05	.001	2117	.467E-05	.001
27	.010	6115	.128E-04	.006	5780	.166E-04	.004
28	.009	6717	.145E-04	.007	3336	.862E-05	.002
29	.000	1572	.967E-07	.000	750	.230E-06	.000
30	.000	1889	.985E-06	.000	695	.519E-07	.000
31	.001	1851	.879E-06	.000	1017	.110E-05	.000
32	.002	2196	.185E-05	.001	1847	.379E-05	.001
33	.009	6116	.128E-04	.006	5266	.149E-04	.003
34	.009	6738	.146E-04	.007	3540	.928E-05	.002
35	.001	2426	.249E-05	.001	1125	.145E-05	.000
36	.001	2031	.138E-05	.001	866	.607E-06	.000

RUN # 89

	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	1.50 M/S	9.07 M/S	1.50 M/S	7.82 M/S
EXIT VEL.	4.00 M/S	24.17 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02	.10E+06	.34E+02
BACKGROUND	.12E+04		.59E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
1	.000	1229	0.	0.000	634	.498E-07	.000
2	.000	1284	.411E-07	.000	745	.170E-06	.000
3	.000	1240	0.	0.000	594	.649E-08	.000
4	.000	1291	.476E-07	.000	611	.249E-07	.000
5	.000	1381	.132E-06	.000	635	.508E-07	.000
6	.000	1358	.110E-06	.000	537	0.	0.000
7	.001	1713	.442E-06	.001	783	.211E-06	.000
8	.000	1381	.132E-06	.000	650	.671E-07	.000
9	.000	1351	.104E-06	.000	629	.444E-07	.000
10	.000	1310	.654E-07	.000	579	0.	0.000
11	.000	1346	.101E-06	.000	588	0.	0.000
12	.000	1360	.112E-06	.000	571	0.	0.000
13	.001	1632	.366E-06	.001	777	.204E-06	.000
14	.000	1335	.887E-07	.000	805	.235E-06	.000
15	.003	2781	.144E-05	.002	1550	.104E-05	.001
16	.001	1801	.524E-06	.001	643	.595E-07	.000
17	.000	1465	.210E-06	.000	646	.627E-07	.000
18	.000	1417	.165E-06	.000	558	0.	0.000
19	.000	1312	.673E-07	.000	625	.400E-07	.000
20	.000	1263	.262E-07	.000	982	.425E-06	.000
21	.006	4706	.324E-05	.004	3021	.263E-05	.002
22	.002	2961	.161E-05	.002	912	.350E-06	.000
23	.000	1286	.430E-07	.000	600	.130E-07	.000
24	0.000	1197	0.	0.000	572	0.	0.000
25	.000	1280	.374E-07	.000	639	.552E-07	.000
26	.001	1613	.348E-06	.000	1919	.144E-05	.001
27	.009	6176	.461E-05	.006	4388	.411E-05	.003
28	.006	5159	.366E-05	.005	1507	.994E-06	.001
29	.000	1422	.170E-06	.000	597	.974E-08	.000
30	.000	1510	.252E-06	.000	701	.122E-06	.000
31	.001	1558	.297E-06	.000	776	.203E-06	.000
32	.003	2222	.917E-06	.001	2466	.203E-05	.001
33	.011	7184	.555E-05	.008	5482	.529E-05	.004
34	.008	6568	.498E-05	.007	2111	.165E-05	.001
35	.001	1829	.550E-06	.001	649	.660E-07	.000
36	.000	1363	.115E-06	.000	583	0.	0.000

RUN # 90

	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	3.00 M/S	18.13 M/S	3.00 M/S	15.64 M/S
EXIT VEL.	4.00 M/S	24.17 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02	.10E+06	.34E+02
BACKGROUND	.15E+04		.82E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
1	.000	1632	.164E-06	.000	825	.216E-07	.000
2	.000	1629	.159E-06	.000	894	.171E-06	.000
3	.000	1670	.235E-06	.000	854	.844E-07	.000
4	.000	1632	.164E-06	.000	834	.411E-07	.000
5	.000	1716	.321E-06	.000	856	.897E-07	.000
6	.001	2008	.867E-06	.001	977	.350E-06	.000
7	.001	1967	.790E-06	.001	1026	.457E-06	.000
8	.000	1555	.205E-07	.000	942	.275E-06	.000
9	.001	2205	.123E-05	.001	1184	.798E-06	.000
10	.001	2294	.140E-05	.001	984	.366E-06	.000
11	.001	1985	.824E-06	.001	1038	.482E-06	.000
12	.000	1670	.235E-06	.000	793	0.	0.000
13	.000	1743	.372E-06	.000	859	.952E-07	.000
14	.000	1582	.710E-07	.000	958	.309E-06	.000
15	.004	3360	.339E-05	.002	2611	.389E-05	.001
16	.003	3806	.423E-05	.003	1453	.139E-05	.000
17	.000	1836	.546E-06	.000	981	.359E-06	.000
18	.000	1544	0.	0.000	897	.177E-06	.000
19	.000	1541	0.	0.000	863	.104E-06	.000
20	.000	1605	.114E-06	.000	816	.216E-08	.000
21	.006	4305	.516E-05	.004	3683	.620E-05	.002
22	.006	5633	.764E-05	.005	2421	.347E-05	.001
23	.001	1915	.693E-06	.000	960	.314E-06	.000
24	.000	1714	.318E-06	.000	978	.353E-06	.000
25	.001	1840	.553E-06	.000	1036	.478E-06	.000
26	.001	1929	.719E-06	.000	1330	.111E-05	.000
27	.006	4440	.541E-05	.004	4000	.689E-05	.002
28	.009	6898	.100E-04	.007	3407	.561E-05	.002
29	.000	1656	.209E-06	.000	798	0.	0.000
30	.000	1601	.106E-06	.000	824	.195E-07	.000
31	.000	1600	.105E-06	.000	752	0.	0.000
32	.000	1663	.222E-06	.000	1136	.694E-06	.000
33	.006	4475	.548E-05	.004	4119	.715E-05	.002
34	.009	7189	.105E-04	.007	3987	.686E-05	.002
35	.001	2056	.957E-06	.001	851	.779E-07	.000
36	.000	1588	.822E-07	.000	810	0.	0.000

RUN # 91

	UNIT 11 MODEL	UNIT 11 PROTOTYPE	UNIT 12 MODEL	UNIT 12 PROTOTYPE
FREE STREAM VEL.	4.50 M/S	27.20 M/S	4.50 M/S	23.46 M/S
EXIT VEL.	4.00 M/S	24.17 M/S	4.03 M/S	21.04 M/S
VOL. FLOW	.95E-04M3/S	.24E+03M3/S	.70E-04M3/S	.15E+03M3/S
SOURCE STRENGTH	.16E+06	.51E+02	.10E+06	.34E+02
BACKGROUND	.18E+04		.97E+03	
CALIBRATION FACTOR	.40E-02		.21E-02	
RANGE	10		10	
STACK HEIGHT	28.00 CM	182.00 M	28.00 CM	182.00 M
STACK DIAMETER	.55 CM	3.58 M	.47 CM	3.06 M

SAMPLE PT.	TOTAL (PPM)	UNIT 11 RAW (AREA)	UNIT 11 NORMALIZED CONC(-)	UNIT 11 PROTOTYPE CONC(PPM)	UNIT 12 RAW (AREA)	UNIT 12 NORMALIZED CONC(-)	UNIT 12 PROTOTYPE CONC(PPM)
1	.001	2560	.207E-05	.001	1111	.453E-06	.000
2	.000	1891	.192E-06	.000	995	.763E-07	.000
3	.001	2403	.163E-05	.001	1189	.706E-06	.000
4	.001	2229	.114E-05	.001	964	0.	0.000
5	.001	2579	.212E-05	.001	1204	.755E-06	.000
6	.001	2462	.179E-05	.001	1162	.618E-06	.000
7	.001	2671	.238E-05	.001	1137	.537E-06	.000
8	.000	1903	.226E-06	.000	1331	.117E-05	.000
9	.002	2817	.279E-05	.001	1537	.184E-05	.000
10	.001	2707	.248E-05	.001	1285	.102E-05	.000
11	.001	2463	.179E-05	.001	1175	.660E-06	.000
12	.001	2374	.155E-05	.001	1181	.680E-06	.000
13	.000	1518	0.	0.000	1010	.125E-06	.000
14	.001	1923	.282E-06	.000	1917	.307E-05	.001
15	.005	3942	.594E-05	.003	4197	.105E-04	.002
16	.003	4038	.621E-05	.003	1491	.169E-05	.000
17	.000	1812	0.	0.000	987	.503E-07	.000
18	.000	1843	.574E-07	.000	1007	.115E-06	.000
19	.000	1660	0.	0.000	1034	.203E-06	.000
20	.001	2287	.130E-05	.001	1396	.138E-05	.000
21	.006	5085	.914E-05	.004	3975	.975E-05	.002
22	.005	4703	.807E-05	.004	2164	.387E-05	.001
23	.000	1895	.203E-06	.000	976	.146E-07	.000
24	0.000	1757	0.	0.000	937	0.	0.000
25	.000	1829	.182E-07	.000	997	.828E-07	.000
26	.001	2020	.553E-06	.000	1480	.165E-05	.000
27	.006	4953	.849E-05	.004	3913	.955E-05	.002
28	.006	5596	.106E-04	.005	2896	.625E-05	.001
29	.000	1816	0.	0.000	988	.535E-07	.000
30	.000	2064	.677E-06	.000	1125	.498E-06	.000
31	.000	2062	.671E-06	.000	1132	.521E-06	.000
32	.001	2282	.129E-05	.001	1654	.221E-05	.000
33	.006	4778	.828E-05	.004	4062	.100E-04	.002
34	.007	5994	.117E-04	.005	3111	.694E-05	.002
35	.001	2398	.161E-05	.001	1031	.193E-06	.000
36	.000	1844	.602E-07	.000	966	0.	0.000