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TABLES AND CHARTS OF EQUILIBRIUM NORMAL SHOCK AND
SHOCK TUBE SOLUTIONS FOR PURE CO₂
WITH VELOCITIES TO 16 KM/SEC.

By Charles G. Miller III and Sue E. Wilder

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TABLES AND CHARTS OF EQUILIBRIUM NORMAL SHOCK AND SHOCK TUBE SOLUTIONS

FOR PURE CO₂ WITH VELOCITIES TO 16 KM/SEC

By Charles G. Miller III and Sue E. Wilder

SUMMARY

Equilibrium thermodynamic and flow properties are presented in tabulated and graphical form for moving, standing, and reflected normal shock waves in pure CO₂, representative of Mars and Venus atmospheres. Properties include pressure, temperature, density, enthalpy, speed of sound, entropy, molecular weight ratio, isentropic exponent, velocity and species mole fractions. Incident (moving) shock velocities are varied from 1 to 16 km/sec for a range of initial pressure of 5 N/m² to 500 kN/m². The present results are applicable to shock tube flows, and to free-flight conditions for a blunt body at high velocities. Working charts illustrating idealized shock-tube performance with CO₂ test gas and heated helium and hydrogen driver gases are also presented.

INTRODUCTION

The shock tube has been widely used to generate high-velocity flows for research in chemical kinetics and radiation gas dynamics. An attractive capability of the shock tube is that real-gas conditions in the region behind a detached bow shock of an entry vehicle can be simulated for arbitrary test gases. During the last decade or so, this capability was utilized as interest

expanded from earth entry probes to Martian probes. In the early design of Martian probes, a number of atmospheric models were proposed (ref. 1), which included a range of thermodynamic properties and composition. These models were updated as additional information on atmospheric properties was obtained. Similarly, expansion of interest in entry probes to Venus, Jupiter, Saturn, Uranus, and Neptune also ushered in a number of proposed atmospheres for these planets.

As the atmospheric models for Venus (ref. 2) were updated, it became apparent that the atmosphere of Venus consisted essentially of CO_2 (ref. 3). Hence, studies with pure CO_2 were undertaken in the arc-driven Langley 6-inch shock tube (ref. 4). In these studies, incident shock velocities representative of expected entry velocities into the atmosphere of Venus were generated. The initiation of these studies demonstrated the need for a method for estimating shock tube performance prior to a test. (The wide range of flow conditions and very short test times impose stringent requirements on shock tube instrumentation. In order to properly prepare facility instrumentation for a test, the investigator must have reasonable estimates of the magnitude of the flow quantities to be measured.) Since the Langley shock tube is also supporting studies related to outer planet probes, a similar need exists for determination of shock tube performance, as well as thermodynamic properties and flow velocities at high incident shock velocities, with helium-hydrogen mixtures (see refs. 5 and 6, for example).

Equilibrium thermodynamic and flow properties for normal shock waves in pure CO_2 and helium-hydrogen mixtures are calculated using the program of reference 7 and presented in separate reports. The purpose of this report and reference 8 is threefold: (1) To present charts and tables for use in

the determination of thermodynamic properties, flow velocity, and species mole fractions for incident (moving), standing, and reflected normal shocks in pure CO_2 and three helium-hydrogen mixtures; (2) To provide reasonable estimates of shock tube performance in CO_2 and a 0.2 He - 0.8 H_2 mixture, using idealized shock tube theory (ref. 7) for helium and hydrogen driver gases; and (3) To provide a convenient means of determining post-normal-shock flow conditions for planetary-entry, flow field studies. The tabulations of species mole fractions should be useful in determining post-normal-shock radiative properties. The results for CO_2 are presented herein, whereas the results for three helium-hydrogen mixtures (0.35He - 0.65 H_2 , 0.2He - 0.8 H_2 , and 0.05He - 0.95 H_2) are presented in reference 8.

It should be noted that charts for equilibrium normal shock waves in CO_2 are included in reference 9 for the same range of incident shock velocity considered herein. The results of reference 9 were based on thermodynamic properties of reference 10. In the present study, the ten species used in reference 10 (e^- , C, C^+ , C^{++} , O, O^+ , O^{++} , O_2 , CO, and CO_2) were supplemented by six additional species (O^- , O_2^+ , O_2^- , C^- , C_2 , and CO^+). These additional species are trace species and their inclusion should have little effect on calculated thermodynamic properties, but may have a significant influence on calculated mole fractions. The negative ions and particularly C_2^- and CO^+ are important as radiating species. Hence, the present results are believed to provide more accurate and detailed mole fractions for CO_2 than reference 9. Also, provision of tables as well as charts is a worthwhile convenience, particularly in regions where curves on the charts may overlap.

SYMBOLS

a	speed of sound, m/sec
h	specific enthalpy, m^2/sec^2 (J/kg)
p	pressure, N/m^2
R	universal gas constant, 8.31434 kJ/kmol-K
sW_o/R	nondimensional specific entropy
T	temperature, $^{\circ}\text{K}$
U	velocity, m/sec
U_r	velocity of reflected shock, m/sec
U_s	velocity of incident shock, m/sec
W	molecular weight, kg/kmol
W_o	molecular weight of undissociated CO_2 , kg/kmol
Z^*	kmole of dissociated CO_2 per kmole of undissociated CO_2 , W_o/W
γ_E	isentropic exponent, $\left(\frac{\partial \log p}{\partial \log \rho}\right) sW_o/R$
ρ	density, kg/m^3

Subscripts:

1	state of quiescent test gas ahead of incident normal shock
2	state of test gas behind incident normal shock (see fig. 1)
2r	state of test gas behind reflected normal shock into region (2) (see fig. 1)
2s	state of test gas behind standing normal shock in region (2) (see fig. 1)
4	driver-gas conditions at time of diaphragm rupture

CONVERSION FACTORS AND CONSTANTS

For convenience, conversion factors between the SI units and U. S. Customary Units (ref. 11) for the quantities presented in Table I and figures 2 to 4 are

$$1 \text{ N/m}^2 = 9.8692 \times 10^{-6} \text{ atm} = 1.4504 \times 10^{-4} \text{ psi} = 2.0885 \times 10^{-2} \text{ lbf/ft}^2$$

$$1 \text{ kg/m}^3 = 6.2428 \times 10^{-2} \text{ lbm/ft}^3 = 1.9403 \times 10^{-3} \text{ slug/ft}^3$$

$$1 \text{ J/kg} = 1 \text{ m}^2/\text{sec}^2 = 1.0764 \times 10^{-1} \text{ ft}^2/\text{sec}^2 = 4.3021 \times 10^{-4} \text{ BTU/lbm}$$

$$1 \text{ m/sec} = 3.2808 \times 10^{-1} \text{ ft/sec} = 2.2369 \text{ mi/hr}$$

and physical constants appearing herein are

$$T_1 = 300^\circ \text{K}$$

$$R = 8.31434 \text{ kJ/kmol} \cdot ^\circ \text{K}$$

for CO_2 at $T_1 = 300^\circ \text{K}$

$$W_0 = 44.011 \text{ kg/kmol}$$

$$h_1 = -8.718 \times 10^6 \text{ J/kg}$$

$$a_1 = 2.702 \times 10^2 \text{ m/sec}$$

$$\gamma_{E, 1} = 1.286$$

$$Z_1^* = 1.0$$

ANALYSIS AND COMPUTATION PROCEDURE

Shock Tube Flow Regions

The regions of interest for a shock tube are illustrated in figure 1. The driver gas at time of diaphragm rupture is designated as region (4), and the quiescent test gas is designated as region (1) (fig. 1 (a)). Upon rupture of the diaphragm, an incident shock wave propagates into region (1) with a velocity U_s . The flow conditions immediately behind this shock are denoted as region (2) (fig. 1 (b)). For a blunt model positioned in the driven section of the shock tube, a standing shock is formed at the model, provided the flow in region (2) is supersonic (fig. 1 (c)). The flow conditions immediately behind this standing shock are designated as region (2s).

When the incident shock wave reaches the end wall of the shock tube, it is reflected back into region (2) (fig. 1 (d)). The gas behind the reflected shock is brought to rest, relative to the shock tube. Flow conditions behind this reflected shock, which is propagating upstream with a velocity U_r , are designated as region (2r).

Conservation Relations

For an incident normal shock into region (1), in laboratory-fixed coordinate system, the conservation relations for mass, momentum, and energy are

$$\rho_1 U_s = \rho_2 (U_s - U_2) \quad (1a)$$

$$p_1 + \rho_1 U_s^2 = p_2 + \rho_2 (U_s - U_2)^2 \quad (1b)$$

$$h_1 + \frac{1}{2}U_s^2 = h_2 + \frac{1}{2}(U_s - U_2)^2 \quad (1c)$$

The conservation relations for a standing normal shock, where the upstream conditions for this shock are the downstream conditions for the incident shock (region (2)), are

$$\rho_2 U_2 = \rho_{2s} U_{2s} \quad (2a)$$

$$p_2 + \rho_2 U_2^2 = p_{2s} + \rho_{2s} U_{2s}^2 \quad (2b)$$

$$h_2 + \frac{1}{2} U_2^2 = h_{2s} + \frac{1}{2} U_{2s}^2 \quad (2c)$$

The conservation relations for a reflected normal shock, where the upstream conditions are those of region (2), are

$$\rho_2 (U_2 + U_r) = \rho_{2r} U_r \quad (3a)$$

$$p_2 + \rho_2 (U_2 + U_r)^2 = p_{2r} + \rho_{2r} U_r^2 \quad (3b)$$

$$h_2 + \frac{1}{2} (U_2 + U_r)^2 = h_{2r} + \frac{1}{2} U_r^2 \quad (3c)$$

Thermodynamic Properties

The equation of state (that is, source of thermodynamic properties for real-gas mixtures) takes the form of the thermochemical equilibrium procedure of references 12 and 13. This procedure, which is based upon the Gibbs free-energy minimization method of reference 14, includes dissociation and first and second ionization. Basic assumptions are

- (1) The mixture is composed of ideal gases
(intermolecular force effects are neglected).
- (2) For diatomic species the rigid-rotor harmonic-oscillator model is used with vibrational-rotational corrections.
- (3) Only electronic levels with principle quantum number less than or equal to 5 are included.

For a given pressure and temperature, the free energies for individual species are computed from partition functions of statistical mechanics. The equilibrium composition is then obtained by minimization of the free energy.

As discussed in references 13 and 15, the present first-order thermodynamic properties (ρ , h , s , Z^*) should be accurate to within 1 percent and second-order properties (a , γ_E) to within 5 percent for $T \leq 15,000^\circ \text{K}$ and $0.7 \leq p \leq 7 \times 10^5 \text{ N/m}^2$. This temperature and pressure range was extensively checked in reference 13 using an air model. Accuracy should decrease somewhat as the temperature and pressure increase beyond the upper limits established in reference 13.

Required inputs to the procedure of references 12 and 13, and an iterative-interpolation scheme enabling determination of thermodynamic properties from combinations of h , p , sW_0/R , and ρ , are discussed in reference 7. The species used in the present calculations for CO_2 are e^- , O , O^+ , O^{++} , O^- , O_2 , O_2^+ , O_2^- , C , C^+ , C^{++} , C^- , C_2 , CO , CO^+ , and CO_2 . Thermodynamic data for the CO_2 species are obtained from references 12 and 16, and a listing of the thermodynamic data (excluding C_2) is presented in reference 17.

Method of Solution

As mentioned previously, the upstream conditions for the standing and reflected shocks are conditions in region (2). Hence, it is necessary to first solve for conditions behind the incident shock. The thermodynamic properties and gas composition (mole fractions) in region (1) are assumed known, as is the incident shock velocity U_s . Hence, quantities appearing on the left-hand side of the conservation relations for an incident normal shock

(eqs. (1a) to (1c)) are known. The method of successive approximations (iteration on ρ_2 , ref. 7) is used to solve equations (1a) to (1c) for ρ_2 , p_2 , h_2 , and U_2 , in conjunction with the source of thermodynamic properties. The iterative procedure is continued until successive values of ρ_2 are within 0.5 percent. (The effect of varying this iterative tolerance from 1 percent to 0.05 percent is discussed in reference 8.) Having determined the conditions in region (2), the corresponding conditions in regions (2s) and (2r) are obtained in a similar manner; that is, by an iterative procedure on density ρ_{2s} and ρ_{2r} , respectively.

The procedure for determining shock tube performance is discussed in detail in reference 7. This procedure is commonly referred to as "simple shock tube theory," since it is based on a simplified one-dimensional, inviscid flow model which assumes instantaneous diaphragm rupture, no shock wave attenuation, and a driver section-to-driven section cross-sectional area ratio of unity. Imperfect gas effects in region (4) for helium and hydrogen driver gases are included in reference 7.

DISCUSSION OF TABLES AND CHARTS

Before discussing the present tables and charts, it should be noted that flow properties behind the normal portion of the bow shock wave of an entry body at high velocity are equivalent to the properties behind an incident shock in a shock tube. In free-flight, the freestream conditions and flight velocity correspond to the initial conditions in region (1) and shock wave velocity, respectively, while the conditions behind the bow shock correspond to conditions in region (2). In the present study, an initial

temperature T_1 , of 300°K was used for all calculations. A method permitting use of a range of ambient temperatures is discussed in reference 9 and should prove useful in determining free-flight conditions using the present tables and charts for an incident normal shock wave.

For determination of free-flight stagnation conditions, it is assumed that the gas is brought to rest by an isentropic compression. Hence, the stagnation enthalpy is equal to the quantity $(h_2 + \frac{1}{2}U_2^2)$ and the stagnation entropy is equal to s_2 . These two quantities may be used in conjunction with the charts of reference 10 or Table II of reference 15 to obtain the remaining thermodynamic properties at the stagnation point.

Tables -

The solutions for incident (moving), standing, and reflected normal shocks are presented in Table I for pure CO_2 . These tabulated computer results are arranged in groups of constant pressure in region (1) (P_1) and the incident shock velocity (U_{S1}) is varied within the group. In Table I, p_1 is varied from five N/m^2 to 500 kN/m^2 and U_s is varied, for each p_1 , from one to 10 km/sec in increments of 200 m/sec, and 10 to 16 km/sec in increments of 500 m/sec.

For each p_1 , a complete list of calculated thermodynamic properties (p , T , ρ , h , a , s_{w_c}/R , Z^* , γ_E), flow velocity (U), and species volumetric composition is given for the three shock tube regions under consideration. The rows in the upper portion of each tabulation, for a given p_1 and U_s , are identified by letters (FORTRAN symbols), the designations of which, in terms of SYMBOLS, are

FORTTRAN Symbol	Moving Shock	Standing Shock	Reflected Shock
P	p_2/p_1	p_{2s}/p_1	p_{2r}/p_1
T	T_2/T_1	T_{2s}/T_1	T_{2r}/T_1
RHO	ρ_2/ρ_1	ρ_{2s}/ρ_1	ρ_{2r}/ρ_1
H	h_2/h_1	h_{2s}/h_1	h_{2r}/h_1
A	a_2/a_1	a_{2s}/a_1	a_{2r}/a_1
S	s_2/s_1	s_{2s}/s_1	s_{2r}/s_1
Z	Z_2^*/Z_1^*	Z_{2s}^*/Z_1^*	Z_{2r}^*/Z_1^*
GAME	$\gamma_{E, 2}/\gamma_{E, 1}$	$\gamma_{E, 2s}/\gamma_{E, 1}$	$\gamma_{E, 2r}/\gamma_{E, 1}$
U	U_2/a_1	U_{2s}/a_1	U_r/a_1

The lower portion of each tabulation lists the species composition for moving, standing, and reflected shock regions. Rows are identified by the species symbol.

The conditions in region (1) are used to nondimensionalize calculated properties in regions (2), (2s) and (2r). The temperature in region (1) T_1 , is 300^oK for all cases in Table I. Corresponding thermodynamic properties for CO₂ in region (1), in SI units (see SYMBOLS), are

Initial Conditions Ahead of Incident

Shock in CO₂

$$T_1 = 300^\circ\text{K}$$

$$h_1 = -8.718 \times 10^6 \text{ J/kg}$$

$$a_1 = 2.702 \times 10^2 \text{ m/sec}$$

$$Z_1^* = 1.0$$

$$\gamma_{E,1} = 1.286$$

$p_1, \text{N/m}^2$	$\rho_1, \text{kg/m}^3$	$\frac{s_1 W_o}{R}$
5	8.818×10^{-5}	3.5662×10^1
10	1.764×10^{-4}	3.4974×10^1
20	3.527×10^{-4}	3.4271×10^1
50	8.818×10^{-4}	3.3361×10^1
100	1.764×10^{-3}	3.2663×10^1
200	3.527×10^{-3}	3.1973×10^1
500	8.818×10^{-3}	3.1053×10^1
1000	1.764×10^{-2}	3.0362×10^1
2000	3.527×10^{-2}	2.9673×10^1
5000	8.818×10^{-2}	2.8752×10^1
10000	1.764×10^{-1}	2.8063×10^1
20000	3.527×10^{-1}	2.7362×10^1
50000	8.818×10^{-1}	2.6453×10^1
100000	1.764×10^0	2.5754×10^1
200000	3.527×10^0	2.5062×10^1
500000	8.818×10^0	2.4143×10^1

It is recommended in references 12 and 13 that pressures should be restricted to less than 10 MN/m^2 and temperatures restricted to less than $15,000^\circ\text{K}$ in order to insure accurate calculations of equilibrium compositions. This recommended upper limit on pressure is to minimize imperfect gas (intermolecular force) effects. Temperatures considered must be such that only negligible contributions are realized from coulomb interactions and from electronic energy levels past the fifth electron shell. Both these considerations are unaccounted for in the equilibrium program of references 12 and 13. For temperatures below $15,000^\circ\text{K}$, the latter consideration should be negligible. A comparison made in reference 8 shows that equilibrium air properties, as generated by the method of references 12 and 13, are in good agreement (within one percent) with more rigorous air calculations for temperatures to $25,000^\circ\text{K}$. Now, in the present results of Table I, no upper limitations on pressure and temperature are imposed; hence, values of pressure exceeding 10 MN/m^2 and of temperature exceeding $25,000^\circ\text{K}$ are presented for the three shock tube regions of interest. The user of these tables is cautioned to exercise discretion in employing the present results at pressures exceeding 10 MN/m^2 and temperatures exceeding $25,000^\circ\text{K}$.

Charts -

Working charts for pure CO_2 (corresponding to the results of Table I) are shown in figures 2 to 4. In these figures, the nondimensionalized thermodynamic properties and flow velocity for regions (2), (2s), and (2r) are plotted as a function of incident shock velocity U_s , for various quiescent test gas pressures. For each property in each region, the incident shock velocity scale is zero to 8 km/sec and 8 to 16 km/sec. This division of the

U_s scale is to enhance the readability of these charts. It should be noted that the scale (ordinate) for a thermodynamic property or flow velocity often varies between the two ranges of U_s plotted throughout the figures. These charts were generated by machine and linear line segments were used to connect adjacent data points.

Unlike Table I, maximum pressure and temperature limitations were imposed on the results of figures 2 to 4, these being $p \lesssim 10 \text{ MN/m}^2$ and $T \lesssim 25,000^\circ\text{K}$; calculated quantities above these limitations are not plotted. Again, the properties in region (1) presented previously must be used to obtain the desired value of the thermodynamic property or flow velocity from the ratio presented.

The present results were compared to the results of reference 9 for an incident shock velocity range of one to 16 km/sec and initial pressure of 100 N/m^2 . With the exception of a few points (three out of 105), the thermodynamic properties and velocities of reference 9 for regions (2), (2s), and (2r) (as read from charts) were within two percent of the present results. In no case did disagreement exceed four percent. For this range in U_s , the maximum values of T_2 and T_{2s} were approximately $17,000^\circ\text{K}$ and $25,000^\circ\text{K}$, respectively. As expected, thermodynamic properties were in better agreement between the two studies than were species mole fractions. For example, agreement for individual mole fractions was within 10 to 12 percent in the U_s range (T_2 range) where the mole fraction was near its maximum value. In the U_s range where a species was not a major species, agreement in species mole fractions diminished considerably.

THEORETICAL SHOCK TUBE PERFORMANCE

Before performing a study in a shock tube, it is essential to ascertain the theoretical performance for the gas being tested. The wide range of flow conditions and very short test times (generally, a few μsec to several msec) impose stringent requirements on shock tube instrumentation. Thus, in preparing shock tube instrumentation for a test, it is necessary that the physical quantities to be measured be known to within reasonable limits.

Results from the procedure for determining shock tube performance for pure CO_2 test gas are shown in figure 5 for helium and hydrogen driver gases. In figure 5, the ratio of driver pressure in region (4) to quiescent test gas pressure in region (1) is shown as a function of incident shock velocity for various driver gas temperatures T_4 . (These results were generated to support research in the LaRC 6-inch expansion tube and arc-driven shock tube.) Variation in p_4/p_1 is obtained by varying p_1 ; p_4 is equal to 68.95 MN/m^2 (this p_4 represents the maximum pressure rating for the LaRC expansion tube). The driver gas temperature is varied from 300°K (unheated) to 800°K (fig. 5 (a)) and $4,000^\circ\text{K}$ to $12,000^\circ\text{K}$ (fig. 5 (b)) for helium and from 300°K to 600°K for hydrogen driver gases; the quiescent test gas temperature is equal to 300°K . The value of $T_4 = 800^\circ\text{K}$ for helium (fig. 5 (a)) is representative of maximum T_4 obtainable with resistance heating (ref. 7) and the highest hydrogen T_4 represents the limit of curve fitting as applied to virial coefficients in reference 7. The results of figures 5(a) and 5(c) were obtained using a five species CO_2 model which included dissociation, but not ionization. For an arc-driven shock tube using a helium driver gas, much higher driver gas

temperatures than illustrated in figure 5(a) are realized. Figure 5(b) represents an extension (in the range of T_4) to figure 5(a). The differences between figures 5(a) and 5(b) are that the 16 species CO_2 model was used for the results of figure 5(b), and the range of T_4 is from $4,000^\circ\text{K}$ to $12,000^\circ\text{K}$. At the maximum T_4 of $12,000^\circ\text{K}$ and p_4 of 68.95 MN/m^2 , ionization of the helium driver gas is essentially negligible (ref. 18), and the results of reference 7 are applicable.

Results at the highest values of p_4/p_1 and T_4 in figure 5(a), hence highest U_s , were compared to results obtained with the 16 species CO_2 model at the same p_4/p_1 and T_4 . This comparison showed a negligible difference between properties obtained with the two CO_2 models at these moderate conditions. Thus, knowing p_4 , T_4 , and p_1 , a theoretical value of U_s may be obtained from figure 5. (Some discrepancy between real physical conditions and conditions calculated using a simple shock-tube theory is expected, with this discrepancy increasing with decreasing p_1 due principally to the "leaky-piston" effect (ref. 19).) Corresponding thermodynamic properties and flow velocity in regions (2), (2s), and (2r) may be obtained from figures 2 to 4, or from Table I.

CONCLUDING REMARKS

Equilibrium thermodynamic and flow properties are presented in tabulated and graphical form for moving, standing, and reflected normal shock waves in pure CO_2 , representative of Mars and Venus atmospheres. Properties include pressure, temperature, density, enthalpy, speed of sound, entropy, molecular weight ratio, isentropic exponent, velocity and species mole fractions. Incident (moving) shock velocities are varied from 1 to 16 km/sec for a range of initial pressure of 5 N/m^2 to 500 kN/m^2 . The present results are applicable to shock tube flows, and to free-flight conditions for a blunt body at high velocities. Working charts illustrating idealized shock-tube performance with CO_2 test gas and heated helium and hydrogen driver gases are also presented.

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Table I. - Nondimensional Thermodynamic Properties and Flow Velocity for Incident (moving), Standing, and Reflected Normal Shocks in Pure CO₂ (User cautioned in using table at pressures exceeding 10 MN/m² and temperatures exceeding 25 000 K.)

$$p_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SC-M, US1 = 1.00E+03 M/SEC				P1 = 5.00E+00 N/SC-M, US1 = 1.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5770E+03	4.7770E+01	1.1241E+02	P	1.1037E+03	1.9201E+03	2.7189E+02
T	2.5970E+03	7.6570E+01	4.0727E+00	T	1.6457E+03	4.2317E+03	4.8747E+00
RHO	4.1000E+00	1.6000E+01	2.7401E+01	RHO	2.0000E+00	4.4400E+00	5.7577E+01
H	0.6100E+03	1.7700E+00	8.8120E+01	H	8.5000E+01	7.4417E+01	4.9782E+01
A	1.5478E+00	1.0700E+00	1.9271E+00	A	2.7400E+00	2.7219E+00	2.4077E+00
S	1.0636E+00	1.0300E+00	1.0000E+00	S	1.0000E+00	1.0000E+00	1.0000E+00
Z	1.7000E+00	1.0000E+00	1.0000E+00	Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.2810E+01	9.1537E+01	9.1310E+01	GAME	9.0700E+01	8.9310E+01	8.7020E+01
U	3.0550E+00	9.4609E+01	8.7890E+01	U	1.2500E+00	1.0200E+00	9.5040E+01

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	3.0416E-49	0.0778E+00	3.7046E-31	E-	7.8733E-22	1.4736E-15	3.0014E-14
O	3.2770E-12	2.0827E-10	1.2748E-08	O	4.4700E-07	4.4880E-04	1.4120E-02
O+	2.0095E-36	1.7370E-29	9.1807E-03	O+	5.6966E-08	4.2317E-03	8.7470E-02
O++	0.	0.	0.	O++	0.	1.1971E-09	3.4649E-07
C-	4.3599E-57	2.8456E-46	6.1527E-17	C-	8.7842E-37	4.0232E-19	1.8888E-17
C0	4.3923E-04	4.4003E-04	4.5002E-04	C0	7.8800E-04	2.0101E-02	3.9707E-02
C0+	1.7707E-18	1.7597E-18	1.7597E-18	C0+	1.7707E-18	1.9784E-18	3.0119E-14
C0++	3.0257E-51	4.6570E-47	3.9517E-34	C0++	2.9000E-20	7.7243E-10	8.6560E-17
C	1.4924E+00	1.1037E+01	1.7745E+00	C	2.5000E-05	1.5041E-19	1.4079E-17
C+	8.0707E+01	1.8580E+02	4.4032E+04	C+	3.5800E-05	1.7394E-05	2.0820E-10
C++	0.	0.	0.	C++	0.	1.4700E-12	7.1357E-28
C-	2.1476E-05	1.9433E-08	1.2978E-52	C-	1.3400E-44	9.7127E-34	6.3312E-32
C0	3.2831E-10	2.1994E-07	2.0234E-05	C0	6.9710E-04	3.9788E-02	7.2378E-02
C0+	3.2345E-24	7.2964E-21	2.7029E-27	C0+	2.2161E-28	3.2088E-20	1.8725E-18
C02	9.5966E-01	9.0066E-01	9.0998E-01	C02	9.9841E-01	9.3966E-01	8.9030E-01
C2	9.1742E-75	7.9400E-82	4.7357E-40	C2	2.1906E-26	7.3816E-29	1.9786E-27

P1 = 5.00E+00 N/SC-M, US1 = 1.20E+03 M/SEC				P1 = 5.00E+00 N/SC-M, US1 = 1.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2844E+01	1.2127E+07	1.9007E+02	P	9.2770E+01	1.1973E+00	5.4422E+02
T	2.1957E+00	4.5000E+00	4.2125E+00	T	9.7060E+00	7.0070E+00	7.4174E+00
RHO	7.1506E+00	2.7070E+01	3.6400E+01	RHO	4.3500E+00	4.4400E+00	7.0783E+01
H	0.1190E+00	8.6190E+01	4.7804E+01	H	2.1800E+00	1.7280E+01	4.1000E-01
A	1.1717E+00	2.0700E+00	4.7804E+01	A	2.1800E+00	2.0700E+00	2.8702E+00
S	1.0000E+00	1.0000E+00	1.0000E+00	S	1.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.1904E-01	9.0576E-01	8.9727E-01	GAME	8.8700E-01	8.6790E-01	8.4600E-01
U	7.9200E+00	1.2090E+00	9.3282E-01	U	9.9700E+00	1.0200E+00	9.2004E-01

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	2.4723E-30	2.2471E-21	8.1306E-20	E-	1.2700E-18	7.4070E-14	4.2900E-12
O	3.0100E-11	5.3761E-08	4.0724E-04	O	2.3700E-05	7.3600E-03	4.8200E-03
O+	6.9470E-33	7.0042E-21	1.8589E-26	O+	1.0070E-15	1.4570E-09	4.7060E-18
O++	0.	0.	0.	O++	0.	6.2970E-02	2.6170E-00
C-	4.9000E-44	2.1370E-38	3.1700E-24	C-	2.9400E-17	4.8700E-17	1.6130E-16
C0	4.3000E-04	6.3740E-04	1.8900E-03	C0	3.2300E-17	4.6700E-02	6.1120E-07
C0+	1.7597E-18	1.7597E-18	1.7597E-18	C0+	7.0770E-18	1.4924E-14	4.0270E-13
C0++	4.0126E-49	1.2372E-26	7.3741E-22	C0++	4.4040E-23	2.7481E-16	1.7240E-15
C	3.2377E+01	2.2614E+07	1.7493E+04	C	1.8000E-17	7.2587E-17	5.4000E-16
C+	4.3066E-82	1.2475E-39	2.7800E-27	C+	1.0700E-34	6.8443E-27	1.0000E-25
C++	0.	0.	0.	C++	6.2700E-00	7.7000E-04	7.3160E-05
C-	1.5600E-77	8.8412E-60	7.9900E-43	C-	0.	8.6200E-03	2.1794E-29
C0	3.2500E-00	1.6500E-04	7.0000E-03	C0	1.0715E-03	6.4070E-02	1.3440E-01
C0+	4.6600E-01	2.1900E-04	2.1900E-04	C0+	7.8020E-04	4.4247E-14	7.1084E-01
C02	9.9000E-01	4.9000E-01	6.0000E-01	C02	6.4910E-01	8.7720E-01	7.9000E-01
C2	3.5600E-63	1.5470E-40	9.3631E-17	C2	4.8170E-04	5.4570E-27	3.0400E-25

P1 = 5.00E+00 N/SC-M, US1 = 1.40E+03 M/SEC				P1 = 5.00E+00 N/SC-M, US1 = 2.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1379E+01	1.0537E+02	2.0948E+02	P	1.4244E+01	1.8988E+02	1.4882E+02
T	3.8800E+00	5.7000E+00	6.1800E+00	T	4.0000E+00	7.4870E+00	7.8500E+00
RHO	8.0421E+00	7.4000E+01	4.1253E+01	RHO	1.1641E+01	2.1000E+01	8.1800E+01
H	8.8922E+00	9.0747E+01	7.6676E+01	H	7.7240E+00	7.4800E+00	5.2170E+01
A	1.8037E+00	2.2227E+00	2.2614E+00	A	2.2878E+00	2.4470E+00	2.7720E+00
S	3.1183E+00	1.7414E+00	1.1024E+00	S	1.1580E+00	1.7490E+00	3.2770E+00
Z	1.0000E+00	1.0000E+00	1.0120E+00	Z	3.2340E+00	1.0512E+00	1.7000E+00
GAME	9.1230E-01	8.8170E-01	8.6470E-01	GAME	8.7000E-01	8.4800E-01	8.4400E-01
U	4.5382E+00	1.0400E+00	9.5490E-01	U	4.7040E+00	1.0000E+00	9.3741E-01

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	2.9210E-27	1.0491E-17	3.6511E-14	E-	7.2670E-14	9.9545E-11	7.2780E-12
O	7.2510E-12	1.9782E-06	1.8426E-04	O	2.4140E-04	4.5820E-03	1.1482E-02
O+	2.9718E-30	5.3342E-24	2.4476E-21	O+	1.4590E-22	1.8159E-17	7.6547E-17
O++	0.	0.	0.	O++	3.0100E-04	9.1161E-08	5.3918E-04
C-	3.4000E-24	2.1770E-21	3.8201E-19	C-	3.1000E-02	1.8870E-15	7.6040E-14
C0	4.4526E-04	4.2377E-01	1.3060E-02	C0	1.4470E-07	7.6550E-02	9.4470E-02
C0+	7.7000E-18	8.9601E-18	3.6578E-18	C0+	9.7000E-17	1.3370E-10	3.2411E-12
C0++	1.2746E-35	1.4988E-30	1.0736E-18	C0++	1.0700E-10	4.0900E-04	1.1100E-14
C	1.2470E-24	1.2700E-01	3.4560E-19	C	7.1170E-02	1.7100E-16	8.1517E-14
C+	6.7200E-46	2.4570E-23	1.1211E-09	C+	9.9500E-07	1.0000E-24	5.2390E-24
C++	0.	8.2415E-02	3.8536E-03	C++	1.7000E-09	3.1672E-04	7.5341E-00
C-	1.5001E-04	7.7114E-08	4.2430E-34	C-	1.1270E-14	1.8340E-08	9.0000E-28
C0	1.7440E-00	7.7688E-00	7.6446E-02	C0	9.8500E-02	1.6000E-01	2.0784E-01
C0+	2.8640E-28	2.1447E-07	4.7265E-20	C0+	4.5170E-07	1.8666E-04	8.7000E-16
C02	9.9000E-01	9.8700E-01	9.8700E-01	C02	9.9400E-01	7.9000E-01	8.8000E-01
C2	1.9887E-01	1.7940E-07	4.6893E-29	C2	1.5170E-17	1.4000E-24	1.0570E-23

Table I. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SQ-M, US1 = 2.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.815E+01	8.1375E+02	1.0350E+03
T	4.4602E+00	8.311E+00	8.311E+00
RHO	1.1857E+01	6.8531E+01	1.0510E+02
H	2.2441E-01	4.9592E-01	4.3280E-01
M	2.3799E+00	2.7883E+00	2.8827E+00
S	1.2262E+00	1.2909E+00	1.3162E+00
Z	1.0932E+00	1.1408E+00	1.1753E+00
GAME	8.4851E-01	8.4594E-01	8.4724E-01
U	7.4940E+00	1.0001E+00	9.4388E-01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.7887E-18	4.4309E-12	3.1746E-13
O	1.1582E-07	1.4511E-07	2.3298E-02
O+	1.1021E-30	2.5626E-18	8.3580E-18
O++	6.5214E-91	6.4443E-72	2.3901E-65
N-	1.3505E-18	1.7214E-14	5.7850E-14
N2	3.1442E-02	1.0810E-01	1.7620E-01
N2+	6.7970E-18	4.4888E-12	1.914E-11
N2+	5.7177E-18	3.2571E-14	9.9529E-14
N+	1.3642E-18	2.2777E-14	7.9878E-14
C	3.0234E-39	5.2115E-23	8.8354E-22
C+	1.9153E-77	4.4590E-59	5.4979E-58
C-	6.2373E-34	1.1377E-26	2.5942E-26
CO	6.3191E-02	2.3094E-01	2.7494E-01
CO+	2.1213E-19	2.3115E-18	7.2235E-18
CO2	7.0421E-01	6.4564E-01	5.7854E-01
C2	2.5785E-26	4.4577E-23	2.6429E-22

P1 = 5.00E+00 N/SQ-M, US1 = 2.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8281E+00	8.2315E+00	8.7524E+00
T	1.3130E+01	1.0738E+01	1.2554E+02
RHO	6.7159E-01	7.9395E-01	3.2174E-01
H	2.4689E+00	2.9784E+00	2.9014E+00
S	1.2572E+00	1.3343E+00	1.3717E+00
Z	1.0580E+00	1.1577E+00	1.1777E+00
GAME	8.4360E-01	8.4709E-01	8.4505E-01
U	8.7079E+00	1.3088E+00	9.4029E-01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.9519E-12	2.9847E-11	4.0904E-11
O	2.2007E-07	2.6734E-07	1.3181E-02
O+	2.6895E-20	2.7967E-17	7.2110E-18
O++	8.6139E-94	5.6678E-65	1.8923E-58
N-	1.2014E-17	1.2022E-13	7.4518E-13
N2	5.2021E-07	1.7622E-01	1.1275E-01
N2+	4.9802E-18	3.0242E-11	6.0788E-11
N2+	4.9648E-18	1.7422E-12	6.5840E-12
N+	1.0191E-18	2.0364E-13	7.9039E-13
C	4.4425E-27	4.1378E-21	1.6234E-21
C+	1.3889E-67	1.3074E-58	8.0097E-52
C-	1.6541E-31	7.2270E-25	7.2291E-25
CO	1.0641E-01	2.0792E-01	3.4798E-01
CO+	1.7677E-19	1.7704E-14	4.8884E-14
CO2	8.3827E-01	8.2244E-01	4.1442E-01
C2	2.0879E-27	1.1842E-21	4.1522E-21

P1 = 5.00E+00 N/SQ-M, US1 = 2.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1197E+02	1.4784E+02	1.7401E+02
T	7.1483E+00	8.9709E+00	9.2718E+00
RHO	1.4957E+00	1.2967E+00	1.4792E+02
H	6.1417E-01	7.8294E-01	7.4013E-01
M	7.9810E+00	9.0678E+00	1.4832E+00
S	1.7877E+00	1.7808E+00	1.4054E+00
Z	1.0875E+00	1.2420E+00	1.3075E+00
GAME	8.4774E-01	8.5764E-01	8.5769E-01
U	4.9522E+00	1.0168E+00	9.7909E-01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.4221E-13	1.1297E-10	2.4100E-10
O	4.4501E-07	4.6477E-07	6.6754E-07
O+	2.9749E-18	7.0629E-14	6.1433E-14
O++	5.1710E-87	1.4813E-68	4.0820E-61
N-	1.4979E-14	4.6398E-14	1.6783E-12
N2	7.4209E-02	1.4880E-01	1.4832E-01
N2+	3.1677E-12	1.1414E-10	2.4402E-10
N2+	2.7183E-16	7.0781E-17	1.4523E-12
N+	2.4322E-18	1.7888E-17	7.8902E-17
C	5.4064E-24	2.4727E-20	2.4440E-20
C+	8.1644E-67	9.4274E-57	4.9529E-50
C-	2.1484E-30	8.1279E-24	1.7484E-24
CO	1.8405E-01	2.8784E-01	3.8784E-01
CO+	7.0892E-17	1.2688E-14	2.7284E-14
CO2	7.6710E-01	4.2677E-01	3.6993E-01
C2	4.4381E-27	3.7121E-22	4.5702E-20

P1 = 5.00E+00 N/SQ-M, US1 = 2.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2041E+00	1.8223E+00	2.2223E+00
T	4.3070E+00	9.3849E+00	9.6812E+00
RHO	1.5449E+01	1.4589E+02	1.6788E+02
H	5.2222E-01	1.6289E-01	7.6416E-02
M	2.6482E+00	3.2670E+00	3.3911E+00
S	1.3176E+00	1.4278E+00	1.4593E+00
Z	1.1214E+00	1.3292E+00	1.3847E+00
GAME	8.4180E-01	8.4470E-01	8.3797E-01
U	9.4587E+00	1.0419E+00	1.0086E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.1477E-12	2.8818E-10	7.4256E-10
O	1.2517E-07	7.7757E-07	1.0189E-01
O+	1.7827E-17	1.3170E-13	3.2609E-13
O++	2.3774E-78	1.4421E-62	4.9234E-55
N-	8.4173E-16	2.7714E-12	6.7568E-12
N2	5.4249E-07	1.7254E-01	1.7622E-01
N2+	3.1467E-12	2.7270E-10	7.4262E-10
N2+	1.5269E-15	2.3284E-12	4.9880E-12
N+	1.3979E-15	7.6921E-12	1.5280E-11
C	4.6729E-27	3.4012E-20	6.2199E-19
C+	4.1278E-62	2.7257E-50	1.8007E-47
C-	2.0299E-20	1.2437E-22	3.2309E-22
CO	7.2423E-01	4.2218E-01	4.5376E-01
CO+	1.4019E-14	5.4869E-13	1.3594E-12
CO2	4.6703E-01	7.2773E-01	2.4810E-01
C2	2.8449E-27	2.2341E-19	4.2034E-19

P1 = 5.00E+00 N/SQ-M, US1 = 3.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8223E+00	2.9716E+00	3.7733E+00
T	7.4685E+00	9.6077E+00	1.0148E+01
RHO	1.6842E+01	1.4411E+02	1.8674E+02
H	4.8878E-01	3.7622E-02	3.2237E-02
M	2.7812E+00	3.4491E+00	3.5848E+00
S	1.3712E+00	1.4772E+00	1.5112E+00
Z	1.1705E+00	1.3111E+00	1.4493E+00
GAME	8.4196E-01	8.7917E-01	8.6281E-01
U	1.0641E+01	1.0728E+00	1.0441E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.7948E-13	1.0623E-09	2.1751E-09
O	2.2684E-07	1.1537E-07	1.4718E-01
O+	1.1734E-14	7.0043E-13	1.0407E-12
O++	5.4974E-77	7.2178E-60	3.8464E-54
N-	7.7647E-17	4.9677E-12	2.3606E-11
N2	1.1727E-01	1.7478E-01	1.7200E-01
N2+	7.2727E-10	1.0714E-09	2.4013E-09
N2+	8.2934E-15	6.4117E-12	1.2747E-11
N+	7.9787E-15	3.7878E-12	9.2799E-12
C	8.9247E-24	1.5317E-18	6.8077E-19
C+	7.3977E-60	2.8842E-48	4.5842E-45
C-	4.8567E-28	1.7431E-21	4.7847E-21
CO	2.5648E-01	4.4732E-01	6.0111E-01
CO+	7.8626E-14	2.4198E-12	8.2341E-12
CO2	1.2743E-01	3.4103E-01	1.8923E-01
C2	4.0705E-27	1.9127E-18	4.2868E-18

P1 = 5.00E+00 N/SQ-M, US1 = 3.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7715E+00	2.7771E+00	2.7674E+00
T	7.0479E+00	1.0057E+01	1.0244E+01
RHO	1.7070E+01	1.8995E+02	7.0160E+02
H	6.1475E-01	1.6188E-01	-2.1139E-01
M	9.3849E+00	3.4829E+00	9.7009E+00
S	1.7878E+00	1.7287E+00	1.5647E+00
Z	1.2013E+00	1.4954E+00	1.4609E+00
GAME	8.4370E-01	8.4470E-01	8.4884E-01
U	3.1182E+01	1.1719E+00	1.0727E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	8.0193E-17	2.7868E-09	4.7174E-09
O	3.1777E-07	1.4771E-07	7.0407E-01
O+	4.8172E-14	2.4410E-14	1.0623E-14
O++	7.0778E-79	2.1964E-64	3.0074E-57
N-	1.2708E-15	7.1048E-11	7.2702E-11
N2	1.7418E-01	1.4834E-01	1.8539E-01
N2+	4.9370E-12	2.8972E-09	4.8198E-09
N2+	1.6670E-14	1.2723E-11	2.7810E-11
N+	7.9673E-16	1.2675E-10	4.5207E-10
C	3.1089E-27	7.0043E-17	1.0614E-16
C+	8.1765E-60	1.7692E-47	9.2303E-43
C-	3.2027E-27	3.6394E-21	8.4405E-20
CO	3.0705E-01	6.0917E-01	5.1448E-01
CO+	2.8148E-17	8.2326E-17	2.7744E-17
CO2	4.2947E-01	3.4910E-01	1.7477E-01
C2	7.8077E-27	4.8477E-18	9.6278E-17

Table I. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/50-M, U51 = 3.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2812E+02	2.1270E+02	4.0068E+02
T	4.1707E+00	1.0791E+01	1.1184E+01
RHO	1.0078E+01	1.0078E+02	2.1581E+02
M	2.2976E+01	-1.0039E+01	-1.7015E+01
A	2.2976E+00	1.0078E+00	4.0214E+00
S	1.0078E+00	1.0078E+00	1.0078E+00
Z	1.0078E+00	1.0078E+00	1.0078E+00
GAME	8.6647E+01	8.7012E+01	8.7631E+01
U	1.1078E+01	2.1600E+00	1.1744E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	7.0711E-01	7.0711E-01	1.4466E-02
O	4.4795E-02	2.2043E-01	2.4672E-01
O+	2.2277E-10	1.4701E-11	5.9967E-11
O++	8.0234E-17	1.4687E-02	7.3051E-01
H	4.0169E-14	2.0126E-11	1.9990E-10
H2	1.1677E-01	1.1677E-01	1.2787E-01
H2+	1.0171E-11	7.1130E-09	1.4730E-09
O2-	4.7897E-14	1.0010E-11	1.1556E-11
C	1.1741E-12	6.0092E-10	2.1044E-09
C+	5.4220E-22	8.0222E-17	1.8268E-14
C++	1.2048E-37	6.0592E-47	1.4010E-40
C-	7.7747E-24	8.1109E-10	6.8819E-14
C0	1.4676E-01	5.1827E-01	5.2497E-01
C0+	1.0048E-14	3.7416E-11	1.2777E-10
C02	4.8320E-07	1.1115E-09	7.7434E-02
C2	2.1877E-12	7.8316E-17	7.7839E-16

P1 = 5.00E+00 N/50-M, U51 = 4.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7007E+02	9.2820E+02	4.3832E+03
T	8.9104E+00	1.2491E+01	1.4158E+01
RHO	2.1582E+01	2.2046E+02	2.2922E+02
M	8.4384E+02	-7.4196E-01	-9.2343E-01
A	7.7537E+00	4.5581E+00	8.1094E+00
S	1.0078E+00	1.0078E+00	1.0078E+00
Z	1.0078E+00	1.0078E+00	1.0078E+00
GAME	8.5111E+01	9.0856E+01	9.7121E+01
U	1.4115E+01	1.2893E+00	1.4672E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.4345E-10	1.1097E-07	5.0078E-07
O	1.1593E-01	4.2253E-01	4.7824E-01
O+	7.1822E-14	3.7037E-09	7.5230E-08
O++	8.3227E-64	3.6827E-48	2.5892E-39
H	4.1721E-13	1.2338E-09	3.6383E-09
H2	1.7277E-01	4.6323E-02	1.3349E-02
H2+	2.4481E-10	1.0288E-07	3.1530E-07
O2-	5.2172E-11	8.4936E-11	7.8317E-11
C	2.8580E-12	1.1841E-07	7.5877E-06
C+	3.0994E-20	1.9144E-12	4.4226E-10
C++	3.8219E-51	5.6457E-36	5.8930E-30
C-	6.0155E-24	1.7476E-14	1.7271E-14
C0	4.6041E-01	5.1470E-01	5.0448E-01
C0+	2.2976E-13	5.6580E-09	1.1351E-07
C02	2.5730E-01	1.8448E-02	3.9303E-02
C2	1.5000E-10	1.7794E-13	2.1823E-11

P1 = 5.00E+00 N/50-M, U51 = 3.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1800E+02	2.0261E+02	4.7327E+02
T	8.2330E+00	2.4690E+01	1.1809E+01
RHO	1.0078E+01	1.0078E+02	2.1581E+02
M	2.0942E+01	-1.0039E+01	-1.7015E+01
A	2.0942E+00	1.0078E+00	4.0214E+00
S	1.0078E+00	1.0078E+00	1.0078E+00
Z	1.0078E+00	1.0078E+00	1.0078E+00
GAME	8.6647E+01	8.7757E+01	8.8177E-01
U	1.2577E+01	1.1030E+00	1.2342E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	7.0711E-01	7.0711E-01	1.4466E-02
O	4.4795E-02	2.2043E-01	2.4672E-01
O+	2.2277E-10	1.4701E-11	5.9967E-11
O++	8.0234E-17	1.4687E-02	7.3051E-01
H	4.0169E-14	2.0126E-11	1.9990E-10
H2	1.1677E-01	1.1677E-01	1.2787E-01
H2+	1.0171E-11	7.1130E-09	1.4730E-09
O2-	4.7897E-14	1.0010E-11	1.1556E-11
C	1.1741E-12	6.0092E-10	2.1044E-09
C+	5.4220E-22	8.0222E-17	1.8268E-14
C++	1.2048E-37	6.0592E-47	1.4010E-40
C-	7.7747E-24	8.1109E-10	6.8819E-14
C0	1.0048E-14	3.7416E-11	1.2777E-10
C0+	4.8320E-07	1.1115E-09	7.7434E-02
C02	2.1877E-12	7.8316E-17	7.7839E-16

P1 = 5.00E+00 N/50-M, U51 = 4.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9898E+02	5.9498E+03	7.3711E+03
T	9.1580E+00	1.4111E+01	1.7972E+01
RHO	2.2330E+01	7.1439E+02	7.0485E+02
M	-1.0039E+01	-9.2217E-01	-1.1764E+00
A	1.0078E+00	1.0078E+00	4.9984E+00
S	1.0078E+00	1.0078E+00	1.0078E+00
Z	1.0078E+00	1.0078E+00	1.0078E+00
GAME	8.7387E+01	9.7121E+01	9.9979E-01
U	1.4042E+01	1.5403E+00	1.8047E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.9218E-10	4.8044E-07	2.4579E-05
O	1.4920E-01	4.7867E-01	4.9995E-01
O+	2.8135E-13	7.2894E-08	6.5415E-06
O++	2.9974E-62	1.5880E-49	3.5405E-30
H	1.3055E-10	3.3558E-09	5.1109E-08
H2	1.4907E-01	1.2033E-02	7.6096E-04
H2+	4.9418E-10	3.0473E-07	5.8183E-07
O2-	5.8911E-17	7.0448E-11	8.0774E-11
C	9.3715E-12	3.0463E-06	1.9824E-03
C+	5.7514E-10	4.2254E-10	5.9489E-04
C++	1.4424E-50	3.9073E-30	2.5547E-21
C-	3.7555E-27	1.1673E-14	1.2374E-10
C0	4.8573E-01	1.1673E-01	4.9770E-01
C0+	6.9654E-13	1.0948E-07	1.1598E-05
C02	1.5700E-01	3.8525E-03	1.9801E-04
C2	8.8787E-20	1.9722E-11	2.5262E-07

P1 = 5.00E+00 N/50-M, U51 = 3.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1432E+02	2.1446E+02	4.1704E+02
T	8.4572E+00	1.1890E+01	1.0428E+01
RHO	2.0919E+01	2.1446E+02	2.3109E+02
M	1.9727E-01	-1.0039E+01	-1.7015E+01
A	2.1432E+00	2.1446E+00	4.6243E+00
S	1.0078E+00	1.0078E+00	1.0078E+00
Z	1.0078E+00	1.0078E+00	1.0078E+00
GAME	8.6647E+01	8.6817E+01	8.6500E-01
U	1.2387E+01	1.2809E+00	1.2007E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.2717E-01	4.2138E-02	1.0330E-07
O	8.7408E-01	2.0637E-01	4.1644E-01
O+	2.8734E-14	1.0453E-10	3.2778E-09
O++	2.4170E-17	1.8443E-48	9.3150E-49
H	2.7905E-17	5.4466E-10	1.2152E-09
H2	7.7912E-01	9.4466E-02	1.0902E-02
H2+	1.0078E-10	4.1709E-09	6.5405E-08
O2-	1.7478E-13	7.1867E-13	9.7289E-11
C	1.1700E-12	1.6057E-09	1.0499E-07
C+	2.0924E-20	7.3778E-14	1.7711E-12
C++	4.1987E-36	2.7187E-38	5.1880E-14
C-	1.6705E-24	1.2437E-17	1.1190E-14
C0	4.2508E-01	5.2337E-01	5.1594E-01
C0+	6.4047E-14	8.3715E-10	4.9824E-06
C02	3.1322E-01	2.7614E-02	1.8464E-02
C2	6.3847E-17	1.1794E-14	1.4357E-12

P1 = 5.00E+00 N/50-M, U51 = 4.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2742E+02	6.5922E+02	6.3373E+03
T	9.4114E+00	1.7149E+01	2.0092E+01
RHO	2.2785E+01	1.9244E+02	2.0291E+02
M	-1.0039E+01	-1.1087E+00	-1.3797E+00
A	1.0078E+00	1.0078E+00	5.0077E+00
S	1.0078E+00	1.0078E+00	1.0078E+00
Z	1.0078E+00	1.0078E+00	1.0078E+00
GAME	8.5486E-01	1.0227E+00	8.9946E-01
U	1.5567E+01	1.8447E+00	1.9692E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	9.1453E-10	1.1485E-05	1.9167E-04
O	1.8614E-01	4.9843E-01	5.1078E-01
O+	6.8891E-13	3.4657E-06	2.2254E-05
O++	4.9972E-60	1.0492E-41	5.2242E-27
H	1.4627E-01	2.7426E-08	2.4437E-07
H2	9.1802E-10	5.6701E-07	2.6440E-04
H2+	9.6621E-13	4.3742E-11	1.5007E-10
C	2.2028E-11	6.8043E-04	2.2109E-02
C+	5.4422E-19	1.3872E-04	1.2763E-04
C++	4.1577E-48	1.0305E-22	2.0844E-18
C-	1.0511E-22	2.2934E-11	6.8992E-09
C0	5.0402E-01	4.9918E-01	4.8651E-01
C0+	1.4254E-12	6.0918E-04	4.1739E-08
C02	1.5041E-01	7.1126E-04	6.2471E-04
C2	2.5923E-19	5.1300E-08	8.3940E-06

Table I. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SC-M, US1 = 4.60E+03 M/SEC				P1 = 5.00E+00 N/SC-M, US1 = 5.20E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5808E+02	7.2888E+03	9.2821E+03	P	4.5781E+02	9.6236E+03	1.2098E+04
T	9.6779E+00	1.9546E+01	2.10N4E+01	T	1.0622E+01	2.1983E+01	2.2890E+01
RHD	2.1222E+01	1.8337E+02	2.0938E+02	RHD	2.3813E+01	1.9813E+02	2.2824E+02
M	-2.1126E-01	-1.2045E+00	-1.4999E+00	M	-5.4799E-01	-1.9503E+00	-2.3029E+00
A	3.6421E+00	6.0059E+00	6.2412E+00	A	4.1071E+00	6.5120E+00	6.8051E+00
S	1.6636E+00	1.8791E+00	1.9226E+00	S	1.7953E+00	1.9956E+00	2.0489E+00
Z	1.5931E+00	2.0281E+00	2.1045E+00	Z	1.8083E+00	2.2095E+00	2.3147E+00
GAME	8.6035E-01	9.0952E-01	8.7865E-01	GAME	8.7738E-01	8.7307E-01	8.7403E-01
U	1.6288E+01	2.0603E+01	2.0318E+01	U	1.8434E+01	2.2192E+01	2.1502E+01

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.7383E-09	1.2429E-04	4.3552E-04	E-	1.0493E-09	9.1290E-04	1.4873E-03
O	2.2881E-01	8.0670E-01	5.2441E-01	O	2.7388E-01	5.4484E-01	5.6497E-01
O+	2.5272E-12	1.7534E-09	3.4047E-07	O+	8.6121E-11	4.1649E-05	7.4446E-05
O++	1.7264E-15	1.0278E-12	8.0549E-26	O++	7.9177E-13	9.2736E-25	8.5004E-24
O2	1.4470E-01	1.5941E-07	4.9346E-07	O2	3.3884E-11	8.9411E-07	1.4444E-06
O2+	1.7381E-02	4.0397E-04	1.9422E-04	O2+	7.7345E-02	1.4508E-04	1.0476E-04
O2-	1.4718E-01	1.0987E-10	4.2325E-10	O2-	1.0517E-09	4.1613E-07	4.7918E-07
C	6.0921E-11	1.4074E-02	4.9102E-07	O2+	3.2817E-12	3.0704E-10	4.9528E-10
C+	1.4787E-17	7.2447E-05	4.2325E-07	C	1.1905E-09	9.2224E-02	1.3320E-01
C++	2.2881E-01	1.8337E+02	2.0938E+02	C+	3.7777E-12	7.6460E-04	1.2365E-03
C-	7.6242E-01	6.3341E-19	2.1704E-17	C++	6.2903E+2	1.6584E-16	8.3024E-16
C-	5.1574E-01	2.7790E-09	2.9824E-09	C-	8.2718E-20	9.5816E-08	2.4043E-07
CO+	4.7021E-10	4.7884E-01	4.2733E-01	CO	5.2013E-01	3.8816E-01	2.9700E-01
CO2	1.1104E-01	7.4444E-06	5.9021E-05	CO+	1.1725E-10	7.9228E-05	9.0212E-05
CO2	2.5142E-18	4.1848E-06	2.8401E-05	CO2	3.2625E-02	3.4134E-05	1.9784E-05
				C2	1.7485E-14	6.0465E-05	9.7403E-05

P1 = 5.00E+00 N/SC-M, US1 = 4.80E+03 M/SEC				P1 = 5.00E+00 N/SC-M, US1 = 5.40E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9008E+03	8.0418E+02	1.0226E+04	P	4.9347E+02	1.0328E+04	1.2911E+04
T	2.9497E+00	1.8741E+01	2.1743E+01	T	1.1007E+01	2.7065E+01	2.3392E+01
RHD	2.1689E+01	1.8741E+02	2.1670E+02	RHD	2.3673E+01	2.0129E+02	2.3080E+02
M	-2.1180E-01	-1.2111E+00	-1.4999E+00	M	-6.4531E-01	-2.1816E+00	-2.8520E+00
A	3.6421E+00	6.0059E+00	6.2412E+00	A	4.3134E+00	6.4928E+00	6.9982E+00
S	1.6636E+00	1.8791E+00	1.9226E+00	S	1.8905E+00	2.0340E+00	2.0912E+00
Z	1.5931E+00	2.0281E+00	2.1045E+00	Z	1.8824E+00	2.2987E+00	2.3915E+00
GAME	8.6035E-01	8.8198E-01	8.7444E-01	GAME	8.9114E-01	8.7303E-01	8.7549E-01
U	1.7008E+01	2.1909E+01	2.0749E+01	U	1.9136E+01	2.2904E+01	2.1846E+01

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	3.1373E-09	3.2444E-04	7.7061E-04	E-	2.1322E-09	1.2290E-03	1.9689E-03
O	2.2881E-01	8.0670E-01	5.2441E-01	O	4.2348E-01	5.4017E-01	5.7997E-01
O+	4.6744E-12	2.9247E-09	4.8924E-07	O+	2.8104E-11	4.5079E-05	9.3436E-05
O++	1.2440E-15	7.4205E-12	4.8905E-26	O++	7.2187E-13	3.4043E-24	2.8452E-23
O2	1.4470E-01	1.6229E-07	7.0029E-07	O2	9.6808E-11	1.2220E-06	2.0032E-06
O2+	2.1689E-02	2.0181E-04	1.1007E-04	O2+	4.9740E-02	1.9140E-04	1.2416E-04
O2-	2.1689E-12	4.1699E-10	4.1876E-07	O2-	2.0921E-07	4.3244E-07	5.0762E-07
C	2.1689E-10	1.7054E-10	2.0921E-10	C	2.7978E-12	3.7894E-10	5.9075E-10
C+	4.1040E-17	7.8616E-07	7.7273E-02	C+	6.8211E-09	1.2039E-01	1.1569E-01
C++	4.8775E-15	2.6178E-04	4.1547E-04	C	4.2864E-04	1.1314E-03	1.7804E-03
C-	2.8812E-21	1.7297E-09	9.4874E-17	C++	4.8878E-09	4.5471E-16	2.0196E-15
CO	2.2228E-01	4.6130E-01	3.8276E-01	C-	1.0073E-19	1.7307E-07	3.4821E-07
CO+	1.1878E-11	7.1044E-06	7.1647E-07	CO	5.1784E-01	3.1665E-01	2.5888E-01
CO2	7.8999E-02	4.3482E-06	2.8905E-06	CO+	4.8904E-10	8.2995E-05	9.4807E-05
C2	4.9779E-18	1.7848E-06	4.6405E-06	CO2	1.7114E-02	1.8814E-05	1.8813E-05
				C2	1.4027E-16	8.7380E-02	1.2142E-04

P1 = 5.00E+00 N/SC-M, US1 = 5.00E+03 M/SEC				P1 = 5.00E+00 N/SC-M, US1 = 5.40E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2733E+02	8.8702E+02	1.1180E+04	P	4.2997E+02	1.0822E+04	1.3460E+04
T	1.0271E+01	7.1287E+01	7.2737E+01	T	1.1810E+01	2.2971E+01	2.3863E+01
RHD	2.1761E+01	1.9512E+02	2.2320E+02	RHD	2.7989E+01	2.0021E+02	2.2832E+02
M	-4.2119E-01	-1.2264E+00	-1.4907E+00	M	-7.9407E-01	-2.8185E+00	-3.8066E+00
A	3.6246E+00	6.2324E+00	6.4151E+00	A	4.5242E+00	6.8726E+00	7.1029E+00
S	1.7505E+00	1.9482E+00	2.0677E+00	S	1.8837E+00	2.0779E+00	2.1350E+00
Z	1.7248E+00	2.1209E+00	2.2409E+00	Z	1.9088E+00	2.2928E+00	2.4705E+00
GAME	8.6070E-01	8.7945E-01	8.7444E-01	GAME	8.2747E-01	8.7399E-01	8.7761E-01
U	1.7223E+01	2.2841E+01	2.1162E+01	U	1.9829E+01	2.2788E+01	2.2191E+01

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	9.7629E-09	5.4332E-04	1.0792E-03	E-	5.5174E-09	1.7035E-03	2.9404E-03
O	1.2183E-01	8.2277E-01	5.2734E-01	O	4.5878E-01	5.7336E-01	6.9277E-01
O+	3.3806E-11	3.6889E-09	6.0103E-07	O+	8.0634E-05	8.0634E-05	1.1639E-04
O++	7.9274E-15	1.5781E-12	2.2671E-26	O++	3.6707E-17	1.0527E-23	2.4837E-04
O2	1.4470E-01	1.6722E-07	1.1399E-06	O2	1.1344E-10	1.9795E-04	1.9795E-04
O2+	1.0017E-01	1.4515E-04	1.6729E-04	O2+	1.9073E-02	1.1570E-04	1.1340E-04
O2-	2.1689E-12	4.0747E-07	4.4905E-07	O2-	4.7820E-08	4.4563E-07	5.3463E-07
C	6.0921E-11	1.4074E-02	3.9574E-07	O2+	2.779E-17	6.4404E-10	6.7062E-10
C+	6.4504E-14	4.0677E-06	1.0540E-01	C	8.2904E-08	1.4474E-01	1.8887E-01
C++	7.6242E-01	6.3341E-19	2.1704E-17	C+	1.0569E-17	1.3344E-03	2.7249E-02
C-	5.1574E-01	2.7790E-09	2.9824E-09	C++	8.2642E-15	1.0763E-15	4.0734E-15
CO	4.7021E-10	4.7884E-01	4.2733E-01	C-	9.8878E-18	2.6702E-07	2.6702E-07
CO+	1.1104E-01	7.4444E-06	5.9021E-05	CO	5.0619E-01	2.7625E-01	2.1631E-01
CO2	2.5142E-18	4.1848E-06	2.8401E-05	CO+	6.1004E-09	6.5888E-05	1.0163E-04
				CO2	6.1004E-09	1.4587E-05	1.0428E-05
				C2	3.6317E-16	1.0391E-04	1.3820E-04

Table I. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

PI = 5.00E+00 N/SC-M, USI = 5.00E+01 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4228E+02	1.2198E+02	1.2274E+04
T	1.2407E+01	1.7468E+01	2.4233E+01
PHD	2.1173E+01	1.9495E+01	7.1767E+02
H	-0.2263E+01	-7.7440E+00	-2.0177E+02
A	5.2357E+00	1.2422E+00	2.1727E+00
S	1.2024E+00	2.1272E+00	7.1815E+00
Z	1.9094E+00	2.6247E+00	7.8445E+00
GAME	1.0232E+00	8.7834E+00	8.8914E+01
U	2.0440E+01	7.0633E+01	3.2481E+02

SPECIES ----- MILE FRACTIONS -----

F-	4.0700E-07	2.1875E-03	1.2097E-13
F	4.0540E-01	1.4892E-01	1.0444E-01
PH+	1.1443E-09	9.7947E-08	1.4331E-14
O+	1.8701E-09	1.2927E-09	2.7169E-17
N-	2.0044E-11	1.8707E-09	2.0190E-06
O2-	7.8781E-02	1.7448E-04	2.0190E-06
O2	1.2792E-12	1.7520E-10	1.0040E-04
C-	1.0297E-12	4.7048E-10	6.4015E-10
C	6.0510E-01	1.7155E-01	2.0524E-01
C+	1.8164E-00	1.9940E-00	2.4662E-00
C++	5.1082E-00	2.2697E-01	9.4078E-14
C-	2.4625E-14	2.2697E-01	4.7848E-07
CO	6.0279E-01	1.3789E-01	1.1993E-02
CO+	1.5828E-07	9.2347E-05	1.0727E-04
CO2	8.2843E-04	1.0920E-04	1.7041E-04
CO2	1.7402E-11	1.1809E-04	1.6572E-04

PI = 5.00E+00 N/SC-M, USI = 5.00E+01 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0214E+02	1.0148E+03	1.4885E+04
T	1.8946E+01	3.2468E+01	4.1225E+01
PHD	2.8843E+01	1.7144E+02	1.9700E+02
H	-1.2588E+00	-7.8972E+00	-3.3101E+00
A	5.7938E+00	7.2042E+00	7.4401E+00
S	2.0237E+00	3.1705E+00	2.2945E+00
Z	2.0237E+00	3.1705E+00	2.2945E+00
GAME	1.0180E+00	9.2745E+00	8.8727E+01
U	2.1024E+01	7.3327E+00	2.0778E+00

SPECIES ----- MILE FRACTIONS -----

F-	1.1678E-07	2.1787E-07	6.7119E-03
F	6.0027E-01	6.5747E-01	4.1193E-01
PH+	2.2245E-04	1.1757E-04	1.7418E-04
O+	2.4501E-07	5.9997E-07	6.8275E-02
N-	7.9232E-09	2.1295E-08	3.2495E-05
O2-	7.4411E-04	9.1473E-05	8.4790E-07
O2	1.8489E-17	4.8440E-10	2.2111E-04
C-	1.9984E-02	1.9475E-01	1.4791E-10
C	1.9984E-02	1.9475E-01	1.4791E-10
C+	3.0444E-04	7.0390E-02	7.1332E-07
C++	3.5183E-03	4.1704E-15	1.6480E-14
C-	4.0575E-12	4.4445E-07	8.2495E-07
CO	4.9823E-01	2.7195E-01	1.4407E-01
CO+	5.2737E-01	9.4429E-01	1.0214E-04
CO2	7.0744E-05	7.7600E-06	1.8403E-06
CO2	1.4404E-09	1.2634E-06	1.4403E-06

PI = 5.00E+00 N/SC-M, USI = 5.00E+01 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4123E+02	1.0281E+04	1.2725E+04
T	1.7542E+01	2.4102E+01	3.8142E+01
PHD	1.8983E+01	1.4462E+02	1.8642E+02
H	-1.1572E+00	-7.1413E+00	-7.5857E+00
A	6.6472E+00	7.3974E+00	7.7814E+00
S	1.9925E+00	2.2122E+00	2.2759E+00
Z	1.0241E+00	9.8767E+00	9.2110E+00
GAME	9.0258E+01	9.7804E+01	9.8871E+01
U	2.1471E+01	7.2809E+00	7.7214E+00

SPECIES ----- MILE FRACTIONS -----

F-	8.7749E-07	1.8643E-03	5.1180E-03
F	6.0500E-01	6.0894E-01	6.2631E-01
PH+	9.5648E-04	1.6651E-04	7.2942E-04
O+	7.0778E-09	1.6755E-07	1.9446E-01
N-	1.8168E-09	2.7440E-09	3.8874E-07
O2-	8.4588E-07	6.0715E-07	7.4796E-04
O2	1.4281E-07	4.7672E-07	6.8277E-07
O2	1.2674E-12	5.7782E-10	7.0104E-01
C-	1.1885E-07	2.1797E-01	2.0954E-01
C+	6.0409E-07	7.1140E-02	4.8110E-07
C++	2.1759E-03	1.1716E-14	4.2374E-14
C-	6.0779E-10	4.1623E-07	1.0448E-04
CO	4.8167E-01	1.4892E-01	1.7086E-01
CO+	1.7004E-05	6.4644E-05	1.0189E-04
CO2	2.2540E-07	5.7594E-04	2.1941E-04
CO2	1.8077E-04	1.3722E-04	1.4142E-04

PI = 5.00E+00 N/SC-M, USI = 5.00E+01 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0237E+02	1.1190E+04	1.3609E+04
T	1.8260E+01	2.4444E+01	2.0534E+01
PHD	1.8177E+01	1.4015E+02	1.8741E+02
H	-1.2681E+00	-7.8157E+00	-7.8843E+00
A	6.6374E+00	7.1715E+00	8.0762E+00
S	2.0237E+00	2.2122E+00	2.2759E+00
Z	2.0237E+00	2.2122E+00	2.2759E+00
GAME	9.0274E+01	8.4651E+01	8.8741E+01
U	2.1276E+01	7.0951E+00	7.3017E+00

SPECIES ----- MILE FRACTIONS -----

F-	7.1400E-04	4.4843E-02	1.0647E-09
F	6.1680E-01	4.2904E-01	4.2707E-01
PH+	1.4781E-07	1.7957E-04	1.2037E-04
O+	3.3172E-10	6.7237E-07	8.7847E-01
N-	3.8774E-10	2.1702E-06	4.8774E-06
O2-	5.0542E-05	7.1746E-05	6.4654E-05
O2	9.3373E-08	6.1789E-07	6.4784E-07
O2+	6.9548E-12	1.7944E-10	7.7524E-01
C-	2.9604E+00	2.4027E-01	2.7290E+00
C	1.7774E-07	4.1197E-07	4.1197E-07
C+	7.4895E-16	7.2978E-14	1.2470E-13
CO	1.2492E+00	8.2372E-07	1.7207E-06
CO+	4.9490E-01	1.7608E-01	7.7645E-02
CO2	2.4444E-04	6.8400E-04	1.0091E+00
CO2	1.4253E-04	4.0984E-04	2.0541E-04
CO2	4.1244E-04	1.2527E-04	1.2466E-04

PI = 5.00E+00 N/SC-M, USI = 5.00E+01 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2774E+02	1.2201E+04	1.4705E+04
T	1.8409E+01	1.4220E+01	2.0504E+01
PHD	1.8377E+01	1.7293E+02	1.8523E+02
H	-1.1409E+00	-7.8584E+00	-4.7064E+00
A	6.8580E+00	7.1764E+00	8.4077E+00
S	2.0567E+00	2.2997E+00	2.3678E+00
Z	2.0567E+00	2.2997E+00	2.3678E+00
GAME	8.4707E+01	8.6127E+01	8.1298E+01
U	2.1397E+01	7.6628E+00	7.8852E+00

SPECIES ----- MILE FRACTIONS -----

F-	7.7701E-07	5.7089E-07	9.4902E-03
F	6.2244E-01	6.3027E-01	6.4402E-01
PH+	1.6034E-07	3.5678E-04	4.9404E-04
N-	2.1699E-09	2.8939E-07	1.9431E-10
O2-	6.0714E-07	2.6520E-04	2.7345E-06
O2	8.0587E-03	7.7494E-07	7.4480E-07
O2	2.7443E-07	1.5021E-10	9.4429E-10
C-	4.9114E-17	7.4095E-07	2.9511E-01
C	2.1707E-07	1.3384E-01	9.0471E-02
C+	1.0000E-01	8.8782E-14	4.8010E-12
CO	2.1644E-01	1.1198E-04	1.6673E-04
CO+	4.2284E-01	6.7234E-01	4.7439E-02
CO2	1.0287E-07	9.8189E-04	9.7346E-04
CO2	1.4253E-04	1.4231E-04	1.0661E-04
CO2	4.1244E-04	1.2727E-04	1.1209E-04

PI = 5.00E+00 N/SC-M, USI = 5.00E+01 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2687E+02	1.2579E+04	1.4829E+04
T	1.8000E+01	1.6511E+01	2.0820E+01
PHD	1.8707E+01	1.7085E+02	1.8516E+02
H	-1.1447E+00	-7.9028E+00	-4.7110E+00
A	6.8727E+00	8.1400E+00	8.8621E+00
S	2.0864E+00	2.3722E+00	2.4725E+00
Z	2.0864E+00	2.3722E+00	2.4725E+00
GAME	8.4767E+01	8.2140E+01	8.3964E+01
U	2.2817E+01	7.7507E+00	7.4358E+00

SPECIES ----- MILE FRACTIONS -----

F-	6.4380E-04	7.0370E-07	1.8066E-09
F	6.2469E-01	6.1917E-01	6.4401E-01
PH+	7.8071E-09	3.6227E-04	4.9531E-04
N-	9.7733E-09	7.0292E-07	8.4710E-06
O2-	4.2424E-07	4.7344E-07	4.0492E-07
O2	8.8007E-03	6.6744E-07	8.7277E-07
O2+	7.6723E-10	3.7568E-10	8.7740E-10
C-	4.0183E-07	7.1902E-01	7.8849E-01
C	4.0183E-07	7.1902E-01	7.8849E-01
C+	1.0702E-10	1.9129E-01	3.0911E-12
C-	7.0711E-00	1.0074E-07	2.7124E-04
CO	3.9489E-01	1.6243E-02	2.3900E-02
CO+	2.1774E-04	6.7707E-04	8.8714E-05
CO2	8.2747E-01	1.8414E-04	3.8378E-07
CO2	1.4429E-07	1.0274E-04	8.1877E-07

Table I. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SC-M, U11 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.1972E+02	1.4008E+04	1.7281E+04
T	1.9477E+01	2.7147E+01	3.0754E+01
RHO	1.9052E+01	1.7702E+02	1.8647E+02
H	-1.8024E+00	-2.2954E+00	-4.8982E+00
A	6.0902E+00	8.7262E+00	9.4402E+00
S	2.2412E+00	2.3895E+00	2.4557E+00
Z	2.1946E+00	1.9185E+00	3.0538E+00
GAME	8.6723E-01	9.1869E-01	9.8141E-01
U	2.4942E+01	2.6449E+00	2.7902E+00

SPECIES	MOLE FRACTIONS		
F-	7.5687E-04	1.0811E-02	2.6270E-02
O	5.4474E-01	4.4582E-01	4.4461E-01
O+	2.7947E-05	5.6720E-04	1.9450E-03
O++	2.4882E-27	1.2425E-19	3.7278E-17
O-	3.1173E-07	6.4635E-06	1.3149E-05
O2	3.9729E-05	4.8891E-05	2.6402E-05
O2+	1.8763E-08	2.3895E+00	1.0774E-06
O2-	9.7018E-12	7.7820E-10	8.3844E-10
C	8.4720E-02	2.9798E-01	2.9647E-01
C+	6.9186E-04	1.0147E-02	2.4207E-01
C0	7.5220E-18	7.2842E-13	3.0299E-11
C-	1.2079E-08	2.0312E-06	3.7873E-04
CO	2.6424E+01	3.5407E-02	8.7279E-02
CO+	2.1765E-05	9.2438E-04	7.4169E-02
CO2	4.8117E-06	7.4444E-07	8.8397E-08
C2	1.8962E-05	1.0165E-04	4.7812E-05

P1 = 5.00E+00 N/SC-M, U11 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.6884E+02	1.7281E+04	3.1740E+04
T	2.0463E+01	3.2403E+01	3.6449E+01
RHO	2.0089E+01	1.7038E+02	1.8146E+02
H	-2.3043E+00	-5.2529E+00	-6.0785E+00
A	6.4504E+00	9.8748E+00	1.0629E+01
S	2.2146E+00	2.5081E+00	2.5856E+00
Z	2.2558E+00	3.1264E+00	3.2825E+00
GAME	8.7274E-01	9.5260E-01	9.4343E-01
U	2.4722E+01	3.1542E+00	3.7241E-00

SPECIES	MOLE FRACTIONS		
F-	1.5291E-02	4.3663E-02	8.7621E-02
O	5.7472E-01	6.2254E-01	5.9587E-01
O+	4.5689E-05	6.0683E-02	1.2426E-02
O++	4.1471E-26	9.3494E-16	1.7600E-13
O-	2.2675E-07	1.4100E-05	2.0266E-05
O2	3.2505E-05	1.6733E-05	8.9799E-06
O2+	6.7712E-08	1.2674E-06	1.7774E-06
O2-	1.5860E-13	6.8512E-10	4.2281E-10
C	1.4844E-01	2.7712E-01	2.2851E-01
C+	3.6512E-02	7.4507E-02	7.5075E-02
C0	7.2257E-17	2.5074E-10	4.7801E-05
C-	3.8177E-08	4.6400E-04	3.6944E-06
CO	2.7411E-01	2.9731E-01	4.1191E-04
CO+	4.1619E-05	1.0027E-07	4.3922E-05
CO2	3.9731E-06	1.9228E-08	2.2951E-05
C2	3.4487E-05	2.4807E-05	8.8320E-06

P1 = 5.00E+00 N/SC-M, U11 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.6805E+02	1.4008E+04	1.7281E+04
T	1.9873E+01	2.8647E+01	3.2627E+01
RHO	1.8418E+01	1.7702E+02	1.8647E+02
H	-1.9671E+00	-2.2954E+00	-5.2191E+00
A	6.2094E+00	8.9833E+00	9.9396E+00
S	2.1492E+00	2.4781E+00	2.5025E+00
Z	2.2503E+00	2.0925E+00	3.1283E+00
GAME	8.1189E-01	9.4407E-01	9.5806E-01
U	2.5269E+01	2.7873E+00	2.9802E+00

SPECIES	MOLE FRACTIONS		
F-	5.8495E-04	1.1728E-02	4.4179E-02
O	5.5477E-01	4.4425E-01	4.7207E-01
O+	2.3041E-05	5.6720E-04	4.2207E-03
O++	4.8808E-27	1.2425E-19	3.7278E-17
O-	1.5095E-07	6.4635E-06	1.3122E-05
O2	3.6694E-05	4.8891E-05	2.6402E-05
O2+	9.0775E-08	2.3895E+00	1.0774E-06
O2-	1.1562E-11	7.7820E-10	8.3844E-10
C	1.0923E-02	2.9798E-01	2.7657E-01
C+	9.1147E-04	1.0631E-02	3.9917E-02
C0	1.8714E-17	4.2317E-12	4.7267E-10
C-	1.8772E-08	2.0312E-06	3.7873E-04
CO	2.3384E-01	1.8035E-02	4.7267E-02
CO+	4.0273E-05	8.2872E-04	6.1388E-04
CO2	4.7598E-04	2.7402E-07	1.0674E-08
C2	2.4474E-05	7.7022E-04	2.8423E-04

P1 = 5.00E+00 N/SC-M, U11 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0212E+03	1.8418E+04	2.3217E+04
T	2.0748E+01	3.2403E+01	3.8048E+01
RHO	2.0404E+01	1.6948E+02	1.8156E+02
H	-2.4807E+00	-5.2529E+00	-6.4222E+00
A	6.5762E+00	1.0192E+01	1.0971E+01
S	2.2482E+00	2.5498E+00	2.5747E+00
Z	2.4125E+00	3.1564E+00	3.3782E+00
GAME	8.4577E-01	9.5043E-01	9.5912E-01
U	2.7447E+01	3.3270E+00	3.8667E+00

SPECIES	MOLE FRACTIONS		
F-	1.8977E-02	6.3447E-02	1.0986E-01
O	5.8778E-01	4.1752E-01	4.7489E-01
O+	2.3297E-05	7.1477E-04	1.8808E-02
O++	5.1897E-26	1.1211E-14	9.0867E-13
O-	2.7777E-07	1.4793E-05	2.1986E-05
O2	3.0813E-05	1.7097E-05	1.0307E-04
O2+	1.3174E-07	1.4443E-07	1.9752E-07
O2-	1.7657E-13	4.2228E-10	4.9794E-10
C	1.2957E-01	2.8416E-01	2.7009E-01
C+	1.7744E-02	9.7299E-02	9.1324E-02
C0	1.1738E-17	1.3298E-09	1.0997E-08
C-	4.1307E-08	4.9592E-04	5.7747E-06
CO	2.4517E-01	1.2401E-01	3.2430E-04
CO+	6.7161E-05	5.1091E-07	3.7949E-05
CO2	2.3057E-06	6.4687E-09	6.5792E-10
C2	4.9207E-05	3.6901E-05	9.6887E-06

P1 = 5.00E+00 N/SC-M, U11 = 7.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.1777E+02	1.4371E+04	2.0207E+04
T	2.1772E+01	3.0781E+01	3.4475E+01
RHO	1.9787E+01	1.7702E+02	1.9189E+02
H	-2.1174E+00	-4.6295E+00	-5.6519E+00
A	6.3287E+00	9.4407E+00	1.0273E+01
S	2.1817E+00	2.4488E+00	2.5694E+00
Z	2.4007E+00	1.9619E+00	3.0909E+00
GAME	8.6212E-01	9.4156E-01	9.5005E-01
U	2.4994E+01	2.6652E+00	2.7877E+00

SPECIES	MOLE FRACTIONS		
F-	1.2407E-03	3.7444E-02	6.4415E-02
O	5.6495E-01	4.4373E-01	4.1493E-01
O+	3.8813E-05	2.0820E-04	7.7648E-03
O++	1.5294E-27	4.9466E-17	1.9189E-14
O-	1.8901E-07	1.1740E-05	1.7969E-05
O2	7.4661E-05	2.6376E-05	1.1989E-05
O2+	5.3620E-08	1.0087E-06	1.5541E-04
O2-	1.5727E-11	7.8028E-10	6.8737E-10
C	1.2907E-01	2.9243E-01	2.4299E-01
C+	1.1787E-02	1.5790E-02	4.7267E-02
C0	3.1922E-17	2.4700E-11	4.7267E-02
C-	7.7717E-08	3.4384E-04	5.3776E-04
CO	2.0374E-01	7.4412E-03	1.2373E-02
CO+	4.2872E-05	7.1498E-05	5.1428E-05
CO2	4.7877E-06	7.0099E-08	5.9476E-06
C2	3.0204E-05	4.2377E-05	1.4480E-05

P1 = 5.00E+00 N/SC-M, U11 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0770E+03	1.8418E+04	2.4910E+04
T	2.1772E+01	3.2403E+01	3.9505E+01
RHO	2.0657E+01	1.7411E+02	1.9267E+02
H	-2.4438E+00	-5.2529E+00	-6.8223E+00
A	6.7099E+00	1.0399E+01	1.1701E+01
S	2.1207E+00	2.5025E+00	2.5775E+00
Z	2.4497E+00	3.0766E+00	3.2437E+00
GAME	8.4404E-01	9.4404E-01	9.3478E-01
U	2.8871E+01	2.4977E+00	3.0888E+00

SPECIES	MOLE FRACTIONS		
F-	3.2331E-02	8.2194E-02	1.7162E-01
O	6.9289E-01	4.0084E-01	4.5932E-01
O+	4.2614E-05	1.1107E-02	2.5582E-02
O++	2.3358E-26	8.2727E-14	3.9734E-12
O-	3.3314E-07	1.9692E-05	2.3205E-05
O2	4.2307E-05	4.1071E-05	1.6674E-04
O2+	1.0080E-07	1.5097E-06	2.1588E-06
O2-	2.0749E-13	5.6720E-10	7.1200E-10
C	1.4881E-01	2.3424E-01	1.8718E-01
C+	3.1205E-02	7.1256E-02	1.0403E-01
C0	3.1367E-17	6.7492E-09	4.7478E-08
C-	6.7886E-08	5.2994E-04	5.6474E-06
CO	2.1864E-01	7.0849E-01	1.9912E-04
CO+	4.8916E-05	4.4106E-07	3.3016E-05
CO2	2.7177E-06	2.4337E-08	4.9118E-10
C2	4.4467E-05	9.4409E-06	1.7388E-05

Table 1. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SC-M, US1 = 9.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1703E+01	1.1703E+01	2.4762E+01
T	2.1370E+01	2.7237E+01	2.0071E+01
RHM	2.0957E+01	1.1703E+01	1.8975E+02
M	-2.9877E+00	-6.2397E+00	-1.2420E+00
A	6.1974E+01	2.0071E+01	1.1427E+01
S	-2.3150E+00	2.4103E+00	2.7006E+00
Z	2.1729E+02	2.1407E+00	2.6705E+00
GAME	8.4643E+01	2.1407E+00	2.7495E+01
U	2.8950E+01	2.1407E+00	2.7140E+00

SPECIES	MOLE FRACTIONS		
E-	7.4577E-01	1.0000E-01	1.4295E-21
P	4.7161E-01	2.0179E-01	5.7082E-01
O+	2.0245E-02	1.1976E-01	7.9811E-02
O++	1.1717E-02	4.1541E-11	1.6535E-11
N-	2.6506E-02	2.0117E-01	2.6007E-02
CO	2.7670E-01	2.1543E-01	4.4440E-01
O2+	1.1307E-07	1.8075E-01	2.3174E-01
O2-	2.2401E-01	6.1607E-01	4.6788E+00
F	2.2324E-01	8.1794E-01	1.6700E-01
C+	2.0437E-02	1.3711E-01	1.1907E-01
C-	8.4470E-08	5.4011E-01	1.0924E-01
CO+	1.8885E-01	2.6426E-01	4.4760E-01
CO-	2.7177E-02	2.8405E-01	1.2375E-01
CO2	2.0985E-01	1.1988E-01	2.8777E-01
C2	4.7065E-05	8.1488E-01	2.0244E-11

P1 = 5.00E+00 N/SC-M, US1 = 8.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2022E+01	2.4599E+01	2.4599E+01
T	2.2718E+01	4.1137E+01	4.4750E+01
RHM	2.1433E+01	1.2712E+01	1.8786E+02
M	-2.4211E+00	-7.45019E+00	-9.5264E+00
A	2.6713E+01	1.1717E+01	1.2772E+01
S	-2.6713E+01	2.7745E+00	2.8124E+00
Z	2.7107E+02	3.1738E+00	2.8107E+00
GAME	2.1520E+01	9.7780E-01	9.7780E-01
U	2.1051E+01	4.0087E+00	4.0649E+00

SPECIES	MOLE FRACTIONS		
E-	4.6700E-01	1.6201E-01	2.1292E-21
P	4.2654E-01	1.2129E-01	4.6794E-01
O+	1.2077E-01	2.2777E-02	4.4984E-02
O++	8.5367E-01	2.0738E-11	1.1700E-10
N-	4.4226E-02	2.2550E-01	2.4747E-05
CO	2.7470E-01	6.0117E-01	2.6867E-01
O2+	1.2670E-07	2.6249E-01	2.6200E-01
O2-	2.0223E-11	3.8499E-10	7.3113E-10
F	2.5235E-01	7.5471E-01	1.1470E-01
C+	4.3015E-01	1.2464E-01	2.1379E-01
C-	2.6674E-11	1.3047E-07	4.6673E-07
CO+	1.7004E-01	4.5647E-01	4.5161E-01
CO-	1.1130E-01	9.9270E-01	3.5829E-01
CO2	5.1975E-01	3.6970E-01	1.9062E-01
C2	1.0078E-01	1.8221E-10	4.8291E-11
C2	5.1007E-01	2.0117E-01	8.4983E-07

P1 = 5.00E+00 N/SC-M, US1 = 8.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1844E+01	2.2020E+01	2.8222E+01
T	2.1424E+01	2.8044E+01	4.7184E+01
RHM	2.1151E+01	1.4704E+01	1.8666E+02
M	-2.0077E+00	-1.4837E+00	-7.6221E+00
A	4.0792E+01	1.1124E+01	1.1647E+01
S	-4.0792E+01	2.4447E+00	2.7381E+00
Z	2.1870E+02	2.4184E+00	2.4292E+00
GAME	8.6852E-01	4.2856E-01	9.2289E-01
U	2.9617E+01	2.7417E+00	3.8749E+00

SPECIES	MOLE FRACTIONS		
E-	2.1885E-01	1.2281E-01	1.7337E-01
P	4.1093E-01	4.2955E-01	5.0785E-01
O+	8.7977E-01	2.2583E-01	4.7281E-02
O++	1.3183E-01	1.8917E-12	4.4418E-11
N-	4.4642E-01	2.1120E-01	2.4835E-01
CO	2.9247E-01	8.2217E-01	2.8487E-01
O2+	1.1207E-11	1.6641E-01	2.6420E-01
O2-	2.2603E-01	1.0196E-01	4.1170E-10
F	2.2603E-01	1.0196E-01	1.4400E-01
C+	2.0474E-01	2.0740E-01	1.3025E-01
C-	1.0781E-07	6.2840E-01	5.1921E-01
CO+	1.6231E+01	2.4821E-01	7.0509E-01
CO-	2.1157E-01	2.3370E-01	2.7102E-01
CO2	1.7503E-01	4.0737E-10	1.4273E-10
C2	6.3122E-07	6.1942E-01	1.7255E-01

P1 = 5.00E+00 N/SC-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2726E+01	2.5974E+01	3.3180E+01
T	2.2719E+01	4.2240E+01	4.5772E+01
RHM	2.1420E+01	1.4495E+01	1.8613E+02
M	-2.0077E+00	-7.7809E+00	-8.9712E+00
A	2.6674E+01	1.7009E+01	1.2881E+01
S	-2.6674E+01	2.7309E+00	2.8695E+00
Z	2.7770E+01	3.4617E+00	3.9031E+00
GAME	8.8010E-01	9.3167E-01	9.7076E-01
U	2.1766E+01	4.1217E+00	4.1743E+00

SPECIES	MOLE FRACTIONS		
E-	5.8787E-01	1.8089E-01	2.3154E-01
P	4.2981E-01	4.9974E-01	4.7521E-01
O+	1.5317E-01	4.6377E-02	7.7026E-02
O++	2.6707E-01	5.4684E-11	7.2521E-10
N-	2.7548E-01	2.2714E-01	2.2897E-01
CO	2.9247E-01	3.0720E-01	2.2486E-01
O2+	1.4663E-07	2.2966E-01	2.6888E-01
O2-	2.0283E-11	2.6540E-10	2.3140E-10
F	2.6777E-01	1.3835E-01	1.0153E-01
C+	5.7615E-01	1.3474E-01	1.5452E-01
C-	6.6797E-11	2.3811E-07	1.0763E-01
CO+	2.1174E-01	4.6812E-01	4.1400E-01
CO-	1.7201E-01	6.6731E-01	2.4742E-01
CO2	1.4610E-01	2.2912E-01	1.6786E-01
CO2	7.0970E-01	1.0622E-10	2.9184E-01
C2	4.9112E-01	1.4253E-01	4.0017E-01

P1 = 5.00E+00 N/SC-M, US1 = 8.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2647E+01	2.3741E+01	2.9997E+01
T	2.1062E+01	2.9997E+01	4.9811E+01
RHM	2.1398E+01	1.4771E+01	1.8528E+02
M	-2.2225E+00	-7.0022E+00	-8.3000E+00
A	2.1200E+01	1.1474E+01	1.2242E+01
S	-2.1200E+01	2.4480E+00	2.7753E+00
Z	2.4608E+02	2.4370E+00	2.7194E+00
GAME	8.7166E-01	9.3688E-01	9.7187E-01
U	2.9247E+01	2.8480E+00	2.6528E+00

SPECIES	MOLE FRACTIONS		
E-	2.8027E-01	1.4214E-01	1.9342E-01
P	4.1077E-01	4.2225E-01	4.8202E-01
O+	1.0095E-01	2.0325E-02	8.2640E-01
O++	1.2398E-01	1.8970E-12	1.2401E-10
N-	6.6430E-01	2.1388E-01	2.4511E-01
CO	1.4277E-01	4.8131E-01	2.4103E-01
O2+	1.2742E-07	2.1040E-01	2.6577E-01
O2-	2.2747E-11	6.7512E-10	7.2252E-10
F	2.2747E-01	1.2277E-01	1.7877E-01
C+	2.6674E-01	1.3935E-01	1.3904E-01
C-	1.0781E-07	6.1942E-01	7.8071E-01
CO+	1.1757E-01	4.1994E-01	4.6588E-01
CO-	1.2410E-01	1.7105E-01	4.0207E-01
CO2	1.7248E-01	2.6644E-01	2.1498E-01
CO2	1.7248E-01	2.2277E-10	4.1897E-01
C2	6.1248E-01	2.9826E-01	1.2107E-01

P1 = 5.00E+00 N/SC-M, US1 = 9.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2647E+01	2.7012E+01	3.4728E+01
T	2.2718E+01	4.3377E+01	4.6750E+01
RHM	2.1370E+01	1.4479E+01	1.8588E+02
M	-2.0077E+00	-8.1847E+00	-9.4233E+00
A	2.4370E+01	1.2911E+01	1.3186E+01
S	-2.4370E+01	2.7553E+00	2.8864E+00
Z	2.8357E+02	2.7452E+00	2.9963E+00
GAME	8.8713E-01	9.1077E-01	9.3066E-01
U	2.2477E+01	4.2741E+00	4.2803E+00

SPECIES	MOLE FRACTIONS		
E-	1.9475E-01	1.9918E-01	2.4946E-01
P	4.4027E-01	4.7774E-01	4.1075E-01
O+	2.1707E-01	5.4173E-02	8.9039E-02
O++	2.6590E-01	1.1719E-10	1.8882E-01
N-	4.9742E-01	2.7607E-01	2.3205E-01
CO	1.8059E-01	2.8412E-01	1.8791E-01
O2+	1.6512E-01	2.4027E-01	2.6708E-01
O2-	2.4674E-11	3.0788E-10	2.3399E-10
F	2.8063E-01	1.2391E-01	9.0252E-01
C+	4.6874E-01	1.4201E-01	1.6983E-01
C-	1.2907E-11	4.0237E-07	1.6880E-01
CO+	1.4248E-01	4.3469E-01	2.8058E-01
CO-	1.4765E-01	6.8784E-01	1.7326E-01
CO2	5.7277E-01	2.0107E-01	1.4242E-01
CO2	4.4127E-01	6.7475E-11	1.7881E-11
C2	4.9740E-01	1.2180E-01	4.2673E-01

Table I. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

PI = 5.00E+00 N/SC-M, US1 = 9.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4470E+02	2.8092E+04	7.6141E+04
T	2.3744E+01	4.4272E+07	4.7284E+01
RHM	2.1600E+07	1.622E+02	1.8691E+02
H	-4.0567E+00	-8.5898E+00	-9.8825E+00
A	7.8613E+00	1.2574E+01	1.3488E+01
S	2.5283E+00	2.8211E+00	2.9240E+00
Z	2.8970E+00	3.4211E+00	4.0905E+00
GAME	8.9788E-01	9.2088E-01	9.7077E-01
U	3.9172E+01	4.3492E+00	4.3822E+00

PI = 9.00E+00 N/SC-M, US1 = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6785E+03	3.0111E+04	3.8759E+04
T	2.6713E+01	4.7101E+01	5.0566E+01
RHM	2.0515E+01	1.4632E+02	1.7504E+02
H	-4.7213E+00	-9.4203E+00	-1.1288E+01
A	8.7882E+00	1.3379E+01	1.4369E+01
S	2.6328E+00	2.5393E+00	3.0389E+00
Z	3.0528E+00	4.0894E+00	4.3785E+00
GAME	9.4407E-01	9.2936E-01	9.3245E-01
U	3.5200E+01	4.4242E+00	4.6732E+00

SPECIES ----- MOLE FRACTIONS -----

E-	8.9883E-07	3.2710E-01	2.4673E-01
O	4.4573E-01	4.4512E+01	3.8621E-01
O+	2.9724E-04	4.4844E-02	3.8621E-01
O++	4.7204E-10	2.1534E-10	1.0268E-01
H-	1.0774E-04	2.2278E-05	2.2298E-07
O2	1.5624E-07	2.3992E-06	1.5638E-06
O2+	1.7040E-07	2.6439E-06	2.6373E-06
O2++	2.6177E-11	2.7999E-10	2.1885E-10
C	8.6174E-09	3.1079E-01	8.0279E-02
C+	3.5951E-14	4.4806E-07	1.6406E-01
C++	2.2707E-07	4.0258E-04	2.5706E-04
CO	4.4207E-02	1.1808E-05	1.2778E-05
CO+	4.8077E-02	1.7870E-05	1.2406E-04
CO2	2.8447E-07	7.9270E-11	1.1067E-11
C2	3.9447E-07	7.2937E-07	3.1541E-07

SPECIES ----- MOLE FRACTIONS -----

E-	2.4889E-02	2.6635E-01	3.1484E-01
O	6.4542E-01	3.8762E-01	3.1412E-01
O+	1.3385E-03	1.0140E-01	1.4203E-01
O++	4.2430E-19	2.4428E-09	1.9383E-08
H-	2.0729E-06	1.9707E-05	1.8400E-05
O2	5.6186E-06	1.4017E-06	8.4067E-07
O2+	2.4899E-07	2.3660E-06	2.3222E-06
O2++	3.3946E-11	4.7115E-10	1.2568E-10
C	2.9458E-01	1.6514E-01	5.8970E-02
C+	2.4919E-02	3.0042E-06	1.7170E-01
C++	2.8843E-12	2.2314E-04	7.3510E-04
CO	6.1978E-03	1.1602E-05	4.9083E-06
CO+	3.4047E-04	1.1627E-05	7.532E-06
CO2	1.5887E-08	9.4279E-12	2.6458E-12
C2	1.6775E-05	2.7922E-07	1.1980E-07

PI = 5.00E+00 N/SC-M, US1 = 9.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4822E+02	2.8994E+04	7.7212E+04
T	2.4512E+01	4.5231E+01	4.8769E+01
RHM	2.1792E+07	1.6336E+02	1.8284E+02
H	-4.2738E+00	-8.6677E+00	-1.0347E+01
A	8.1237E+00	1.2044E+01	1.2784E+01
S	2.5624E+00	2.8473E+00	2.9418E+00
Z	2.8646E+00	3.5184E+00	4.1877E+00
GAME	9.1172E-01	9.2644E-01	9.7112E-01
U	3.7842E+01	4.4410E+00	4.4826E+00

PI = 9.00E+00 N/SC-M, US1 = 1.02E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9454E+03	3.1500E+04	4.0540E+04
T	2.9776E+01	4.5218E+01	5.2811E+01
RHM	1.9515E+01	1.4843E+02	1.6600E+02
H	-4.3061E+00	-1.0858E+01	-1.2511E+01
A	9.3947E+00	1.3051E+01	1.3110E+01
S	2.7135E+00	3.0305E+00	3.1325E+00
Z	3.1910E+00	4.3117E+00	4.8220E+00
GAME	9.3132E-01	9.2029E-01	9.3747E-01
U	3.6825E+01	4.8526E+00	4.9043E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.2700E-07	3.7403E-01	2.8732E-01
O	4.4628E-01	4.3287E-01	3.7186E-01
O+	6.4370E-04	7.7947E-07	1.1597E-01
O++	2.9214E-10	5.7056E-10	6.1244E-07
H-	1.2299E-04	2.1517E-05	2.1373E-07
O2	1.8090E-07	2.6131E-06	1.2929E-04
O2+	2.6005E-07	3.4573E-06	9.6477E-06
O2++	2.9997E-11	2.7490E-10	1.8471E-10
C	1.1717E-09	9.0747E-02	7.1443E-07
C+	1.2532E-10	1.5417E-01	1.7725E-01
C++	4.1223E-10	1.0237E-06	3.2790E-04
CO	2.1570E-09	3.6520E-04	3.1130E-04
CO+	4.4873E-09	2.2544E-05	8.7171E-04
CO2	1.2946E-07	7.5394E-06	1.0748E-04
C2	7.1487E-08	8.7949E-07	6.8709E-12

SPECIES ----- MOLE FRACTIONS -----

E-	4.1057E-02	2.0433E-01	3.5079E-01
O	6.2058E-01	3.2124E-01	2.8334E-01
O+	4.4732E-03	1.3278E-01	1.7654E-01
O++	1.1399E-10	1.0166E-08	7.1280E-08
H-	1.8980E-04	1.8980E-04	1.4614E-05
O2	3.1174E-04	8.7800E-07	4.9730E-07
O2+	3.2295E-07	2.1819E-06	1.9380E-06
O2++	2.4748E-11	1.1052E-10	3.3172E-11
C	3.5570E-01	6.0052E-02	4.2197E-01
C+	4.6394E-02	1.7175E-01	1.7419E-01
C++	1.2587E-10	9.1433E-06	1.9844E-06
CO	4.6741E-07	2.2898E-06	1.7999E-06
CO+	4.2680E-07	5.2396E-06	1.9744E-06
CO2	2.3279E-05	7.9588E-06	5.0041E-06
C2	1.3757E-09	3.0354E-12	7.9036E-13

PI = 9.00E+00 N/SC-M, US1 = 9.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5126E+02	2.8977E+04	3.8127E+04
T	2.4042E+01	4.7240E+01	4.9499E+01
RHM	2.0915E+07	1.4702E+02	1.7841E+02
H	-4.2693E+00	-8.4364E+00	-1.0814E+01
A	8.1472E+00	1.2118E+01	1.2477E+01
S	2.6887E+00	3.0724E+00	3.0909E+00
Z	3.0117E+00	4.0703E+00	4.7303E+00
GAME	9.2224E-01	9.2644E-01	9.7168E-01
U	3.8825E+01	4.2389E+00	4.5777E+00

PI = 9.00E+00 N/SC-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0274E+03	3.3791E+04	4.1249E+04
T	3.1941E+01	5.1997E+01	5.5322E+01
RHM	1.8997E+01	1.4395E+02	1.6056E+02
H	-4.9200E+00	-1.2038E+01	-1.3814E+01
A	9.2023E+00	1.4778E+01	1.5278E+01
S	2.7912E+00	3.1203E+00	3.2508E+00
Z	3.3220E+00	4.5403E+00	4.8704E+00
GAME	9.2710E-01	9.2922E-01	9.4124E-01
U	3.8964E+01	5.0599E+00	5.1639E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.7741E-07	2.4077E-01	2.5974E-01
O	4.4960E-01	4.3993E-01	3.7478E-01
O+	7.4613E-04	8.7453E-07	1.2934E-01
O++	3.9315E-10	5.3172E-09	1.1113E-01
H-	1.4564E-04	2.0742E-05	1.6984E-07
O2	5.2827E-04	1.6835E-06	1.6002E-04
O2+	2.6131E-07	2.4746E-06	2.4775E-04
O2++	2.6444E-11	2.7072E-10	1.8391E-10
C	1.1117E-09	9.0597E-02	6.7804E-02
C+	1.7007E-10	1.6112E-01	1.6990E-01
C++	5.0177E-10	1.7440E-06	3.2889E-04
CO	4.2291E-09	7.3444E-04	2.7794E-04
CO+	1.3713E-07	1.6127E-05	6.2884E-04
CO2	3.9443E-09	1.3379E-06	9.1248E-04
C2	4.9279E-08	1.4914E-11	4.7759E-12

SPECIES ----- MOLE FRACTIONS -----

E-	1.0970E-01	3.3924E-01	3.8413E-01
O	5.8924E-01	2.7574E-01	2.0074E-01
O+	1.0844E-02	1.6470E-01	2.0989E-01
O++	4.5102E-10	3.7941E-08	2.9162E-08
H-	3.7407E-04	1.4223E-05	1.1404E-05
O2	1.8619E-06	9.3785E-07	2.6515E-07
O2+	4.0720E-07	1.8719E-04	1.5720E-04
O2++	3.1972E-11	6.9623E-11	3.9821E-11
C	2.1047E-01	4.8444E-02	3.1017E-02
C+	8.9244E-02	1.7465E-01	1.7418E-01
C++	1.3679E-09	1.1127E-09	3.4245E-09
CO	5.6181E-07	1.7880E-04	1.2885E-04
CO+	3.0070E-04	2.4097E-04	8.3991E-07
CO2	1.7058E-05	5.4744E-04	3.2161E-04
C2	9.2822E-10	9.9221E-13	2.2340E-13

Table I. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

$$P_1 = 5.00E+00 \text{ N/SQ-M, US1} = 1.15E+04 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.238E+02	2.4693E+04	4.6557E+04
T	3.3902E+01	5.3682E+01	6.0123E+01
RHO	1.870E+01	1.4089E+02	1.5441E+02
H	-6.4E27E+00	-1.3236E+01	-1.5202E+01
A	1.0406E+01	1.5494E+01	1.6825E+01
S	2.8669E+00	3.2093E+00	3.327E+00
Z	3.492E+00	4.7739E+00	5.1255E+00
GAME	9.1725E-01	9.327E-01	9.9017E-01
U	4.0278E+01	4.3472E+00	5.4708E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.7880E-01	3.7168E-01	4.1478E-01
O	5.432E-01	2.2240E-01	1.8878E-01
O+	2.0257E-02	1.5678E-01	2.4191E-01
O++	8.0581E-14	1.2750E-07	8.9878E-07
D-	4.1289E-04	1.1452E-07	8.1441E-06
O2-	1.2183E-06	3.129E-07	1.8004E-07
O2	4.7643E-07	1.6407E-06	1.0924E-06
O2+	1.7810E-11	4.1122E-11	1.8980E-11
C	1.6876E-01	3.424E-02	2.7224E-02
C+	1.1854E-01	1.7511E-01	1.727E-01
C++	7.4742E-09	2.3120E-05	1.727E-05
C-	9.091E-07	1.296E-06	8.7737E-07
CO	1.0884E-04	1.0947E-04	3.2723E-07
CO+	1.2884E-07	2.4974E-06	1.909E-06
CO2	5.900E-11	7.1410E-13	6.417E-14
C2	8.277E-07	2.8947E-08	0.8923E-09

$$P_1 = 5.00E+00 \text{ N/SQ-M, US1} = 1.20E+04 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8184E+02	4.4491E+04	5.8863E+04
T	3.8784E+01	4.2104E+01	7.2137E+01
RHO	1.8339E+01	1.317E+02	1.4035E+02
H	-8.6621E+00	-1.777E+01	-1.9923E+01
A	1.1866E+01	1.812E+01	2.0729E+01
S	3.2902E+00	3.4719E+00	3.6074E+00
Z	3.9848E+00	5.4733E+00	5.8249E+00
GAME	9.122E-01	9.7057E-01	1.0227E+00
U	4.547E+01	4.3240E+00	6.8209E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.4748E-01	4.518E-01	4.8505E-01
O	4.3324E-01	2.8148E-01	2.7046E-02
O+	7.1149E-02	5.1102E-06	3.1519E-01
O++	2.6735E-11	5.1102E-06	1.1403E-04
D-	4.1008E-04	3.7770E-04	9.8177E-07
O2-	4.3437E-07	3.104E-08	2.4147E-09
O2	6.5289E-07	5.6426E-07	1.2758E-07
O2+	8.7499E-17	3.8183E-12	2.5678E-13
C	7.8761E-01	1.257E-02	5.0488E-03
C+	1.727E-01	1.6489E-01	1.6447E-01
C++	2.287E-07	1.4154E-04	2.0983E-03
C-	5.471E-07	3.8328E-07	1.1574E-07
CO	9.506E-06	4.2017E-08	3.878E-09
CO+	5.9407E-04	7.0978E-07	1.2082E-07
CO2	2.304E-17	4.0148E-15	5.0215E-17
C2	9.077E-08	2.0411E-06	1.7224E-10

$$P_1 = 5.00E+00 \text{ N/SQ-M, US1} = 1.20E+04 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4037E+02	1.9881E+04	3.0371E+04
T	3.5634E+01	5.6084E+01	6.1450E+01
RHO	1.8541E+01	1.3937E+02	1.5740E+02
H	-7.2242E+00	-1.4491E+01	-1.6470E+01
A	1.0890E+01	1.6298E+01	1.7855E+01
S	2.9405E+00	3.2974E+00	3.293E+00
Z	3.5377E+00	5.0041E+00	5.378E+00
GAME	9.2011E-01	9.4412E-01	9.6498E-01
U	4.2007E+01	4.5592E+00	5.8171E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.7844E-01	4.0119E-01	4.4221E-01
O	5.1691E-01	1.7273E-01	1.0039E-01
O+	3.328E-02	2.7027E-01	2.7143E-01
O++	7.5731E-13	4.1690E-07	2.319E-06
D-	4.2794E-06	8.7227E-06	5.1829E-06
O2-	8.522E-07	1.886E-07	5.1888E-08
O2	5.248E-07	1.8847E-06	6.8856E-07
O2+	1.4351E-11	2.2347E-11	7.2426E-12
C	1.325E-01	2.842E-02	1.574E-02
C+	1.4217E-01	1.7407E-01	1.7048E-01
C++	2.877E-08	4.775E-05	1.8218E-04
C-	7.0198E-07	9.3628E-07	5.4781E-07
CO	4.527E-04	4.7607E-07	1.0875E-07
CO+	9.7918E-06	2.2841E-06	9.942E-07
CO2	1.8389E-11	9.1217E-14	5.9637E-18
C2	3.863E-07	1.729E-08	3.855E-09

$$P_1 = 5.00E+00 \text{ N/SQ-M, US1} = 1.2E+04 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0700E+02	4.7584E+04	6.3847E+04
T	4.2202E+01	5.4215E+01	6.0211E+01
RHO	1.827E+01	1.2799E+02	1.3318E+02
H	-9.4204E+00	-1.8555E+01	-2.1721E+01
A	1.231E+01	1.9377E+01	2.2003E+01
S	3.1642E+00	3.551E+00	3.6963E+00
Z	4.1370E+00	5.6797E+00	5.9771E+00
GAME	9.1321E-01	9.9377E-01	1.0098E+00
U	4.7220E+01	5.7839E+00	7.4917E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.7427E-01	4.718E-01	4.9816E-01
O	3.8979E-01	4.900E-02	1.1119E-02
O+	5.440E-02	3.0304E-01	2.2761E-01
O++	1.1187E-10	2.2675E-05	2.7687E-04
D-	3.9537E-04	1.9209E-06	3.0006E-07
O2-	7.1073E-07	8.8441E-09	2.9714E-10
O2	5.937E-07	7.249E-07	3.7780E-08
O2+	6.714E-12	9.7864E-13	2.4805E-14
C	6.2091E-02	1.688E-03	2.539E-03
C+	1.747E-01	1.6743E-01	1.561E-01
C++	5.094E-07	4.719E-04	9.0903E-07
C-	4.5350E-07	2.0843E-07	3.878E-08
CO	4.7107E-04	1.5503E-08	4.3924E-10
CO+	4.1501E-06	3.0782E-07	3.2375E-06
CO2	8.8894E-12	4.916E-15	1.8008E-18
C2	4.6428E-08	5.910E-10	2.2781E-12

$$P_1 = 5.00E+00 \text{ N/SQ-M, US1} = 1.2E+04 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6044E+02	4.1784E+04	5.4434E+04
T	3.726E+01	5.887E+01	6.5802E+01
RHO	1.8407E+01	1.2540E+02	1.4721E+02
H	-7.9347E+00	-1.5798E+01	-1.8238E+01
A	1.1374E+01	1.712E+01	1.8125E+01
S	3.0160E+00	3.2877E+00	3.7149E+00
Z	3.8002E+00	5.2449E+00	5.4194E+00
GAME	9.1349E-01	9.5411E-01	9.8918E-01
U	4.3740E+01	4.8432E+00	6.2467E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.1071E-01	4.2811E-01	4.6421E-01
O	4.776E-01	1.2859E-01	5.8652E-02
O+	3.0509E-02	2.5872E-01	2.9724E-01
O++	5.1872E-12	1.3979E-04	1.442E-05
D-	4.2535E-04	6.0991E-04	2.631E-06
O2-	6.0507E-07	7.9731E-08	1.472E-08
O2	5.807E-07	6.2744E-07	3.471E-07
O2+	1.3206E-11	1.0344E-11	1.8794E-12
C	1.0289E-01	1.8289E-02	9.454E-03
C+	1.4020E-01	1.7218E-01	1.789E-01
C++	8.8034E-08	1.7271E-04	5.260E-04
C-	4.7527E-07	5.351E-07	2.6980E-07
CO	3.0661E-05	1.6670E-07	2.4580E-08
CO+	1.370E-06	1.3421E-06	4.7080E-07
CO2	6.2174E-12	2.2078E-14	1.0922E-15
C2	1.8340E-07	5.5915E-09	9.9268E-10

$$P_1 = 5.00E+00 \text{ N/SQ-M, US1} = 1.40E+04 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2578E+02	5.1103E+04	6.8812E+04
T	4.1619E+01	7.2066E+01	8.6949E+01
RHO	1.8240E+01	1.2121E+02	1.2934E+02
H	-1.0207E+01	-2.0019E+01	-2.3038E+01
A	1.2787E+01	2.0780E+01	2.2743E+01
S	3.2384E+00	3.6268E+00	3.7722E+00
Z	4.3047E+00	5.847E+00	6.1170E+00
GAME	9.1267E-01	1.0230E+00	9.7243E-01
U	4.8843E+01	7.3712E+00	8.0743E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.0219E-01	4.8704E-01	5.0943E-01
O	3.4403E-01	2.5958E-02	5.9307E-02
O+	1.1957E-01	7.1793E-01	3.1758E-01
O++	3.9748E-10	1.7063E-04	3.4483E-02
D-	2.9330E-04	1.9209E-06	1.2879E-07
O2-	2.1472E-07	7.036E-07	6.6590E-11
O2	5.7977E-07	3.6598E-08	1.4442E-08
O2+	5.3794E-12	1.323E-12	4.712E-13
C	4.881E-02	4.4449E-03	1.4885E-03
C+	1.8743E-01	1.4413E-01	1.3866E-01
C++	3.0649E-04	2.2584E-02	2.244E-02
C-	3.7217E-07	8.8847E-08	1.8858E-08
CO	2.0174E-06	1.0995E-07	8.9932E-11
CO+	3.0747E-06	4.009E-07	1.123E-06
CO2	3.6326E-12	2.641E-17	1.1878E-19
C2	7.4504E-08	1.187E-10	4.8784E-12

Table 1. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

$P_1 = 5.00E+00 \text{ N/SQ-M, USL} = 1.45E+04 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5095E+03	5.4248E+04	7.2778E+04
T	4.2927E+01	7.9981E+01	9.2083E+01
RHD	1.8202E+01	1.1820E+02	1.2786E+02
M	-1.1021E+01	-2.1199E+01	-2.4326E+01
A	1.72AAE+01	2.1872E+01	2.3655E+01
S	3.2130E+00	3.7127E+00	3.9530E+00
Z	4.4708E+00	5.5728E+00	6.2644E+00
GAME	9.13E-01	1.0127E+00	1.1326E+00
U	9.0706E+01	8.0146E+00	8.4166E+00

SPECIES	MOLE FRACTIONS		
E-	3.3042E-01	4.9779E-01	5.2137E-01
O	3.0100E-01	1.1074E-02	7.9253E-02
O+	1.4844E-01	3.2207E-01	3.0709E-01
N++	1.2507E-09	7.4437E-04	8.1446E-03
N-	3.1618E-16	2.7111E-07	7.4351E-08
O2	1.5244E-07	2.6745E-10	2.4814E-11
O2+	5.3566E-07	3.2596E-08	7.8131E-09
O2-	7.6588E-17	2.0047E-17	1.6034E-15
C	3.9153E-02	2.4392E-02	1.0100E-03
C+	1.8893E-01	1.5698E-01	1.1904E-01
C++	2.0072E-06	8.7443E-07	3.9446E-07
C-	2.9920E-07	3.4325E-08	1.0000E-07
CO	1.2540E-04	3.0707E-10	3.0045E-11
CO+	2.2619E-04	7.0037E-08	5.1032E-09
CO2	1.4977E-13	1.2733E-14	7.1204E-20
C2	1.3730E-08	2.0022E-17	1.8474E-12

$P_1 = 5.00E+00 \text{ N/SQ-M, USL} = 1.50E+04 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7501E+03	5.2555E+04	7.8780E+04
T	4.4744E+01	9.4078E+01	9.6320E+01
RHD	1.8155E+01	1.1120E+02	1.2729E+02
M	-1.1864E+01	-2.2076E+01	-2.7212E+01
A	1.3755E+01	2.2876E+01	2.4165E+01
S	3.2387E+00	3.7855E+00	3.9260E+00
Z	4.6581E+00	6.0532E+00	6.8228E+00
GAME	9.1613E-01	9.7671E-01	1.0750E-01
U	9.2444E+01	8.6547E+00	8.7170E+00

SPECIES	MOLE FRACTIONS		
E-	3.4005E-01	5.0777E-01	5.3290E-01
O	2.5791E-01	6.1173E-01	2.8792E-01
O+	1.7144E-01	3.1940E-01	2.8346E-01
N++	3.6202E-09	2.4988E-03	1.4572E-02
N-	2.7647E-06	1.2180E-07	4.0517E-08
O2	1.0274E-07	1.8701E-11	1.1804E-11
O2+	4.7604E-07	1.7593E-08	4.8878E-08
O2-	2.5544E-12	4.1639E-17	7.2004E-16
C	2.9971E-02	1.4842E-02	7.7124E-09
C+	1.8441E-01	1.6214E-01	1.0020E-01
C++	3.6925E-06	7.0795E-07	5.4402E-02
C-	2.5770E-07	1.5737E-08	5.7212E-09
CO	6.5459E-07	8.9428E-11	1.7220E-11
CO+	1.6405E-08	1.1981E-08	2.8996E-09
CO2	6.0505E-14	1.1677E-10	4.4731E-21
C2	7.1783E-09	6.7176E-17	6.0487E-13

$P_1 = 7.00E+00 \text{ N/SQ-M, USL} = 1.66E+04 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0024E+03	6.1079E+04	8.1079E+04
T	4.8734E+01	8.5604E+01	8.3762E+01
RHD	1.8088E+01	1.0943E+02	1.0010E+02
M	-1.2734E+01	-2.4644E+01	-1.2707E+02
A	1.4264E+01	2.7094E+01	-2.9119E+01
S	4.0524E+00	3.8743E+00	3.9905E+00
Z	4.8301E+00	4.2237E+00	6.5654E+00
GAME	1.1532E-01	9.7474E-01	9.3849E-01
U	9.1622E+01	8.9622E+00	9.0093E+00

SPECIES	MOLE FRACTIONS		
E-	3.8914E-01	5.1805E-01	5.4451E-01
O	2.1624E-01	4.0828E-01	2.7163E-03
O+	1.9703E-01	3.1094E-01	2.7749E-01
N++	9.0221E-09	6.2073E-07	2.9999E-02
N-	2.3750E-04	7.0644E-08	3.1299E-08
O2	6.6524E-08	3.4431E-11	7.4460E-08
O2+	4.2278E-07	7.4460E-09	3.1995E-07
O2-	1.7005E-12	1.4400E-15	3.6581E-16
C	2.3640E-02	1.7189E-02	5.2239E-04
C+	1.8310E-01	1.2470E-01	8.2478E-02
C++	6.4451E-06	1.2470E-01	6.7774E-02
C-	1.8928E-07	8.4613E-09	3.7634E-09
CO	3.2790E-07	3.0545E-11	4.0083E-12
CO+	1.1157E-06	6.2777E-09	1.5107E-09
CO2	3.2719E-14	2.1576E-20	1.8778E-21
C2	3.8805E-09	1.8910E-12	2.4262E-13

$P_1 = 7.00E+00 \text{ N/SQ-M, USL} = 1.60E+04 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.2444E+03	4.6671E+04	8.8706E+04
T	4.7167E+01	9.2484E+01	1.0257E+02
RHD	1.7902E+01	1.0845E+02	1.2686E+02
M	-1.3474E+01	-2.3747E+01	-3.1068E+01
A	1.6767E+01	2.3747E+01	2.4574E+01
S	3.5777E+00	3.6238E+00	4.0709E+00
Z	4.0220E+00	4.2665E+00	6.7822E+00
GAME	9.2780E-01	9.4544E-01	9.3522E-01
U	9.5913E+01	9.2840E+00	9.2843E+00

SPECIES	MOLE FRACTIONS		
E-	4.0272E-01	5.2888E-01	5.4877E-01
O	1.7661E-01	2.9741E-02	1.7494E-09
O+	2.2182E-01	2.9931E-01	2.8974E-01
N++	2.4595E-08	1.1643E-02	3.8088E-02
N-	1.9039E-04	4.1845E-08	2.0048E-08
O2	6.2738E-08	1.1641E-11	2.1548E-12
O2+	7.2971E-07	4.7260E-09	3.5744E-09
O2-	1.0871E-12	6.2338E-16	2.0346E-16
C	1.8183E-02	7.3136E-04	1.0647E-04
C+	1.8087E-01	1.0646E-01	6.9027E-02
C++	1.1848E-06	6.9027E-02	7.8607E-02
C-	1.4416E-07	2.4762E-09	2.5728E-09
CO	1.4000E-07	1.3708E-11	3.0447E-12
CO+	7.9051E-07	3.7606E-09	8.7822E-10
CO2	8.7040E-15	5.6379E-21	6.5119E-22
C2	7.0605E-09	4.2777E-13	1.2074E-13

Table I. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SQ-M. US1 = 1.00E+01 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5750E+01	6.7533E+01	1.1241E+02
T	2.5812E+00	3.4570E+00	9.0724E+00
RHM	2.7120E+00	1.0514E+01	2.7601E+01
H	4.4419E-01	9.3199E-01	8.8129E-01
A	1.9478E+00	1.7737E+00	1.9262E+00
S	1.2648E+00	1.0763E+00	1.0929E+00
Z	1.2003E+00	1.0000E+00	1.0000E+00
GAME	9.2819E-01	9.1622E-01	9.1108E-01
H	1.3953E+00	9.8627E-01	8.7892E-01

SPECIES	MOLE FRACTIONS		
F-	1.5208E-49	4.5384E-40	1.6340E-31
H	2.3031E-13	1.4776E-10	8.6777E-09
H+	1.4189E-36	9.4628E-33	6.5378E-30
He	0.	0.	0.
O-	2.6141E-57	2.0311E-66	4.2771E-37
O2	4.3992E-04	4.5994E-04	4.4910E-04
O2+	1.7597E-18	1.7597E-18	1.5976E-18
O2-	3.0357E-51	4.9564E-42	1.9002E-34
C	7.4628E-51	6.5527E-42	6.3734E-34
C+	4.1170E-61	9.3444E-53	2.3627E-45
C+	0.	0.	0.
C-	1.2724E-95	9.7166E-79	6.5079E-03
CO	1.6158E-10	1.5593E-07	1.4387E-05
CO+	2.3571E-35	5.1619E-31	1.0825E-27
CO2	9.7956E-01	9.9956E-01	9.9956E-01
C2	4.5771E-25	3.9751E-62	2.9452E-50

P1 = 1.00E+01 N/SQ-M. US1 = 1.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1833E+01	2.9119E+02	4.1129E+02
T	4.8537E+00	6.4974E+00	6.9733E+00
RHM	8.8157E+00	4.4013E+01	9.6095E+01
H	8.9507E-01	7.4428E-01	6.9735E-01
A	2.0513E+00	2.3856E+00	2.4812E+00
S	1.1487E+00	1.1786E+00	1.1991E+00
Z	1.0003E+00	1.0183E+00	1.0355E+00
GAME	9.0393E-01	8.6018E-01	8.5256E-01
H	5.2502E+00	1.0532E+00	9.6170E-01

SPECIES	MOLE FRACTIONS		
F-	3.5597E-29	1.8837E-15	3.3361E-14
H	2.9697E-07	3.5326E-04	1.1900E-03
H+	7.1477E-28	1.3280E-22	9.7049E-20
He	0.	1.0172E-09	1.6471E-06
O-	5.0785E-72	5.2845E-19	2.9778E-17
O2	7.0323E-04	1.8093E-02	3.3472E-02
O2+	1.7588E-18	1.8917E-15	3.3550E-14
O2-	1.5286E-25	5.8212E-18	1.5995E+16
C	1.7418E-26	1.6489E-19	1.8625E-17
C+	3.3013E-39	1.2900E-29	1.0789E-27
C+	0.	1.1818E-72	6.6094E-70
C-	7.5028E-67	1.4296E-33	1.5325E-31
CO	5.2715E-04	1.5674E-02	6.7264E+02
CO+	2.4777E-29	3.4257E-20	2.4137E-18
CO2	9.9877E-01	9.4588E-01	8.9805E-01
C2	1.7542E-39	3.3129E-29	4.0876E-27

P1 = 1.00E+01 N/SQ-M. US1 = 1.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1957E+00	1.2172E+02	1.9013E+02
T	1.5050E+00	4.5011E+00	5.2229E+00
RHM	9.1903E-01	2.7084E+01	3.6358E+01
H	1.7137E+00	8.6219E-01	8.2799E-01
A	1.0726E+00	2.0709E+00	2.1638E+00
S	1.0726E+00	1.1102E+00	1.1284E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.1704E-01	9.3272E-01	8.4539E-01
H	3.8031E+00	1.2094E+00	2.3543E-01

SPECIES	MOLE FRACTIONS		
F-	1.2358E-39	9.6737E-24	4.8793E-20
H	2.1341E-13	4.0315E-08	2.9627E-06
H+	4.8834E-33	1.9089E-29	1.4565E-26
He	0.	0.	0.
O-	3.5192E-46	1.4700E-78	2.4516E-24
O2	4.3990E-04	5.0391E-04	1.6048E-03
O2+	1.7597E-18	1.7597E-18	1.4065E-18
O2-	4.3102E-42	8.9550E-27	7.7212E-23
C	1.4649E-41	1.9639E-21	1.3127E-24
C+	1.1547E-57	8.4322E-49	2.1445E-37
C+	0.	0.	0.
C-	7.8407E-78	4.3527E-49	6.0103E-43
CO	1.7185E-08	1.3478E-04	2.3393E-03
CO+	3.2292E-31	1.5754E-26	2.4232E-24
CO2	9.9956E-01	9.9956E-01	9.9606E-01
C2	1.7869E-61	1.0338E-40	8.8226E-37

P1 = 1.00E+01 N/SQ-M. US1 = 1.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.2194E+01	4.1631E+02	5.6309E+02
T	5.4168E+00	7.1683E+00	7.5503E+00
RHM	9.8705E+00	5.9469E+01	6.9641E+01
H	8.1420E-01	6.7154E-01	6.1941E-01
A	2.1919E+00	2.5258E+00	2.6184E+00
S	1.1752E+00	1.2147E+00	1.2367E+00
Z	1.0003E+00	1.0470E+00	1.0709E+00
GAME	8.8434E-01	8.4999E-01	8.4793E-01
H	9.9679E+00	1.0393E+00	9.5305E-01

SPECIES	MOLE FRACTIONS		
F-	1.7941E-18	9.2018E-14	5.4165E-13
H	1.6417E-05	2.0053E-03	4.2604E-03
H+	1.7790E-25	3.7947E-19	5.8618E-18
He	0.	1.7596E-02	9.0018E-09
O-	4.1053E-23	9.9316E-17	1.0299E-15
O2	3.9961E-03	4.3341E-02	6.2312E-02
O2+	2.8689E-18	9.2572E-14	5.4614E-13
O2-	6.7902E-22	4.6170E-16	3.5981E-15
C	7.1748E-23	6.7651E-17	8.4968E-16
C+	6.0638E-36	4.7297E-27	3.1747E-25
C+	2.7215E-90	7.4434E-67	7.7740E-64
C-	3.2942E-61	8.4877E-31	7.6589E-29
CO	3.3315E-03	8.7846E-02	1.2206E-01
CO+	8.5176E-24	8.1992E-18	9.1644E-17
CO2	9.9006E-01	8.6681E-01	8.0536E-01
C2	1.7234E-35	1.8538E-26	8.5526E-25

P1 = 1.00E+01 N/SQ-M. US1 = 1.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1279E+01	1.9513E+02	2.8981E+02
T	3.8891E+00	6.6036E+00	6.2357E+00
RHM	1.0420E+00	3.4764E+01	4.5948E+01
H	3.4932E-01	3.0771E-01	7.6549E+01
A	1.8938E+00	2.2296E+00	2.3387E+00
S	1.1765E+00	1.0032E+00	1.1033E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.1249E-01	8.8441E-01	8.6732E-01
H	4.5382E+00	1.0512E+00	9.6262E-01

SPECIES	MOLE FRACTIONS		
F-	1.4495E-32	5.1765E-18	2.3599E-16
H	5.3959E-09	1.3915E-05	1.4319E-04
H+	2.1176E-30	2.5435E-24	1.6362E-21
He	0.	0.	2.1362E-90
O-	1.5729E-34	1.6562E-27	3.4866E-19
O2	4.4369E-04	1.6197E-03	1.1580E-02
O2+	1.7597E-18	1.7597E-18	2.3526E-16
O2-	1.2410E-45	4.4391E-18	1.2605E-18
C	6.5818E-55	7.2472E-22	2.8709E-19
C+	2.8629E-66	1.4148E-33	1.1873E-29
C+	0.	3.1371E-82	3.2579E-73
C-	7.9584E-63	5.0190E-38	1.1638E-33
CO	7.9627E-06	6.4163E-03	2.2431E-02
CO+	2.7595E-18	1.2545E-22	3.6617E-20
CO2	9.9956E-01	9.9993E-01	9.9585E-01
C2	1.0224E-51	4.3132E-33	4.2246E-29

P1 = 1.00E+01 N/SQ-M. US1 = 2.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4872E+01	5.8330E+02	7.6353E+02
T	6.8735E+00	7.7234E+00	8.0599E+00
RHM	1.0577E+01	6.9510E+01	8.4908E+01
H	7.7265E-01	5.8897E-01	9.3113E-01
A	2.3001E+00	2.6642E+00	2.7606E+00
S	1.2023E+00	1.2532E+00	1.2769E+00
Z	1.0003E+00	1.0864E+00	1.1159E+00
GAME	8.6271E-01	8.4702E-01	8.4746E-01
H	6.7912E+00	1.0217E+00	9.5270E-01

SPECIES	MOLE FRACTIONS		
F-	3.1150E-16	1.1904E-12	4.2033E-12
H	2.0357E-04	6.1706E-03	1.0777E-02
H+	1.2778E-22	1.8625E-17	1.1125E-16
He	1.5440E-98	7.9473E-78	3.8361E-73
O-	4.0289E-79	2.7080E-15	1.3771E-14
O2	1.1034E-02	7.3778E-02	9.3657E-02
O2+	3.1358E-16	1.2009E-12	6.2505E-12
O2-	3.0780E-19	8.0980E-15	3.4851E-14
C	2.6258E-20	2.4700E-14	1.3733E-14
C+	8.1366E-32	1.4711E-24	1.4483E-23
C+	1.7408E-79	8.3764E-63	3.0269E-59
C-	1.6778E-36	3.8396E-28	4.9088E-27
CO	2.6473E-07	1.5292E-01	1.9710E-01
CO+	4.6441E-21	2.5500E-16	1.3178E-15
CO2	9.9136E-01	7.6713E-01	6.9866E-01
C2	2.1773E-31	3.5589E-24	3.6330E-23

Table I. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.02E+01 N/50-M, US1 = 2.20E+03 M/SEC				P1 = 1.00E+01 N/50-M, US1 = 2.80E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.9069E+01	8.0106E+02	1.3240E+03	P	1.3027E+02	1.7801E+03	2.1886E+03
T	6.5441E+00	8.2217E+00	8.5375E+00	T	7.4772E+00	9.6065E+00	9.9477E+00
RHD	1.1727E+01	8.5914E+01	1.0257E+02	RHD	1.5392E+01	1.4035E+02	1.5983E+02
H	7.7445E-01	4.9600E-01	4.3237E-01	A	2.6709E+00	3.3016E+00	3.4317E+00
S	1.2331E+00	2.8121E+00	2.9115E+00	S	1.1215E+00	1.4300E+00	1.4619E+00
Z	1.0305E+00	1.1347E+00	1.1695E+00	Z	1.1168E+00	1.3245E+00	1.3765E+00
GAME	8.5079E-01	8.4764E-01	8.4932E-01	GAME	8.4305E-01	8.5673E-01	8.6006E-01
I	7.4461E+00	1.0178E+01	9.6342E-01	I	9.5872E+00	1.0639E+01	1.0310E+01

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
F-	7.7970E-16	8.2740E-12	2.2376E-11	F-	1.4781E-12	4.9954E-10	1.0574E-09
O	9.4655E-04	1.4039E-02	2.1453E-02	O	1.1371E-02	7.3007E-02	9.0720E-02
N+	7.3711E-20	3.5945E-16	1.2984E-15	N+	3.2785E-17	1.9345E-13	5.3863E-13
N++	1.2936E-03	4.5245E-02	2.7334E-08	N++	8.9470E-07	1.7416E-01	7.6502E-08
He	2.3105E-18	3.2496E-14	1.1538E-13	He	1.8181E-15	5.5727E-12	1.4162E-11
He+	2.9070E-02	1.0907E-01	1.2384E-01	He+	9.3564E-02	1.7233E-01	1.7706E-01
He++	7.8133E-15	3.3731E-12	2.2699E-11	He++	1.5831E-12	5.0929E-10	1.0402E-09
Ne	1.0611E-17	6.9490E-14	2.2034E-13	Ne	3.4931E-15	5.2723E-12	1.1606E-11
C	1.4784E-18	3.8193E-14	1.3938E-13	C	2.7502E-15	1.2865E-11	3.5386E-11
C+	5.2719E-29	1.0164E-22	3.2245E-22	C+	2.1187E-24	6.8701E-19	1.5973E-10
C++	3.7421E-73	3.5869E-58	3.2385E-55	C++	1.1542E-67	1.8385E-49	1.3646E-46
Si	1.7967E-33	3.8635E-26	1.5669E-25	Si	1.7511E-28	4.6291E-22	1.5652E-21
Si+	2.9498E-19	2.2340E-01	2.6838E-01	Si+	1.9771E-01	6.1701E-01	6.5024E-01
Si++	5.8269E-07	2.2340E-01	2.6838E-01	Si++	7.9251E-16	8.9824E-13	2.3937E-12
S	1.2592E+00	1.3322E+00	1.3589E+00	S	6.9751E-01	3.3765E-01	2.7595E-01
S+	1.2544E+00	1.1904E+00	1.2110E+00	S+	1.8641E-24	6.5530E-19	2.2699E-18
S++	8.8504E-29	1.8227E-22	4.5339E-22	S++			

P1 = 1.02E+01 N/50-M, US1 = 2.40E+03 M/SEC				P1 = 1.02E+01 N/50-M, US1 = 3.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4729E+01	1.0746E+03	1.1482E+03	P	1.4012E+02	2.2202E+03	2.7081E+03
T	6.9367E+00	1.0030E+00	9.7047E+00	T	7.8548E+00	1.0074E+01	1.0445E+01
RHD	1.2951E+01	1.0338E+02	1.2164E+02	RHD	1.6549E+01	1.5769E+02	1.7758E+02
H	6.7164E-01	3.9482E-01	3.2342E-01	H	2.7657E+00	3.6871E+00	3.6320E+00
S	2.4875E+00	2.9656E+00	3.1728E+00	S	1.3548E+00	1.4789E+00	1.5132E+00
Z	1.2544E+00	1.1904E+00	1.2110E+00	Z	1.1543E+00	1.4013E+00	1.4601E+00
GAME	8.4567E-01	8.4977E-01	8.5182E-01	GAME	8.4365E-01	8.6136E-01	8.6932E-01
I	8.1947E+00	1.2237E+01	7.7634E-01	I	1.3430E+01	1.0968E+01	1.0708E+01

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
F-	6.7815E-14	3.9549E-11	9.3898E-11	F-	6.6464E-12	1.4667E-09	3.0654E-09
O	2.7822E-03	2.8861E-02	3.8349E-02	O	1.9009E-02	1.0926E-01	1.4119E-01
N+	2.7277E-13	3.8337E-15	1.1899E-16	N+	1.0710E-14	9.6538E-13	3.1884E-12
N++	6.2405E-05	7.2970E-08	2.3346E-06	N++	5.4897E-07	2.7000E-06	9.7007E-05
He	3.3311E-17	2.3774E-13	7.0881E-13	He	8.6227E-15	2.0136E-11	9.0193E-11
He+	6.9285E-02	1.3142E-01	1.4907E-01	He+	1.4907E-01	1.7147E-01	1.7621E-01
He++	6.7900E-14	6.2138E-11	6.5899E-11	He++	4.5633E-12	1.6702E-09	3.1316E-09
Ne	1.1431E-16	3.8178E-13	1.0262E-12	Ne	1.1474E-14	1.4747E-11	3.0120E-11
C	1.3566E-17	1.4466E-13	1.0469E-12	C	9.6930E-15	6.8151E-11	1.7705E-10
C+	2.2512E-27	2.8295E-21	5.8982E-21	C+	2.5190E-26	4.5613E-18	2.3890E-17
C++	4.9775E-67	3.1767E-55	5.5262E-52	C++	6.3511E-59	2.2009E-45	3.6142E-44
Si	1.7533E-31	1.3722E-24	6.3962E-24	Si	7.3400E-28	3.0038E-21	2.2395E-20
Si+	1.0304E-01	2.8371E-01	3.3697E-01	Si+	2.7831E-01	6.6370E-01	6.8901E-01
Si++	6.6675E-18	2.6787E-14	8.4995E-14	Si++	1.3127E-15	3.8726E-12	1.1148E-11
S	8.4747E-01	5.4540E-01	4.7501E-01	S	6.1765E-01	2.4967E-01	1.9559E-01
S+	3.4415E-27	4.2651E-21	1.4671E-20	S+	3.1544E-24	4.8132E-10	2.2023E-17

P1 = 1.00E+01 N/50-M, US1 = 2.60E+03 M/SEC				P1 = 1.02E+01 N/50-M, US1 = 3.20E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1180E+02	1.4033E+03	1.7306E+03	P	1.7133E+02	2.7166E+03	3.2899E+03
T	7.2727E+00	9.1488E+00	9.4711E+00	T	8.1730E+00	1.0500E+01	1.0072E+01
RHD	1.4191E+01	1.2276E+02	1.4105E+02	RHD	1.7644E+01	1.7331E+02	1.9338E+02
H	6.1429E-01	2.8343E-01	2.0444E-01	A	4.1463E-01	-1.0237E-01	-2.1255E-01
S	2.5782E+00	1.1233E+00	1.2495E+00	S	2.4647E+00	3.2059E+00	3.8802E+00
Z	1.2949E+00	1.1233E+00	1.1412E+00	Z	1.1895E+00	1.5294E+00	1.5661E+00
GAME	8.4747E-01	1.2544E+00	1.3001E+00	GAME	8.4474E-01	1.8845E+00	1.5502E+00
I	8.9424E+00	1.3322E+01	1.0006E+01	I	1.1169E+01	8.6667E-01	0.7148E-01

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
F-	3.4189E-13	1.5706E-10	3.3435E-10	F-	1.4014E-11	3.8701E-09	8.2761E-09
O	6.1037E-03	4.6107E-02	6.2901E-02	O	2.9517E-02	1.5959E-01	1.9649E-01
N+	9.1829E-13	3.0218E-14	8.3851E-15	N+	8.7782E-16	3.9905E-12	1.7885E-11
N++	2.3302E-07	1.9579E-04	6.1154E-04	N++	2.2846E-03	2.8639E-02	2.8639E-02
He	2.2538E-16	1.2863E-12	3.4652E-12	He	7.7535E-16	6.4472E-11	1.9548E-10
He+	7.1329E-02	1.6570E-01	1.8827E-01	He+	1.3483E-01	1.7105E-01	1.5895E-01
He++	2.9247E-13	1.5932E-10	3.4105E-10	He++	1.4071E-11	3.9937E-09	6.4309E-09
Ne	6.8600E-16	1.5722E-12	3.7961E-12	Ne	3.4940E-14	3.5610E-11	6.6573E-11
C	1.3902E-16	2.3370E-12	6.5122E-12	C	5.7704E-14	2.2842E-10	8.4595E-10
C+	2.2959E-25	5.1718E-20	1.0979E-19	C+	1.9720E-22	2.8281E-17	3.4981E-16
C++	3.4645E-65	6.4251E-52	3.6870E-49	C++	2.9397E-68	8.7933E-63	6.4146E-62
Si	1.4538E-29	2.9837E-23	9.0382E-23	Si	2.1415E-26	1.1206E-20	2.7190E-19
Si+	1.4789E-01	3.5494E-01	3.9197E-01	Si+	2.9755E-01	4.9711E-01	5.1382E-01
Si++	7.7327E-17	1.7515E-13	4.7543E-13	Si++	5.2953E-15	1.4471E-11	4.9645E-11
S	7.4665E-01	4.3374E-01	3.7007E-01	S	5.1845E-01	1.7624E-01	1.3074E-01
S+	1.7118E-25	6.0233E-20	2.0022E-19	S+	1.2317E-22	2.0740E-17	2.1379E-16

Table I. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

$P_1 = 1.00F+01 \text{ N/50-M.} \quad U_{S1} = 3.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9392E+02	3.2599E+03	3.9374E+03
T	8.3794E+00	1.1075E+01	1.1547E+01
RHD	1.8658E+01	1.8704E+02	2.0688E+02
H	3.3895E-01	-2.4878E-01	-3.7231E-01
A	2.9661E+00	3.9004E+00	4.0902E+00
S	1.4255F+00	7.3810E+00	1.6203E+00
Z	1.7405F+00	1.5738E+00	1.6483E+00
GAME	8.4636E-01	1.7285E-01	8.7898E-01
U	1.1906E+01	1.1891E+00	1.1794E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.3081E-11	1.0087E-08	2.1258E-08
H	4.3382E-02	2.1145E-01	2.6133E-01
O+	2.5161E-15	2.6266E-11	9.9813E-11
O++	2.4868F+68	5.8775E-52	9.2432E-50
D-	7.7616E-14	1.8863E-10	4.3314E-10
O2	1.5084E-01	1.5340E-01	1.3222E-01
O2+	3.3277E-11	1.0254E-08	2.1491E-08
O2-	8.6563F+14	7.3153E-11	1.2537E-10
C	1.6708E-13	1.1806E-09	4.0081E-09
C+	1.1354E-22	8.8559E-16	5.2966E-15
C++	5.2884E-55	1.0922F+41	8.2238E-40
C-	3.1065E-26	4.5317E-19	3.0623E-18
CO	3.4439E-01	5.1770E-01	5.2525E-01
CO+	1.5093E-14	6.8558E-11	2.2554E-10
CO2	6.4149E-01	1.1743E-01	8.1196E-02
C2	3.4526E-22	3.4570E-16	2.0548E-15

$P_1 = 1.00F+01 \text{ N/50-M.} \quad U_{S1} = 4.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6979E+02	5.1326E+03	6.2500E+03
T	9.1459E+00	1.3087E+01	1.4510E+01
RHD	2.1114E+01	2.1017E+02	2.2034E+02
H	8.4473E-02	-7.3967E-01	-9.2465E-01
A	9.3317E+00	4.7141E+00	5.2240E+00
S	1.5409E+00	1.7390E+00	1.7875E+00
Z	1.3967E+00	1.8667E+00	1.9549E+00
GAME	8.5114E-01	9.0970E-01	9.6211E-01
U	1.4900F+01	1.4188E+00	1.4950E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.9911E-10	1.5250E-07	6.1333E-07
H	1.1019E-01	4.1204E-01	4.7088E-01
O+	1.4665E-13	5.0712E-09	8.0775E-08
O++	1.0429E-63	7.0373E-44	1.0113E-38
D-	1.9860E-12	2.6073E-09	7.3277E-09
O2	1.7415E-01	5.2489E-02	1.7797E-02
O2+	3.6069E-10	1.4197E-07	4.1199E-07
O2-	8.0088F+13	2.2971E-10	2.2376E-10
C	6.1196E-12	1.7792E-07	3.5172E-06
C+	7.6785E-19	3.1916E-12	4.7317E-10
C++	4.6688F-51	8.2880E-35	1.1323E-29
C-	3.9972E-23	5.7842E-16	3.0336E-14
CO	4.5787E-01	3.1658E-01	5.0602E-01
CO+	4.4908E-13	8.2990E-09	1.2766E-07
CO2	2.5778E-01	1.8932E-02	5.2933E-03
C2	7.9613E-20	4.3758E-13	3.4420E-11

$P_1 = 1.00E+01 \text{ N/50-M.} \quad U_{S1} = 3.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1786E+02	3.8462E+03	4.6433E+03
T	8.6352F+00	1.1635E+01	1.2206E+01
RHD	1.9570F+01	1.9812E+02	2.1720E+02
H	2.5870F-01	-4.0383E-01	-5.4294E-01
A	3.0728E+00	4.1342F+00	4.3602E+00
S	1.4629E+00	1.6334E+00	1.6756E+00
Z	1.2990F+00	1.6684E+00	1.7514E+00
GAME	8.4829E-01	8.8046E-01	8.8934E-01
U	1.2640E+01	1.2500E+00	1.2522E+00

SPECIES ----- MOLE FRACTIONS -----

E-	8.0427E-11	2.4948E-08	5.3779E-08
H	6.1123E-02	2.7510E-01	3.3265E-01
O+	1.3216E-14	1.5327E-10	6.0450E-10
O++	8.0562F+68	1.5182E-49	2.0349E-47
D-	2.3342E-13	4.9109F-10	1.0937E-09
O2	1.6345E-01	1.2983E-01	9.6637E-02
O2+	8.0797E-11	2.5122E-08	5.3330E-08
O2-	2.0091E-13	1.2828E-10	1.9767E-10
C	6.8433F-13	5.8354F+09	2.2211E-08
C+	8.7880E-21	1.2995F-14	1.0444E-13
C++	1.8131E-54	1.8951E-39	1.3375E-37
C-	1.0846E-24	5.3570F-18	3.6518E-17
CO	3.8734E-01	5.2623F-01	5.2543E-01
CO+	5.6613E-14	3.1507E-10	1.1357E-09
CO2	5.8608E-01	7.2850E-02	4.5284E-02
C2	3.8373E-21	3.6579E-15	2.3805E-14

$P_1 = 1.00F+01 \text{ N/50-M.} \quad U_{S1} = 4.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9776F+02	5.8033E+03	7.3066E+03
T	9.4407E+00	1.4421E+01	1.6809E+01
RHD	2.1746E+01	2.0591E+02	1.9930E+02
H	-9.5000E-03	-9.1977E-01	-1.1552E+00
A	3.4737E+00	5.2033E+00	6.0683E+00
S	1.5814E+00	1.7902E+00	1.8425E+00
Z	1.6557E+00	1.9543E+00	1.9990E+00
GAME	8.5600F-01	9.4064E-01	1.0184E+00
U	1.4826F+01	1.3673F+00	1.4132E+00

SPECIES ----- MOLE FRACTIONS -----

E-	6.9464E-10	5.7035E-07	1.8994E-05
H	1.4232E-01	4.7033E-01	4.9856E-01
O+	4.7515E-13	7.2843F-09	5.3895E-06
O++	1.8291F+60	3.4539E-39	2.9441E-30
D-	2.9879E-12	6.5889F-09	7.3038E-08
O2	1.7103F-01	1.8008E-02	1.3749E-03
O2+	6.9758F-10	3.8954E-07	8.4832E-07
O2-	1.6141F-12	1.9956E-10	2.1054E-10
C	1.5008E-11	4.1005E-06	1.4395E-03
C+	9.7522E-19	3.8182F-10	2.8581E-06
C++	1.9010F+48	4.7388E-30	1.1092E-21
C-	9.6982F-23	2.3713E-14	1.0658E-10
CO	4.4371E-01	5.0609F-01	4.9847E-01
CO+	1.1619E-12	1.1437E-07	9.9712E-06
CO2	2.0297F-01	9.3729F-03	3.5933E-04
C2	2.7673E-19	2.7824E-11	1.6461E-07

$P_1 = 1.00F+01 \text{ N/50-M.} \quad U_{S1} = 3.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4315E+02	4.4756E+03	5.4139E+03
T	8.8883E+00	1.2271E+01	1.3059E+01
RHD	7.0400E+01	2.0637E+02	2.2326E+02
H	5.0219E-01	-4.6756E-01	-7.2582E-01
A	3.1842E+00	4.3953E+00	4.6925E+00
S	1.5013E+00	1.8861E+00	1.7315E+00
Z	1.7411E+00	1.7674E+00	1.8575E+00
GAME	8.5038F-01	8.9080E-01	9.8082E-01
U	1.3372F+01	1.3233E+00	1.3477E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.6782E-10	5.8637E-08	1.4694E-07
H	8.3298E-02	3.4378E-01	4.0579E-01
O+	3.4595E-14	6.4292E-10	4.7620E-09
O++	3.4435F+64	5.3580E-45	1.5459E-43
D-	1.7137E-13	1.1530E-09	2.6370E-09
O2	1.6662F-10	5.8128E-08	1.3721E-07
O2+	4.1575E-13	1.9174E-10	2.4983E-10
O2-	1.7748E-12	2.3257E-08	1.6931E-07
C	1.2189E-20	1.0013E-14	3.3784E-12
C+	1.4436E-51	1.7554E-35	3.9701E-34
C++	4.2538E-01	3.0375E-17	5.9268E-16
C-	4.2538E-01	5.2458E-01	5.1754E-01
CO	1.4309E-13	1.2108E-09	7.8499E-09
CO+	7.1995F-01	4.0997E-02	2.0561E-02
CO2	1.0698E-20	1.5919E-14	4.5063E-13

$P_1 = 1.00E+01 \text{ N/50-M.} \quad U_{S1} = 4.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2706E+02	6.3344E+03	8.1524E+03
T	9.6782F+00	1.7209E+01	2.0553E+01
RHD	2.2969E+01	1.8739E+02	1.9463E+02
H	-1.0804E-01	-1.1063E+00	-1.3818E+00
A	3.5379E+00	5.9888E+00	6.1546E+00
S	1.6228E+00	1.8368E+00	1.8865E+00
Z	1.5180F+02	1.9953E+00	2.0380E+00
GAME	8.5970F-01	1.0376E+00	9.0432E-01
U	1.5550F+01	1.8407F+00	2.3054E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.3638E-09	8.6549E-06	1.7512E-04
H	1.7925E-01	4.9684E-01	5.0893E-01
O+	1.3886E-12	2.6376E-06	2.3690E-05
O++	6.4944E-60	7.9321E-32	1.4895E-26
D-	6.1473E-12	3.9485F-08	3.8502E-07
O2	1.6232E-01	2.1855E-03	4.1104E-04
O2+	1.3679E-09	7.9384E-07	7.1274E-07
O2-	2.3741E-12	1.7131E-10	3.7426E-10
C	4.7382F-11	3.8404F-04	1.8857E-02
C+	6.9281E-18	5.8729E-07	1.0527E-04
C++	7.1238E-48	3.6617E-32	2.9042E-18
C-	1.8288E-11	1.8288E-11	9.1309E-09
CO	5.4578E-01	5.0000E-01	4.7134E-01
CO+	3.2527E-12	4.6738E-06	4.5838E-05
CO2	1.5517E-01	5.8040E-04	9.7462E-05
C2	1.3524E-18	3.0347E-08	9.1390E-06

Table I. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/50-M. US1 = 4.00E+03 M/SEC				P1 = 1.00E+01 N/50-M. US1 = 5.20E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5709E+02	7.0945E+03	9.0780E+03	P	4.5730E+02	9.3378E+03	1.1810E+04
T	9.9595E+00	1.3893E+01	2.1647E+01	T	1.0241E+01	2.2628E+01	2.3631E+01
RHD	2.2679E+01	1.7646E+02	-1.9032E+00	RHD	2.3214E+01	-1.0703E+02	2.1692E+02
H	-2.1115E-01	-1.3014E+00	8.0249E-07	H	-5.4785E-01	-1.9458E+00	-2.3086E+00
A	3.6889E+00	6.0956E+00	6.3317E+00	A	4.1630E+00	6.6017E+00	6.9117E+00
S	1.6650E+00	1.8771E+00	1.9263E+00	S	1.7951E+00	1.9925E+00	2.0446E+00
Z	1.5837E+00	7.2211E+00	2.2960E+00	Z	1.7971E+00	2.1970E+00	2.3039E+00
GAME	8.6279E-01	9.2420E-01	8.8360E-01	GAME	8.7979E-01	8.7668E-01	8.7747E-01
U	1.0771E+01	2.0941E+00	2.0799E+00	U	1.8413E+01	2.2795E+00	2.2114E+00

SPECIES			SPECIES		
	MOLE FRACTIONS			MOLE FRACTIONS	
E-	2.5094E-09	1.0553E-04	E-	1.9493E-08	8.8805E-04
O	2.2117E-01	5.0482E-01	O	3.5542E-01	5.4394E-01
O+	1.6875E-12	1.7668E-05	O+	4.3637E-01	5.7884E-05
D+	3.8074E-97	2.1617E-27	D+	7.6315E-11	5.4370E-24
D-	1.2512E-11	2.3865E-07	D-	1.4493E-06	3.4285E-23
N2	1.4766E-01	4.9191E-04	N2	7.7971E-02	2.1311E-04
O2+	2.5141E-09	7.1149E-07	O2+	1.5274E-08	6.3251E-07
O2-	3.6948E-12	2.7010E-10	O2-	8.5269E-17	7.5616E-10
C	1.1836E-10	1.0889E-02	C	3.1241E-09	8.8199E-02
C+	2.1040E-17	9.3103E-05	C+	4.1044E-13	7.4232E-04
C-	1.2164E-45	9.5868E-19	C-	2.9255E-60	3.0247E-16
CO	2.5614E-21	3.7559E-09	CO	7.7521E-19	1.6329E-13
CO+	5.1590E-01	4.8146E-01	CO	5.2127E-01	3.9040E-07
CO-	7.8692E-12	3.4289E-05	CO+	1.8177E-10	3.0296E-01
CO2	1.1578E-01	1.7117E-04	CO2	3.4946E-02	1.0828E-04
C2	4.7874E-18	3.9425E-06	C2	4.0146E-16	2.4595E-05

P1 = 1.00E+01 N/50-M. US1 = 4.80E+03 M/SEC				P1 = 1.00E+01 N/50-M. US1 = 5.40E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8962E+02	7.8339E+03	1.0001E+04	P	4.9291E+02	1.0025E+04	1.2613E+04
T	1.0760E+01	2.1158E+01	2.2431E+01	T	1.1432E+01	2.3193E+01	2.4168E+01
RHD	2.2982E+01	1.7869E+02	2.0449E+02	RHD	2.3047E+01	-1.9071E+02	2.1926E+02
H	-3.1887E-01	-1.5074E+00	-1.8301E+00	H	-6.6916E-01	-2.1758E+00	-2.5592E+00
A	3.8739E+00	6.2381E+00	6.5222E+00	A	4.3493E+00	6.7873E+00	7.1104E+00
S	1.7079E+00	1.9154E+00	1.9656E+00	S	1.8189E+00	2.3323E+00	2.3881E+00
Z	1.6523E+00	2.0712E+00	2.1610E+00	Z	1.8709E+00	2.2663E+00	2.3805E+00
GAME	8.6705E-01	8.8795E-01	8.7828E-01	GAME	8.9265E-01	8.7842E-01	8.7893E-01
U	1.6989E+01	2.1888E+00	2.1274E+00	U	1.9115E+01	2.3138E+00	2.2485E+00

SPECIES			SPECIES		
	MOLE FRACTIONS			MOLE FRACTIONS	
E-	4.6544E-09	3.1341E-04	E-	3.0497E-08	1.2940E-03
O	2.6687E-01	5.1678E-01	O	4.1545E-01	5.5754E-01
O+	1.7446E-11	3.1553E-05	O+	9.2375E-10	5.7793E-01
O++	2.5777E-56	8.3169E-26	O++	1.9444E-48	1.0620E-04
D-	2.1845E-11	5.7113E-07	D-	1.3375E-10	1.1609E-22
N2	1.2825E-01	3.0490E-04	N2	9.0043E-02	1.9992E-04
O2+	4.6485E-09	6.3388E-07	O2+	2.9399E-08	6.5695E-06
O2-	5.2978E-12	4.1886E-10	O2-	1.9226E-04	1.8104E-04
C	1.1747E-10	3.4220E-02	C	1.2963E-08	1.9226E-04
C+	1.7927E-10	3.4220E-02	C+	3.9947E-14	1.0837E-03
C-	9.1332E-45	1.4294E-17	C-	7.8022E-98	8.5327E-16
CO	1.4318E-23	2.4446E-08	CO	1.9046E-18	9.0195E-15
CO+	5.2279E-01	4.4798E-01	CO	9.1526E-01	6.0146E-03
CO-	2.2549E-11	5.8698E-05	CO+	7.1262E-10	2.6176E-01
CO2	8.2145E-02	6.7404E-05	CO2	1.9046E-02	1.1679E-04
C2	2.7207E-17	2.0333E-05	C2	2.6803E-15	2.0624E-05

P1 = 1.00E+01 N/50-M. US1 = 5.00E+03 M/SEC				P1 = 1.00E+01 N/50-M. US1 = 9.60E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2283E+02	8.5925E+03	1.0919E+04	P	9.2943E+02	1.0538E+04	1.3194E+04
T	1.0587E+01	2.1977E+01	2.3053E+01	T	1.7137E+01	2.3697E+01	2.4677E+01
RHD	2.3170E+01	1.8339E+02	2.1236E+02	RHD	2.2487E+01	1.9016E+02	2.1746E+02
H	-4.3106E-01	-1.7225E+00	-2.0649E+00	H	-7.9525E-01	-2.4137E+00	-2.8158E+00
A	1.9908E+00	5.4122E+00	6.7138E+00	A	4.6628E+00	6.9725E+00	7.3114E+00
S	1.7514E+00	1.9536E+00	2.0059E+00	S	1.8921E+00	2.0735E+00	2.1312E+00
Z	1.7237E+00	2.1314E+00	2.2305E+00	Z	1.9799E+00	2.3386E+00	2.4586E+00
GAME	8.7237E-01	8.7921E-01	8.7702E-01	GAME	9.2368E-01	8.7726E-01	8.8110E-01
U	1.7703E+01	2.2406E+00	2.1679E+00	U	1.9800E+01	2.3452E+00	2.2856E+00

SPECIES			SPECIES		
	MOLE FRACTIONS			MOLE FRACTIONS	
E-	8.4609E-09	5.7412E-04	E-	7.6249E-08	1.6803E-03
O	3.1554E-01	5.3322E-01	O	4.8139E-01	5.9078E-01
O+	3.8931E-11	4.4292E-05	O+	4.1251E-09	9.1119E-05
O++	3.8134E-54	6.9146E-25	O++	4.6174E-46	4.1801E-23
D-	4.3321E-11	9.7573E-07	D-	2.4863E-10	2.5763E-06
N2	1.3457E-01	2.4446E-04	N2	2.3343E-02	1.7513E-04
O2+	8.4085E-09	6.2030E-07	O2+	6.5006E-08	6.8434E-07
O2-	7.0455E-12	5.0193E-10	O2-	7.7549E-12	1.1717E-09
C	1.0434E-09	6.0879E-02	C	1.1113E-07	1.4168E-01
C+	1.7606E-15	4.5461E-04	C+	2.7038E-12	1.9836E-03
C-	6.4135E-43	8.0735E-17	C-	1.4683E-15	2.0052E-15
CO	6.5325E-20	7.3293E-08	CO	2.9909E-17	4.2748E-07
CO+	5.2417E-01	4.0741E-01	CO	5.0762E-01	2.2206E-01
CO-	6.7949E-11	7.5625E-05	CO+	5.3725E-09	1.0703E-04
CO2	9.5712E-02	4.7897E-05	CO2	7.6401E-03	2.1968E-05
C2	9.9460E-17	4.6136E-05	C2	7.5983E-14	1.3560E-04

Table 1. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

$$P_1 = 1.00E+01 \text{ N/SD-M.} \quad U_{S1} = 5.80E+03 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.6599E+02	1.0558E+04	1.3150E+04
T	1.3556E+01	2.4121E+01	2.9124E+01
RHD	2.1005E+01	1.8145E+02	2.9625E+02
H	-9.7486E-01	-2.4210E+00	-3.3719E+00
A	5.2748E+00	2.1507E+00	2.5065E+00
S	1.9237E+00	2.1173E+00	2.1766E+00
Z	1.9877E+00	2.4122E+00	2.5377E+00
GAME	1.3131E+00	8.7862E-01	8.8378E-01
U	2.3440E+01	2.3648E+00	2.3187E+00

SPECIES	MOLE FRACTIONS		
F-	3.9360E-07	2.1673E-03	3.2204E-03
D	4.9246E-01	5.8334E-01	6.0278E-01
OH	9.4059E-04	1.1127E-04	1.6442E-04
OH+	6.3166E-41	1.1571E-22	9.8437E-22
H+	6.3809E-13	3.1137E-06	4.8771E-06
O2	4.7950E-01	2.4570E-01	1.4408E-04
O2+	1.4926E-07	6.9863E-07	8.4471E-07
O2-	4.9519E-12	1.1105E-09	1.1708E-09
C	4.2024E-06	1.6679E-01	2.0571E-01
C+	9.2522E-17	1.9460E-03	2.9352E-03
C++	2.2879E-33	4.4519E-15	1.9267E-14
C-	3.3671E-15	5.9844E-07	1.1311E-06
CO	5.0148E-01	2.4457E-01	1.84973E-01
CO+	1.3006E-07	1.1307E-04	1.2621E-04
CO2	1.3895E-03	1.5621E-05	1.1384E-05
C2	1.4636E-11	1.5868E-04	1.9685E-04

$$P_1 = 1.00E+01 \text{ N/SD-M.} \quad U_{S1} = 6.40E+03 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3202E+02	1.0067E+04	1.2471E+04
T	1.6090E+01	1.4552E+01	2.5171E+01
RHD	1.8766E+01	1.5522E+02	1.8686E+02
H	-1.0587E+00	-2.8895E-02	-5.3220E-02
A	5.7660E+00	2.3172E+00	2.6941E+00
S	1.9596E+00	2.1627E+00	2.2240E+00
Z	2.0000E+00	2.4859E+00	2.6160E+00
GAME	1.3163E+00	8.8034E-01	8.8702E-01
U	2.1019E+01	2.3865E+00	2.3497E+00

SPECIES	MOLE FRACTIONS		
F-	8.4856E-06	2.7186E-03	4.0230E-03
D	4.9971E-01	5.9508E-01	6.1374E-01
OH	2.6129E-06	1.3163E-04	2.0201E-04
OH+	1.8948E-33	7.4402E-22	2.4152E-21
H+	5.5732E-09	1.5436E-06	5.4623E-06
O2	4.6677E-04	1.3804E-04	1.2816E-04
O2+	2.3229E-07	6.9607E-07	8.4903E-07
O2-	6.9916E-12	1.1835E-09	1.1713E-09
C	5.1953E-04	1.9229E-01	2.2769E-01
C+	1.5690E-06	2.7360E-03	3.7016E-03
C-	3.9384E-12	1.6452E-07	1.3747E-14
C++	4.9907E-33	2.0891E-01	1.5018E-01
C-	4.2769E-06	1.1497E-04	1.2553E-04
CO	1.3179E-04	1.2197E-05	7.8728E-06
CO2	2.3609E-08	1.6807E-04	1.9670E-04

$$P_1 = 1.00E+01 \text{ N/SD-M.} \quad U_{S1} = 6.20E+03 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4071E+02	1.0167E+04	1.2552E+04
T	1.7861E+01	2.4914E+01	2.6056E+01
RHD	1.7766E+01	1.5920E+02	1.7850E+02
H	-1.1975E+00	-3.1354E+00	-3.5944E+00
A	5.7481E+00	2.5135E+00	2.9209E+00
S	1.9919E+00	2.2267E+00	2.2700E+00
Z	2.1397E+00	2.5684E+00	2.6988E+00
GAME	9.1628E-01	8.8125E-01	8.9227E-01
U	2.1650E+01	2.4194E+00	2.3911E+00

SPECIES	MOLE FRACTIONS		
F-	7.4705E-05	1.4481E-03	5.1189E-03
D	5.0448E-01	6.0653E-01	6.2430E-01
OH	1.7393E-05	1.6541E-04	2.6015E-04
OH+	6.5430E-17	7.3166E-07	7.6794E-07
H+	2.7835E-08	4.1957E-06	6.4312E-06
O2	1.4478E-04	1.2430E-04	1.1275E-04
O2+	2.7849E-07	7.2494E-07	8.9490E-07
O2-	6.7415E-12	1.2603E-09	1.2771E-09
C	4.4343E-03	2.1318E-01	2.4894E-01
C+	4.6980E-05	5.1397E-03	4.7407E-03
C++	2.4623E-20	1.7755E-14	8.5682E-14
C-	3.1679E-10	1.0700E-06	1.7919E-06
CO	4.8595E-01	1.7312E-01	1.1618E-01
CO+	1.8273E-05	1.1748E-04	1.2529E-04
CO2	2.6498E-05	8.9126E-06	5.2538E-06
C2	1.0879E-04	1.7753E-04	1.9303E-04

$$P_1 = 1.00E+01 \text{ N/SD-M.} \quad U_{S1} = 6.40E+03 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8257E+02	1.0029E+04	1.3348E+04
T	1.8728E+01	2.5489E+01	2.6816E+01
RHD	1.7740E+01	1.6060E+02	1.7866E+02
H	-1.3415E+00	-3.4071E+00	-3.8938E+00
A	5.8239E+00	2.7367E+00	3.2044E+00
S	2.0227E+00	2.2494E+00	2.3150E+00
Z	2.0545E+00	2.6855E+00	2.7862E+00
GAME	8.8151E-01	8.8772E-01	9.0093E-01
U	2.2346E+01	2.4717E+00	2.4635E+00

SPECIES	MOLE FRACTIONS		
F-	2.0046E-04	4.3408E-03	6.7479E-03
D	5.1318E-01	6.1765E-01	6.3421E-01
OH	1.6351E-05	2.1237E-04	3.5887E-04
OH+	1.3643E-28	2.4909E-21	3.4593E-20
H+	6.1746E-08	5.1741E-06	7.9928E-06
O2	9.3441E-05	1.1370E-04	9.8637E-05
O2+	1.6059E-07	7.8794E-07	9.0063E-07
O2-	1.2207E-11	1.4273E-09	1.9549E-09
C	2.6292E-02	2.3553E-01	2.6907E-01
C+	1.5597E-04	4.0138E-03	6.2737E-03
C++	4.0594E-19	4.1605E-14	2.3991E-13
C-	1.9582E-09	1.3499E-06	2.3423E-06
CO	4.6001E-01	1.3782E-01	8.2919E-02
CO+	2.4059E-05	1.2038E-04	1.2469E-04
CO2	2.1780E-05	6.3445E-06	3.2544E-06
C2	4.7594E-06	1.8430E-04	1.8273E-04

$$P_1 = 1.03E+01 \text{ N/SD-M.} \quad U_{S1} = 6.40E+03 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2676E+02	1.1674E+04	1.4393E+04
T	1.9791E+01	2.6163E+01	2.7823E+01
RHD	1.7959E+01	1.6346E+02	1.7997E+02
H	-1.4946E+00	-3.6906E+00	-4.2128E+00
A	5.9376E+00	2.9008E+00	3.5573E+00
S	2.3534E+00	2.2919E+00	2.3463E+00
Z	2.0966E+00	2.7293E+00	2.8751E+00
GAME	8.7113E-01	8.9421E-01	9.1541E-01
U	2.3061E+01	2.5367E+00	2.5624E+00

SPECIES	MOLE FRACTIONS		
F-	1.5709E-04	5.5898E-03	9.3821E-03
D	5.2279E-01	6.2797E-01	6.4248E-01
OH	2.1458E-05	2.8248E-04	5.4144E-04
OH+	8.3750E-28	9.9601E-21	2.4084E-19
H+	1.9177E-07	6.4446E-06	1.0214E-05
O2	7.4717E-05	1.0247E-04	8.5573E-05
O2+	1.4031E-07	8.7132E-07	1.1278E-06
O2-	1.6245E-11	1.6189E-09	2.1312E-09
C	4.5479E-02	2.5636E-01	2.8618E-01
C+	3.7078E-04	5.1928E-03	8.7320E-03
C++	1.9375E-18	1.0702E-13	8.7523E-13
C-	5.5133E-09	1.8044E-06	3.1697E-06
CO	4.3091E-01	1.0419E-01	5.2306E-02
CO+	3.4818E-05	1.2187E-04	1.2097E-04
CO2	1.5918E-05	4.2666E-06	1.6742E-06
C2	1.0347E-05	1.0299E-04	1.5904E-04

$$P_1 = 1.03E+01 \text{ N/SD-M.} \quad U_{S1} = 6.80E+03 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7174E+02	1.2609E+04	1.3574E+04
T	1.9731E+01	2.6970E+01	2.9230E+01
RHD	1.8760E+01	1.6615E+02	1.7999E+02
H	-1.6439E+00	-3.9839E+00	-4.5473E+00
A	6.7536E+00	3.2828E+00	3.9162E+00
S	2.0844E+00	2.3344E+00	2.4054E+00
Z	2.1621E+00	2.8138E+00	2.9608E+00
GAME	8.6705E-01	9.0632E-01	9.3933E-01
U	2.3783E+01	2.6109E+00	2.6841E+00

SPECIES	MOLE FRACTIONS		
F-	5.3799E-04	7.3993E-03	1.4211E-02
D	5.3277E-01	6.3105E-01	6.4729E-01
OH	2.6524E-05	3.9955E-04	9.3716E-04
OH+	3.7395E-27	5.0547E-20	2.9800E-18
H+	1.4598E-07	8.0874E-06	1.3441E-05
O2	6.4920E-05	8.9940E-05	6.3041E-05
O2+	1.3776E-07	9.7665E-07	1.3243E-06
O2-	7.0472E-11	1.8052E-09	2.2273E-09
C	6.5397E-07	2.7487E-01	2.9706E-01
C+	6.1137E-04	6.9885E-03	1.2188E-02
C++	5.9336E-18	3.1696E-13	4.6472E-12
C-	1.1313E-08	2.4136E-06	4.2441E-06
CO	4.0667E-01	7.3011E-02	2.7009E-02
CO+	4.0113E-05	1.2097E-04	1.1204E-04
CO2	1.2578E-05	2.3771E-06	6.5504E-07
C2	1.7176E-05	1.7082E-04	1.2007E-04

Table I. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad US_1 = 7.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1857E+02	1.3539E+04	1.6474E+04
T	2.3109E+01	2.7493E+01	3.1257E+01
RHM	1.8986E+01	1.6771E+02	1.7760E+02
H	-1.8322E+07	-4.2863E+00	-4.9351E+00
A	6.1733E+00	8.6357E+00	9.5741E+00
S	2.1156E+00	2.3786E+03	2.6507E+00
Z	2.1902E+00	2.4967E+00	3.0397E+01
GAMP	8.6533E+01	9.1907E-01	9.6474E+00
U	2.4508E+01	2.7192E+02	2.8640E+00

SPECIES	MOLE FRACTIONS		
F-	7.4247E-04	1.0255E-02	2.4031E-02
T	5.4281E-01	6.4414E-01	6.4520E-01
PH+	3.1927E-25	9.9912E-34	1.9448E-03
H+	1.7429E-26	3.5377E-19	8.0979E-17
O2	1.9656E-07	1.0279E-05	1.8154E-05
O2+	1.3776E-07	7.4746E-05	4.2654E-05
O2-	2.4974E-11	1.1131E-36	1.6148E-06
C	8.5472E-02	2.8368E-01	2.1647E-09
C+	6.6607E-04	9.5513E-03	2.2012E-02
C++	1.4887E-17	1.1585E-17	4.0647E-11
C-	1.9664E-08	3.2271E-02	5.9451E-06
CO	3.7614E-31	4.9420E-06	1.7626E-02
CO+	4.4958E-05	1.1654E-04	9.6797E-05
CO2	1.7261E-05	1.7152E-05	1.7197E-07
C2	2.4555E-15	1.4575E-04	7.3761E-05

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad US_1 = 7.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.6747E+02	1.6733E+04	2.1206E+04
T	2.1081E+01	3.3279E+01	3.7769E+01
RHM	1.9561E+01	1.6180E+02	1.7197E+02
H	-2.3038E+00	-5.2419E+00	-6.0509E+00
A	6.5430E+00	9.9979E+00	1.0828E+01
S	2.2119E+00	2.4977E+00	2.5798E+00
Z	7.7461E+00	3.1078E+00	3.2651E+00
GAMP	8.6561E+01	9.6451E-01	9.9707E-01
U	2.6684E+01	3.2297E+00	3.4243E+00

SPECIES	MOLE FRACTIONS		
F-	1.9202E-03	3.9048E-02	8.2219E-02
T	5.7217E-01	6.3543E-01	6.3543E-01
PH+	5.2261E-05	3.8837E-03	5.9999E-01
H+	1.8055E-25	1.6389E-13	1.2525E-02
O2	3.9011E-07	2.1800E-05	3.2199E-05
O2+	4.7907E-05	2.7827E-05	1.4473E-05
O2-	1.5066E-07	1.8483E-06	2.6762E-06
C	1.4959E-01	1.7930E-09	1.6249E-09
C+	1.4136E-01	3.3112E-02	2.3956E-02
C++	1.7813E-16	2.9452E-10	6.9674E-02
C-	6.3618E-08	7.0190E-06	9.3081E-06
CO	2.7988E-01	4.0795E-03	6.0090E-04
CO+	5.6650E-05	7.9560E-05	5.8484E-05
CO2	3.9738E-06	4.3260E-08	4.7010E-09
C2	4.7263E-05	4.0598E-05	1.4275E-05

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad US_1 = 7.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.6483E+02	1.4624E+04	1.8265E+04
T	2.3045E+01	2.9379E+01	3.3624E+01
RHM	1.8919E+01	1.6735E+02	1.7450E+02
H	-1.3647E+00	-4.5943E+00	-5.2793E+00
A	6.2968E+00	9.0797E+00	1.0099E+01
S	2.1473E+00	2.4182E+00	2.4965E+00
Z	2.2404E+00	2.9744E+00	3.1130E+00
GAMP	8.6482E+01	9.4344E-01	9.6674E-01
U	2.5931E+01	2.8567E+00	3.0674E+00

SPECIES	MOLE FRACTIONS		
F-	9.7214E-04	1.5344E-02	4.0429E-02
T	5.5281E-01	6.4761E-01	6.3432E-01
PH+	7.7847E-05	1.7263E-03	4.1458E-03
H+	2.8997E-26	4.1598E-18	2.4125E-16
O2	1.9619E-07	1.3322E-05	2.3600E-05
O2+	1.4058E-07	2.7189E-05	1.2095E-05
O2-	2.9786E-11	7.0291E-09	1.9824E-09
C	1.0546E-01	2.9797E-01	2.8086E-01
C+	8.8604E-04	1.6277E-02	3.6221E-02
C++	3.2791E-17	5.9171E-12	3.6918E-10
C-	1.9099E-04	3.2156E-05	7.5593E-06
CO	3.3969E-01	4.3529E-02	3.8432E-03
CO+	4.8179E-05	1.0779E-04	8.0798E-05
CO2	8.5281E-06	5.1683E-07	4.1580E-08
C2	3.2771E-05	1.0861E-04	4.0247E-05

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad US_1 = 7.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3198E+03	1.7839E+04	2.2739E+04
T	2.1385E+01	3.5230E+01	3.9508E+01
RHM	1.9860E+01	1.5957E+02	1.7204E+02
H	-1.9860E+00	-5.5773E+00	-6.4471E+00
A	6.8710E+00	1.0393E+01	1.1180E+01
S	2.2449E+00	2.5346E+00	2.6143E+00
Z	2.4714E+00	3.1732E+00	3.3698E+00
GAMP	8.6626E+01	9.5889E-01	9.4874E-01
U	2.7408E+01	3.4152E+00	3.5763E+00

SPECIES	MOLE FRACTIONS		
F-	1.8486E-03	3.6606E-02	1.0399E-01
T	5.8185E-01	6.2145E-01	5.7066E-01
PH+	6.1221E-05	6.8370E-03	1.6593E-02
H+	4.1731E-25	2.0610E-14	7.0009E-12
O2	4.5957E-07	2.5925E-05	3.4989E-05
O2+	6.5401E-05	1.9602E-05	1.1312E-05
O2-	1.5747E-07	2.1487E-06	2.9897E-06
C	6.2077E-11	1.2206E-09	1.0782E-09
C+	1.6356E-01	2.6320E-01	2.1291E-01
C++	1.7306E-03	6.9016E-02	6.5428E-02
C-	2.7327E-16	1.4961E-09	2.6533E-09
CO	8.9099E-08	8.0033E-06	9.3227E-06
CO+	2.7327E-05	1.0599E-03	6.4145E-03
CO2	2.9078E-05	6.8110E-05	5.0766E-05
C2	4.9895E-06	1.4301E-05	2.0776E-05
	5.3998E-05	2.4466E-05	9.2081E-05

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad US_1 = 7.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.1647E+02	1.5648E+04	1.9715E+04
T	2.3771E+01	3.1221E+01	3.5806E+01
RHM	1.9248E+01	1.8484E+02	1.7279E+02
H	-2.1320E+00	-4.9154E+00	-5.8619E+00
A	6.4177E+00	9.5752E+00	1.0456E+01
S	2.1794E+00	2.4586E+00	2.5355E+00
Z	2.2924E+00	3.0436E+00	3.1866E+00
GAMP	8.5400E+01	9.4444E-01	9.5810E-01
U	2.5959E+01	3.0336E+00	3.2564E+00

SPECIES	MOLE FRACTIONS		
F-	1.2296E-03	2.4881E-02	6.0436E-02
T	5.6288E-01	6.4493E-01	6.1820E-01
PH+	4.4544E-05	1.9428E-03	7.6579E-03
H+	7.0937E-26	8.2673E-17	3.7484E-14
O2	3.1794E-07	1.7394E-05	2.8363E-05
O2+	5.3815E-05	3.9883E-05	1.9668E-05
O2-	1.4574E-07	1.5519E-06	2.1355E-06
O2-	7.4926E-11	1.9383E-09	1.7965E-09
C	1.2529E-01	2.9556E-01	2.5918E-01
C+	1.1335E-03	2.2616E-02	5.2744E-02
C++	1.6978E-17	4.2177E-11	2.1595E-09
C-	4.5426E-08	5.6897E-06	8.6890E-06
CO	3.0956E-01	9.9982E-03	1.6345E-03
CO+	5.1709E-05	4.3942E-05	6.8244E-05
CO2	7.1508E-06	1.5341E-07	1.2615E-08
C2	3.9953E-05	6.8951E-05	2.3401E-05

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad US_1 = 8.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0739E+03	1.0961E+04	2.4206E+04
T	2.1689E+01	3.6991E+01	4.1091E+01
RHM	2.0135E+01	1.5027E+02	1.7252E+02
H	-2.6613E+00	-5.9314E+00	-6.9527E+00
A	5.8028E+00	1.0604E+01	1.1522E+01
S	2.2783E+00	2.5709E+00	2.6519E+00
Z	2.4581E+00	3.2419E+00	3.4288E+00
GAMP	8.6796E+01	9.3179E-01	9.4230E-01
U	2.8132E+01	3.5895E+00	3.7170E+00

SPECIES	MOLE FRACTIONS		
F-	2.7244E-03	7.5816E-02	1.2590E-01
T	5.9109E-01	6.0501E-01	5.9719E-01
PH+	7.1878E-05	1.0824E-02	2.9746E-02
H+	9.7649E-25	1.5929E-13	6.8810E-12
O2	5.1433E-07	2.9929E-05	3.7827E-05
O2+	4.3033E-05	1.4862E-05	6.1866E-05
O2-	1.6529E-07	2.6346E-06	3.2856E-06
O2-	5.3055E-11	1.4795E-09	1.8404E-09
C	1.8204E-01	2.4230E-01	1.9144E-01
C+	2.0937E-03	6.6968E-02	9.9756E-02
C++	4.3453E-16	5.5639E-09	6.6724E-09
C-	1.3172E-07	6.3946E-06	9.6480E-06
CO	2.2231E-01	9.5842E-04	2.6248E-04
CO+	5.9361E-05	5.9094E-05	6.8377E-05
CO2	4.1166E-06	5.7430E-09	1.0215E-09
C2	9.9878E-05	1.5622E-05	6.1678E-06

Table I. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad USI = 8.23E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1286E+03	2.0154E+04	2.5901E+04
T	2.2001E+01	3.8588E+01	4.2564E+01
RHO	2.0386E+01	1.5760E+02	1.7318E+02
H	-2.8469E+00	-6.2748E+00	-7.2635E+00
A	6.9487E+00	1.1003E+01	1.1857E+01
S	2.3121E+00	2.8064E+00	2.6899E+00
Z	2.5162E+00	3.3399E+00	3.5337E+00
GAMF	8.6968E-01	9.4466E-01	9.4004E-01
H	2.8854E-01	3.7372E+00	3.8494E+00

SPECIES ----- MOLE FRACTIONS -----

F-	7.6600E-03	9.5679E-02	1.4654E-01
O	6.0006E-01	5.8703E-01	5.3689E-01
OH	8.4802E-05	1.5831E-02	3.4048E-02
OH+	2.3619E-24	8.7776E-13	3.2033E-11
H2	6.6572E-07	3.1016E-05	3.8374E-05
O2	4.7171E-25	1.1723E-05	7.4713E-06
H2+	1.7416E-07	2.7033E-06	3.5062E-06
O2+	5.8653E-11	1.3491E-09	1.2139E-09
C	7.3801E-01	2.2137E-01	1.7176E-01
C+	2.5147E-03	7.9634E-02	1.1249E-01
C++	8.0644E-16	1.6242E-08	1.4642E-07
C-	1.4575E-07	8.8505E-06	9.1758E-06
CO	1.9456E-01	5.4250E-01	1.6472E-04
CO+	6.1144E-05	5.1731E-05	3.8917E-05
CO2	3.3515E-06	2.6222E-09	5.4174E-10
C2	6.4673E-05	1.0343E-09	6.2057E-06

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad USI = 8.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1849E+03	2.1351E+04	2.7508E+04
T	2.2323E+01	4.0057E+01	4.3963E+01
RHO	2.0386E+01	1.5730E+02	1.7391E+02
H	-3.0370E+00	-6.8368E+00	-7.4818E+00
A	7.3801E+00	1.1144E+01	1.2183E+01
S	2.3463E+00	7.6413E+00	7.2544E+00
Z	2.5758E+00	3.3865E+00	3.5996E+00
GAMF	8.7183E-01	9.4306E-01	9.3839E-01
H	2.9574E-01	3.8798E+00	1.9653E+00

SPECIES ----- MOLE FRACTIONS -----

F-	3.1694E-03	1.1519E-01	1.6686E-01
O	6.0867E-01	5.6796E-01	5.1203E-01
OH	1.0065E-04	2.1837E-22	4.3327E-02
OH+	9.3846E-24	3.7558E-12	9.8554E-11
H2	7.3418E-07	3.3749E-05	3.9125E-05
O2	1.8094E-05	9.5338E-06	6.2106E-06
H2+	1.8416E-07	2.4445E-06	3.7077E-06
O2+	6.5187E-11	1.2297E-09	1.0957E-09
C	7.1729E-01	7.0124E-01	1.5399E-01
C+	4.0071E-03	9.3342E-02	1.2354E-01
C++	1.4594E-15	4.0132E-08	2.8913E-07
C-	1.8471E-07	8.8615E-06	8.2747E-06
CO	1.9363E-01	7.2038E-04	1.0775E-04
CO+	6.2578E-05	4.5623E-05	3.4195E-05
CO2	2.6825E-06	1.3176E-09	3.0375E-10
C2	5.9147E-05	7.0509E-06	2.9422E-06

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad USI = 4.60E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2425E+03	2.2959E+04	2.9131E+04
T	2.2667E+01	4.1425E+01	4.5259E+01
RHO	2.0795E+01	1.5715E+02	1.7455E+02
H	-3.2317E+00	-7.0069E+00	-8.1815E+00
A	7.2789E+00	1.1619E+01	1.2507E+01
S	3.4088E+00	2.6752E+00	2.7018E+00
Z	3.6361E+00	3.4683E+00	3.6875E+00
GAMF	9.7458E-01	9.8347E-01	9.7321E-01
H	3.3292E+01	4.7140E+00	4.0875E+00

SPECIES ----- MOLE FRACTIONS -----

F-	3.7857E-03	1.1543E-01	1.8668E-01
O	6.1694E-01	5.4402E-01	4.8865E-01
OH	1.2100E-04	2.8818E-22	5.3604E-02
OH+	1.4161E-23	1.2522E-11	2.7007E-10
H2	6.2085E-07	3.5100E-05	3.9358E-05
O2	3.5926E-05	7.8414E-06	5.1934E-06
H2+	1.9544E-07	3.1602E-06	3.8665E-06
O2+	7.1776E-11	1.1182E-09	9.8274E-10
C	7.1350E-01	1.4923E-01	1.3766E-01
C+	3.6023E-03	1.0585E-01	1.3309E-01
C++	7.7954E-15	8.7313E-08	5.2966E-07
C-	2.3139E-07	8.8793E-06	8.2878E-06
CO	1.4149E-01	7.0488E-04	7.2407E-05
CO+	6.3401E-05	4.0325E-05	3.0013E-05
CO2	2.6854E-06	7.1019E-10	1.7651E-10
C2	7.0049E-05	4.9123E-06	2.0813E-06

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad USI = 8.80E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3016E+03	2.3767E+04	3.0747E+04
T	2.3038E+01	4.2712E+01	4.6588E+01
RHO	2.0941E+01	1.5701E+02	1.7502E+02
H	-3.2491E+00	-7.3855E+00	-8.5496E+00
A	7.3871E+00	1.1919E+01	1.2826E+01
S	2.4157E+00	2.7102E+00	2.7988E+00
Z	2.6975E+00	3.5639E+00	3.7767E+00
GAMF	8.7914E-01	9.3858E-01	9.3643E-01
H	3.1007E+01	4.1414E+00	4.2062E+00

SPECIES ----- MOLE FRACTIONS -----

F-	4.5437E-03	1.9378E-01	2.0585E-01
O	6.2477E-01	5.2739E-01	4.6474E-01
OH	1.4764E-04	3.6732E-22	6.4689E-02
OH+	3.7768E-23	4.0416E-11	6.6900E-10
H2	1.7077E-06	3.4932E-05	3.9126E-05
O2	3.3242E-05	6.5498E-06	4.3596E-06
H2+	2.7810E-07	3.3467E-06	3.9774E-06
O2+	7.8286E-11	1.0128E-09	8.7559E-10
C	2.4965E-01	1.6481E-01	1.2341E-01
C+	4.3335E-03	1.1705E-01	1.4117E-01
C++	5.4566E-15	1.7237E-07	9.1014E-07
C-	7.4937E-07	3.6239E-06	7.7542E-06
CO	1.1636E-01	1.3733E-04	4.9835E-05
CO+	6.3748E-05	3.5640E-05	2.6316E-05
CO2	1.5671E-06	4.0250E-10	1.0575E-10
C2	7.0103E-05	3.4783E-06	1.4406E-06

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad USI = 9.00E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3615E+03	2.4958E+04	3.2332E+04
T	1.8817E+01	4.3932E+01	4.7722E+01
RHO	2.1037E+01	1.5675E+02	1.7521E+02
H	-3.5148E+00	-7.7720E+00	-8.9960E+00
A	7.5599E+00	1.2215E+01	1.3142E+01
S	2.5537E+00	2.7945E+00	2.8342E+00
Z	2.7545E+00	3.6239E+00	3.8689E+00
GAMF	9.4793E-01	9.3714E-01	9.3598E-01
H	3.1719E+01	4.2632E+00	4.3210E+00

SPECIES ----- MOLE FRACTIONS -----

F-	5.5115E-03	1.7243E-01	2.2436E-01
O	6.3711E-01	5.6389E-01	4.4083E-01
OH	1.8817E-04	4.6517E-22	7.6473E-02
OH+	1.3774E-22	1.0794E-10	1.5252E-09
H2	1.2682E-06	3.6794E-05	3.8479E-05
O2	3.0397E-05	5.5123E-06	3.6637E-06
H2+	2.2379E-07	3.4986E-06	4.0378E-06
O2+	8.4477E-11	9.1246E-10	7.7392E-10
C	2.6447E-01	1.4888E-01	1.1052E-01
C+	5.2132E-03	1.1482E-01	1.4793E-01
C++	1.1132E-14	3.1491E-07	1.4845E-06
C-	3.4494E-07	7.9549E-06	7.1979E-06
CO	9.2737E-02	9.3591E-05	3.4936E-05
CO+	6.3433E-04	3.1562E-05	2.3034E-05
CO2	1.1219E-06	2.3702E-10	6.4757E-11
C2	6.8025E-05	2.4945E-06	1.0783E-06

$P_1 = 1.00E+01 \text{ N/SQ-M.} \quad USI = 9.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4227E+03	2.6298E+04	3.3851E+04
T	2.3937E+01	4.5091E+01	4.8881E+01
RHO	2.1068E+01	1.5621E+02	1.7496E+02
H	-3.8431E+00	-8.1681E+00	-9.4563E+00
A	7.7508E+00	1.2506E+01	1.3496E+01
S	2.4499E+00	2.7787E+00	2.8704E+00
Z	2.8716E+00	3.7053E+00	3.9581E+00
GAMF	8.8947E-01	9.3614E-01	9.3582E-01
H	3.2427E+01	4.3940E+00	4.4325E+00

SPECIES ----- MOLE FRACTIONS -----

F-	6.8147E-03	1.9357E-01	2.4222E-01
O	6.3987E-01	4.8453E-01	4.1641E-01
OH	2.3747E-04	5.0388E-22	8.8785E-02
OH+	3.5584E-22	2.6922E-10	3.2413E-09
H2	1.4468E-06	3.6273E-05	3.7454E-05
O2	2.7153E-05	4.6576E-06	3.0740E-06
H2+	2.4058E-07	3.6198E-06	4.0415E-06
O2+	8.9949E-11	6.1621E-10	6.7749E-10
C	2.7781E-01	1.3417E-01	9.9031E-02
C+	6.5161E-03	1.3549E-01	1.5345E-01
C++	2.5103E-14	5.4272E-07	2.3184E-06
C-	4.3818E-07	7.4854E-06	6.6337E-06
CO	6.9736E-02	6.4967E-05	2.4841E-05
CO+	4.2787E-05	2.7884E-05	2.0111E-05
CO2	1.4706E-07	1.4335E-10	4.0275E-11
C2	6.3488E-05	1.8378E-06	7.8591E-07

Table 1. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/50-M. US1 = 9.40E+03 M/SEC				P1 = 1.07E+01 N/50-M. US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4850E+03	2.7153E+04	3.5250E+04	P	1.6766E+01	2.9216E+04	3.7957E+04
T	7.4514E+01	4.6193E+01	4.9995E+01	T	2.7438E+01	4.3147E+01	5.3031E+01
RHD	2.1012E+01	1.9519E+02	1.7408E+02	RHD	2.0075E+01	1.6712E+02	1.6530E+02
H	-4.0599E+00	-8.5671E+00	-9.9114E+00	H	-4.7206E+00	-9.8032E+00	-1.1322E+01
A	7.9736E+00	1.2793E+01	1.3766E+01	A	8.9669E+00	1.3623E+01	1.4673E+01
S	2.5710E+00	2.8131E+00	2.9068E+00	S	2.6741E+00	2.9187E+00	3.0184E+00
Z	2.8833E+00	3.7878E+00	4.3502E+00	Z	3.5497E+00	4.0406E+00	4.3301E+00
GAMF	8.9956E-01	9.3539E-01	9.5993E-01	GAMF	9.4800E-01	9.3451E-01	9.3762E-01
U	3.3127E+01	4.4919E+00	4.5408E-01	U	3.5156E+01	4.7946E+00	4.8420E+00

P1 = 1.00E+01 N/50-M. US1 = 9.40E+03 M/SEC				P1 = 1.00E+01 N/50-M. US1 = 1.05E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5482E+13	2.8058E+04	3.6445E+04	P	3.8209E+00	3.0466E+04	3.9581E+04
T	2.9256E+01	4.7237E+01	5.1075E+01	T	1.3548E+01	1.2934E+01	1.7326E+01
RHD	2.0833E+01	1.5343E+02	1.7217E+02	RHD	1.9003E+01	1.3923E+02	1.7968E+02
H	-4.7731E+00	-8.9738E+00	-1.0378E+01	H	-5.7522E+00	-1.0873E+01	-1.2547E+01
A	2.4560E+00	1.3075E+01	1.4078E+01	A	9.5424E+00	1.4306E+01	1.5437E+01
S	2.9426E+00	2.8478E+00	2.9442E+00	S	2.7043E+00	3.0075E+00	3.1124E+00
Z	9.1445E-01	3.8711E+00	4.1446E+00	Z	1.1744E+00	4.2517E+00	4.5688E+00
GAMF	3.1418E+01	4.5889E+00	4.6454E+00	GAMF	9.3894E-01	9.3533E-01	9.4082E-01
U				U	3.6809E+01	5.0315E+00	5.0867E+00

P1 = 1.00E+01 N/50-M. US1 = 9.40E+03 M/SEC				P1 = 1.00E+01 N/50-M. US1 = 1.05E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1603E-02	2.2524E-01	2.7631E-01	P	5.6584E-02	2.9546E-01	3.4345E-01
T	6.4627E-01	4.4038E-01	3.6783E-01	T	6.2780E-01	3.4069E-01	2.6657E-01
RHD	4.7037E-04	7.6148E-02	1.1465E-01	RHD	4.6680E-01	1.7326E-01	1.7326E-01
H	8.7013E-01	1.2731E-09	1.2366E-08	H	2.6043E-16	1.8656E-08	1.3384E-07
A	2.1651E-05	3.4862E-05	3.4322E-05	A	5.0007E-06	2.7736E-05	2.4397E-05
S	2.8933E-07	3.3273E-06	2.1309E-06	S	5.0891E-06	1.4672E-06	8.4892E-07
Z	5.5063E-11	6.1368E-10	3.8994E-04	Z	5.2447E-07	7.2846E-10	2.9979E-06
GAMF	2.9763E-01	1.0904E-01	7.9667E-02	GAMF	7.7424E-11	5.0416E-10	2.0387E-10
U	1.1079E-12	1.4910E-01	1.6167E-01	U	7.6153E-01	6.8337E-02	6.8594E-02
	2.9902E-03	1.3654E-06	5.1153E-06		5.1046E-09	1.6600E-01	1.7016E-01
	6.7803E-07	6.4196E-06	5.4901E-06		1.7469E-10	6.7292E-05	2.1288E-05
	1.0876E-02	3.2894E-05	1.2852E-05		1.4889E-15	4.1229E-16	3.2707E-06
	5.6323E-05	2.2101E-05	1.9122E-05		1.3816E-01	8.1082E-06	3.1184E-06
	2.3059E-07	5.5738E-11	1.5836E-11		3.7859E-05	1.1574E-05	7.4681E-06
	4.6088E-05	9.6802E-07	4.2073E-07		2.9132E-09	7.4931E-12	1.9776E-12

P1 = 1.00E+01 N/50-M. US1 = 9.40E+03 M/SEC				P1 = 1.00E+01 N/50-M. US1 = 1.10E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5170E+03	2.9743E+04	3.7364E+04	P	7.0191E+03	3.2401E+04	4.2147E+04
T	7.6226E+01	4.8220E+01	5.2069E+01	T	3.7349E+01	5.3207E+01	5.8071E+01
RHD	2.0497E+01	1.9577E+02	1.6930E+02	RHD	1.8652E+01	1.3466E+02	1.5078E+02
H	-4.4947E+00	-9.3849E+00	-1.0848E+01	H	-5.9188E+00	-1.2078E+01	-1.3857E+01
A	8.5895E+00	1.3352E+01	1.4784E+01	A	1.0077E+01	1.5022E+01	1.6265E+01
S	2.5905E+00	2.8830E+00	2.9807E+00	S	2.7802E+00	3.7968E+00	3.2054E+00
Z	2.9984E+00	3.9559E+00	4.2242E+00	Z	4.3109E+00	4.8201E+00	4.8142E+00
GAMF	9.3386E-01	9.3460E-01	9.3685E-01	GAMF	9.2793E-01	9.3784E-01	9.4632E-01
U	3.4496E+01	4.6992E+00	4.7656E+00	U	3.8496E+01	5.7826E+00	5.3712E+00

P1 = 1.00E+01 N/50-M. US1 = 9.40E+03 M/SEC				P1 = 1.00E+01 N/50-M. US1 = 1.10E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6479E-02	2.4173E-01	2.9197E-01	P	9.4465E-02	3.3049E-01	3.7694E-01
T	6.4442E-01	4.1815E-01	3.4458E-01	T	5.9277E-01	2.8625E-01	2.0941E-01
RHD	7.5815E-04	8.7382E-02	1.2747E-01	RHD	1.2927E-07	1.6012E-01	2.0579E-01
H	7.6599E-05	3.3596E-05	2.1988E-08	H	1.1694E-14	6.6564E-08	4.5459E-07
A	2.6818E-06	2.7983E-06	3.2343E-05	A	6.1378E-06	2.4638E-05	1.8991E-05
S	3.2554E-07	3.6679E-06	3.7532E-06	S	2.9937E-05	9.2770E-07	4.7179E-07
Z	9.4596E-11	5.4687E-10	4.1866E-10	Z	6.1978E-01	2.8884E-06	2.3800E-06
GAMF	3.0042E-01	9.8282E-02	7.1410E-02	GAMF	5.8551E-11	1.9501E-10	1.1354E-10
U	1.5673E-02	1.5436E-01	1.6451E-01	U	2.1794E-01	5.2732E-02	3.6499E-02
	8.7177E-13	2.0383E-06	7.1946E-06		8.1503E-02	1.7075E-01	1.7107E-01
	8.5361E-07	5.0861E-06	4.9561E-06		1.9373E-09	1.4377E-05	4.4862E-05
	1.6752E-02	2.3800E-05	9.4026E-06		1.6281E-06	3.1770E-06	2.3777E-06
	5.0938E-05	1.8901E-05	1.3068E-05		3.4947E-04	3.8697E-06	1.3837E-06
	9.6058E-04	3.5263E-11	1.0042E-11		7.7809E-05	8.0464E-06	4.8402E-06
	3.4012E-05	7.1242E-07	3.1100E-07		4.8546E-19	2.5441E-12	5.8764E-13

Table I. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SQ-M. US1 = 1.15E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2045E+03	3.4731E+04	4.5266E+04
T	3.5164E+01	5.6104E+01	6.0994E+01
RHD	1.8128E+01	1.3149E+02	1.4657E+02
H	-6.5613E+00	-1.3202E+01	-1.5241E+01
A	1.3994E+01	1.5775E+01	1.7172E+01
S	2.8569E+00	3.1814E+00	3.2977E+00
Z	3.4933E+00	5.7079E+00	5.0833E+00
GAME	9.2784E-01	9.4211E-01	9.3485E-01
U	4.0205E+01	5.5509E+00	5.6738E+00

SPECIES	MOLE FRACTIONS		
F-	1.3281E-01	3.6287E-01	4.0759E-01
O	5.5765E-01	2.3175E-01	1.5802E-01
O*	7.0497E-02	1.9101E-01	2.3896E-01
O**	1.9546E-13	2.1792E-07	1.5317E-06
N-	6.7892E-06	1.9119E-05	1.3839E-05
N2	1.9726E-06	5.5670E-07	2.3780E-07
N2*	7.2512E-07	2.4153E-06	1.7610E-06
N2**	6.7641E-11	1.1871E-10	5.6498E-11
C	1.7659E-01	4.0082E-02	2.6882E-02
C*	1.1235E-01	1.7180E-01	1.7045E-01
C**	1.1025E-08	2.9254E-05	9.6023E-05
C-	1.5664E-06	2.4078E-06	1.6572E-06
CO	1.4171E-04	1.8362E-04	5.7446E-07
CO*	1.7326E-05	5.4009E-06	2.9575E-06
CO2	1.7315E-12	8.5151E-13	1.5647E-13
CO2	1.3851E-06	6.0181E-08	2.1109E-08

P1 = 1.03E+01 N/SQ-M. US1 = 1.23E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1987E+03	3.7338E+04	4.8829E+04
T	3.7017E+01	5.8663E+01	6.4391E+01
RHD	1.7333E+01	1.2889E+02	1.4281E+02
H	-7.2326E+00	-1.4451E+01	-1.6710E+01
A	1.1094E+01	1.6577E+01	1.8191E+01
S	2.9781E+00	3.7672E+00	3.8856E+00
Z	1.5116E+00	4.4384E+00	5.3091E+00
GAME	9.2519E-01	9.4893E-01	9.6799E-01
U	4.1127E+01	5.8418E+00	6.0257E+00

SPECIES	MOLE FRACTIONS		
F-	1.6054E-01	4.9261E-01	4.3502E-01
O	4.2007E-01	1.8310E-01	1.1107E-01
O*	3.3819E-02	7.2047E-01	2.0562E-01
O**	1.8408E-12	6.8373E-07	5.4006E-06
N-	7.7668E-06	1.4817E-05	9.1517E-06
N2	1.3789E-06	3.0977E-07	1.0313E-07
N2*	8.1191E-07	1.8090E-06	1.1652E-06
N2**	7.9605E-11	6.6511E-11	2.3586E-11
C	1.4378E-01	3.0716E-02	1.9100E-02
C*	1.3591E-01	1.7163E-01	1.6895E-01
C**	4.2689E-08	5.9085E-05	2.1758E-04
C-	1.4241E-06	1.7708E-06	1.0768E-06
CO	5.9561E-05	8.3731E-07	2.1115E-07
CO*	1.3784E-05	3.5645E-06	1.6532E-06
CO2	3.4672E-11	2.6169E-13	1.2905E-14
CO2	4.6056E-07	2.8681E-08	8.1007E-09

P1 = 1.03E+01 N/SQ-M. US1 = 1.25E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6017E+03	4.7137E+04	5.2787E+04
T	3.8761E+01	6.1971E+01	6.8779E+01
RHD	1.7876E+01	1.2639E+02	1.3871E+02
H	-7.9326E+00	-1.5735E+01	-1.8274E+01
A	1.1545E+01	1.7442E+01	1.9436E+01
S	3.0708E+00	3.1514E+00	3.4810E+00
Z	3.7694E+00	5.1684E+00	5.5508E+00
GAME	9.1854E-01	9.5791E-01	9.8945E-01
U	4.3658E+01	6.1637E+00	6.4575E+00

SPECIES	MOLE FRACTIONS		
F-	2.7641E-01	4.1932E-01	4.5962E-01
O	4.4010E-01	1.5841E-01	6.8777E-02
O*	5.9417E-02	2.4869E-01	2.9150E-01
O**	1.1967E-13	7.1394E-08	2.2824E-06
N-	7.3567E-06	1.0742E-05	5.0608E-05
N2	8.1222E-07	1.5098E-07	3.3380E-07
N2*	4.7051E-07	1.3837E-06	6.3767E-07
N2**	1.0922E-11	3.1163E-11	7.0215E-12
C	1.1122E-01	2.2880E-02	1.2571E-02
C*	1.5595E-01	1.7034E-01	1.6092E-01
C**	1.7815E-07	1.2214E-04	5.7837E-04
C-	1.7079E-06	1.2451E-06	6.0502E-07
CO	2.7404E-05	7.5900E-07	5.9730E-07
CO*	1.7177E-05	2.2030E-06	7.6866E-07
CO2	1.3583E-11	7.2167E-14	4.4741E-15
CO2	4.2702E-07	1.2938E-08	2.5774E-09

P1 = 1.00E+01 N/SQ-M. US1 = 1.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8130E+03	4.3035E+04	5.7074E+04
T	4.0379E+01	6.4793E+01	7.4861E+01
RHD	1.7720E+01	1.2322E+02	1.3231E+02
H	-8.6611E+00	-1.7109E+01	-1.9996E+01
A	1.2068E+01	1.8431E+01	2.0581E+01
S	3.0732E+00	3.4361E+00	3.5722E+00
Z	3.9314E+00	5.3927E+00	5.7640E+00
GAME	9.1755E-01	9.7222E-01	1.0189E+00
U	4.5388E+01	6.5359E+00	6.9992E+00

SPECIES	MOLE FRACTIONS		
F-	2.3705E-01	4.4377E-01	4.7960E-01
O	4.3870E-01	9.6428E-02	3.5667E-02
O*	7.0493E-02	2.7443E-01	3.1138E-01
O**	5.9575E-11	7.1605E-06	1.2710E-04
N-	6.8337E-06	6.9830E-06	2.1433E-06
N2	7.1429E-07	6.6936E-08	7.0158E-09
N2*	5.1469E-07	8.9599E-07	2.6398E-07
N2**	4.4392E-11	1.3495E-11	1.2632E-12
C	6.7670E-02	1.6287E-02	7.4003E-03
C*	1.6656E-01	1.6880E-01	1.6406E-01
C**	1.7507E-07	2.6932E-04	1.9534E-03
C-	1.7139E-06	8.0393E-07	2.7232E-07
CO	1.3293E-05	1.3229E-07	1.1395E-08
CO*	7.7562E-06	1.2230E-06	2.7508E-07
CO2	4.1882E-12	1.5272E-14	3.1129E-16
CO2	1.6737E-07	5.1230E-09	5.5706E-10

P1 = 1.03E+01 N/SQ-M. US1 = 1.35E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0328E+03	4.6058E+04	6.1746E+04
T	4.6191E+01	6.8934E+01	8.2585E+01
RHD	1.7661E+01	1.1923E+02	1.2616E+02
H	-9.4188E+00	-1.8514E+01	-2.1740E+01
A	1.2551E+01	1.9595E+01	2.2320E+01
S	3.1454E+00	3.5171E+00	3.6837E+00
Z	4.0948E+00	5.6039E+00	5.9266E+00
GAME	9.1725E-01	9.9346E-01	1.0179E+00
U	4.7125E+01	6.9814E+00	7.6558E+00

SPECIES	MOLE FRACTIONS		
F-	2.6784E-01	4.6674E-01	4.9388E-01
O	3.9505E-01	6.0324E-02	1.6283E-02
O*	9.3114E-02	2.9654E-01	3.2039E-01
O**	7.4164E-12	2.7630E-05	7.8675E-04
N-	6.4509E-06	1.8895E-06	7.5280E-07
N2	6.1575E-07	2.2232E-08	1.1023E-09
N2*	1.8490E-07	4.9176E-07	8.9221E-08
N2**	1.8490E-11	4.0965E-12	1.6051E-13
C	4.9246E-02	1.0892E-02	4.0684E-03
C*	1.7671E-01	1.6679E-01	1.5727E-01
C**	7.7588E-07	6.7957E-04	7.3228E-03
C-	8.4119E-07	4.5503E-07	1.0328E-07
CO	6.7667E-06	3.9039E-06	1.6621E-06
CO*	5.8924E-06	5.8116E-07	8.0216E-08
CO2	2.0627E-12	2.2139E-15	1.3935E-17
CO2	8.8317E-08	1.6651E-09	4.2423E-11

P1 = 1.03E+01 N/SQ-M. US1 = 1.43E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2611E+03	4.9132E+04	6.4589E+04
T	4.3190E+01	7.4230E+01	8.9800E+01
RHD	1.7627E+01	1.1445E+02	1.2221E+02
H	-1.0704E+01	-1.9965E+01	-2.3571E+01
A	1.3930E+01	2.0914E+01	2.3154E+01
S	3.2170E+00	3.5970E+00	3.7387E+00
Z	4.2639E+00	5.7798E+00	6.0678E+00
GAME	9.1772E-01	1.0199E+00	9.8384E-01
U	4.8863E+01	7.5350E+00	8.2298E+00

SPECIES	MOLE FRACTIONS		
F-	2.0653E-01	4.8103E-01	5.0566E-01
O	3.9190E-01	3.3278E-02	8.7158E-03
O*	1.1214E-01	3.1263E-01	3.1779E-01
O**	8.7801E-10	1.2525E-04	3.1433E-03
N-	5.9580E-06	1.7915E-06	3.1981E-07
N2	3.7088E-07	5.4786E-09	2.4668E-10
N2*	8.8433E-07	2.2153E-07	3.8056E-08
N2**	1.4355E-11	6.7426E-13	3.0013E-14
C	5.5075E-02	6.7768E-02	2.4524E-03
C*	1.6417E-01	1.6417E-01	1.4293E-01
C**	1.4661E-06	1.9938E-03	1.9349E-02
C-	6.9444E-07	2.2360E-07	4.4923E-08
CO	3.5748E-06	8.8338E-09	3.4234E-10
CO*	4.4465E-06	2.3154E-07	2.7771E-08
CO2	8.7615E-13	2.0386E-16	1.0995E-18
CO2	4.8195E-08	4.2450E-10	1.9803E-11

Table I. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

$P_1 = 1.027 \times 10^4 \text{ N/SQ-M.} \quad U_1 = 1.45E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4976E+03	5.2075E+04	7.1112E+04
F	4.4454E+01	8.0780E+01	9.5407E+01
PHD	1.7111E+01	1.0893E+02	1.2013E+02
M	-1.1111E+01	-2.1451E+01	-2.9405E+01
A	1.3525E+01	2.7208E+01	2.3888E+01
S	3.2503E+00	3.6721E+00	3.6136E+00
Z	9.49378E+00	5.9118E+00	5.2135E+00
GAMF	9.1900E-01	1.3237E+00	9.6222E-01
H	5.0260E+01	4.1726E+02	8.6460E+03

SPECIES ----- MOLE FRACTIONS -----

F-	1.7431E-01	4.9111E-01	5.1726E-01
F	1.3818E-01	1.6731E-02	5.7217E-03
OH	1.6749E-01	3.2061E-01	3.0848E-01
OH+	2.5740E-02	6.1495E-04	7.6687E-03
H-	5.3607E-01	1.0950E-02	1.7499E-02
O2	2.5831E-02	1.5081E-09	8.7999E-11
O2+	6.2207E-02	4.8840E-08	1.9133E-08
O2+	1.5268E-11	1.4674E-13	4.7177E-15
O	4.3611E-02	3.9811E-03	1.6085E-03
O+	1.8163E-01	1.5856E-01	1.2495E-01
O+	2.8021E-01	6.1632E-03	3.4252E-02
C-	5.6619E-02	9.5213E-08	2.4419E-08
C	1.4676E-06	1.6200E-09	1.1219E-10
CO+	3.3801E-03	7.8186E-08	1.2644E-08
CO2	3.6811E-13	1.1127E-12	1.8971E-19
CO2	2.6445E-04	4.7281E-11	6.2815E-12

$P_1 = 1.027 \times 10^4 \text{ N/SQ-M.} \quad U_1 = 1.50E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7422E+03	5.5207E+04	7.6122E+04
F	4.6305E+01	8.7125E+01	1.0002E+02
PHD	1.7519E+01	1.3084E+02	1.1955E+02
M	-1.1861E+01	-2.3011E+01	-2.7261E+01
A	1.4027E+01	2.2828E+01	2.4610E+01
S	3.3629E+00	3.7433E+00	3.8855E+00
Z	8.6111E+00	6.0380E+00	6.3062E+00
GAMF	9.2116E-01	9.9064E-01	9.5118E-01
H	5.2135E+01	8.7491E+00	8.9642E+03

SPECIES ----- MOLE FRACTIONS -----

F-	1.5977E-01	5.0327E-01	5.7601E-01
F	2.6577E-01	9.3368E-03	4.1933E-03
OH	1.6777E-01	3.1966E-01	2.9965E-01
OH+	2.7205E-02	2.2646E-03	1.4304E-02
H-	5.7105E-01	1.1782E-02	1.8266E-02
O2	1.7725E-02	2.6114E-10	4.1146E-11
O2+	2.3749E-02	7.6414E-08	1.1761E-08
O2+	2.4795E-12	2.9136E-14	4.2721E-15
O	7.4689E-02	2.4897E-03	1.2107E-03
O+	1.1198E-01	1.4738E-01	1.0705E-01
O+	5.1111E-01	1.5971E-02	6.8751E-02
C-	6.8847E-02	4.3946E-08	1.5084E-08
C	1.2145E-06	3.7176E-10	4.7340E-11
CO+	2.4349E-05	2.9322E-08	6.6865E-09
CO2	1.5327E-13	1.2249E-18	4.9569E-20
CO2	1.4717E-04	2.1097E-11	2.4812E-12

$P_1 = 1.027 \times 10^4 \text{ N/SQ-M.} \quad U_1 = 1.55E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9948E+03	5.8513E+04	8.0967E+04
F	4.7783E+01	9.2383E+01	1.0410E+02
PHD	1.7451E+01	1.0274E+02	1.1919E+02
M	-1.2711E+01	-2.4620E+01	-2.9176E+01
A	1.4456E+01	2.3467E+01	2.532E+01
S	3.4356E+00	3.8120E+00	3.9567E+00
Z	4.7909E+00	6.1649E+00	6.5296E+00
GAMF	9.2426E-01	9.6696E-01	9.4699E-01
H	5.4067E+01	9.1973E+00	9.2029E+03

SPECIES ----- MOLE FRACTIONS -----

F-	1.7393E-01	5.1345E-01	5.4036E-01
F	2.7427E-01	6.0046E-03	3.2354E-03
OH	1.9276E-01	3.1272E-01	2.8018E-01
OH+	1.9617E-02	5.6078E-03	2.3072E-02
H-	4.3209E-01	1.7770E-02	8.3715E-02
O2	1.1705E-02	9.3317E-11	2.1015E-11
O2+	6.1629E-02	1.3937E-08	7.7392E-09
O2+	9.7699E-12	9.3232E-15	2.1674E-15
O	7.1477E-02	1.7091E-03	9.0348E-04
O+	1.8115E-01	1.3135E-01	9.0521E-02
O+	9.3839E-01	2.9078E-02	6.1750E-02
C-	3.5664E-02	2.4117E-08	9.9007E-09
C	9.4078E-07	1.2257E-10	2.2511E-11
CO+	1.7624E-06	1.3610E-08	3.7078E-09
CO2	4.2724E-14	7.1022E-19	1.5999E-20
CO2	8.1713E-03	6.8614E-12	1.0907E-12

$P_1 = 1.027 \times 10^4 \text{ N/SQ-M.} \quad U_1 = 1.60E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2552E+03	6.1923E+04	8.3754E+04
F	4.9325E+01	9.8786E+01	1.0763E+02
PHD	1.7356E+01	1.0153E+02	1.1005E+02
M	-1.3633E+01	-2.6286E+01	-3.1136E+01
A	1.5089E+01	2.4120E+01	2.6088E+01
S	3.5383E+00	3.8793E+00	4.0275E+00
Z	4.9706E+00	6.3015E+00	6.6894E+00
GAMF	9.2858E-01	9.5385E-01	9.4142E-01
H	5.7193E+01	9.5681E+00	9.5621E+03

SPECIES ----- MOLE FRACTIONS -----

F-	1.5954E-01	5.2399E-01	5.3160E-01
F	1.8536E-01	4.6169E-03	2.5692E-03
OH	2.1700E-01	3.0219E-01	2.6265E-01
OH+	9.7649E-02	1.0776E-02	3.3763E-02
H-	3.3133E-01	1.5135E-02	1.1780E-02
O2	7.3573E-02	4.2801E-11	1.2411E-11
O2+	5.7601E-02	1.1824E-08	5.2447E-09
O2+	3.7365E-12	3.9780E-15	1.1924E-15
O	7.1572E-02	1.2435E-03	6.8695E-04
O+	1.7951E-01	1.1651E-01	7.6099E-02
O+	1.6957E-01	4.2873E-02	7.2688E-02
C-	2.4699E-02	1.4896E-08	6.7928E-09
C	2.7901E-07	5.1196E-11	1.1978E-11
CO+	1.7396E-06	7.2264E-09	2.2350E-09
CO2	2.4161E-14	5.3019E-20	9.0352E-21
CO2	4.4432E-09	2.7230E-12	9.1369E-13

T20

Table 1. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

$P_1 = 2.00E+01 \text{ N/SQ-M}$, $US_1 = 1.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4770E+01	6.7522E+01	1.1241E+02
T	2.5812E+00	2.4570E+00	4.0725E+00
RHO	6.1029E+00	1.9522E+01	2.7600E+01
H	9.4419E-01	5.0798E-01	8.8129E-01
A	1.5478E+00	1.7797E+00	1.9203E+00
S	1.0662E+00	1.0778E+00	1.0948E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.2819E-01	9.1622E-01	9.1114E-01
U	3.0950E+00	9.4609E-01	8.7893E-01

SPECIES	MOLE FRACTIONS		
E-	7.5973E-50	2.2640E-40	8.1111E-32
O	1.6285E-13	1.6413E-10	6.0841E-09
O+	1.0048E-36	6.6901E-33	4.6444E-30
O++	0.	0.	0.
O-	4.6769E-27	1.4223E-46	2.9973E-37
O2	4.3997E-08	4.2997E-04	4.4502E-04
O2+	1.7557E-18	1.7576E-18	1.7597E-18
O2-	3.0357E-51	4.5657E-42	3.8253E-34
C	3.7314E-51	3.7764E-42	3.2192E-34
C+	2.0055E-61	4.6721E-53	1.7041E-49
C++	0.	0.	0.
C-	5.3639E-96	4.8984E-79	3.2574E-63
CO	1.1426E-10	1.0598E-07	1.0731E+00
CO+	1.6867E-29	3.6506E-23	7.7439E-28
CO2	5.9954E-01	5.9954E-01	5.9954E-01
C2	2.2884E-75	1.5979E-62	1.6011E-50

$P_1 = 2.00E+01 \text{ N/SQ-M}$, $US_1 = 1.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2846E+01	1.2171E+02	1.9008E+02
T	2.1987E+00	4.5018E+00	5.2297E+00
RHO	7.1505E+00	2.7019E+01	3.5310E+01
H	9.1902E-01	9.6239E-01	8.2904E-01
A	1.7137E+00	2.0214E+00	2.1672E+00
S	1.0547E+00	1.1129E+00	1.1310E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.1904E-01	9.0767E-01	8.9723E-01
U	2.9201E+00	1.0094E+00	5.3400E-01

SPECIES	MOLE FRACTIONS		
E-	6.1777E-40	4.2063E-74	2.5338E-20
O	1.5086E-11	3.0282E-08	2.0009E-06
O+	3.4536E-33	3.0790E-29	1.1319E+00
O++	0.	0.	0.
O-	2.6877E-46	8.2769E-29	1.6349E-24
O2	4.3990E-04	4.8893E-04	1.3621E-02
O2+	1.7557E-18	1.7596E-18	1.7834E-18
O2-	4.0088E-62	6.8829E-27	6.1525E-23
C	8.2367E-42	1.1595E-27	9.0057E-25
C+	1.0779E-52	6.2032E-40	1.6175E-37
C++	0.	0.	0.
C-	3.9204E-78	2.2077E-49	2.8750E-43
CO	2.4301E-08	5.8107E-07	1.8471E-03
CO+	2.2846E+01	2.9076E-27	2.2281E-24
CO2	9.9954E-01	9.9954E-01	9.9954E-01
C2	8.9341E-62	7.5228E-61	7.5375E-57

$P_1 = 2.00E+01 \text{ N/SQ-M}$, $US_1 = 1.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1279E+01	1.9499E+02	2.9033E+02
T	3.2892E+00	5.8188E+00	6.2871E+00
RHO	6.0470E+00	3.4621E+01	4.5705E+01
H	8.8932E-01	8.0774E-01	7.6624E-01
A	1.8838E+00	2.2361E+00	2.3808E+00
S	1.1231E+00	1.1470E+00	1.1664E+00
Z	1.0000E+00	1.0024E+00	1.0059E+00
GAME	9.1247E-01	8.8767E-01	8.7040E-01
U	4.5382E+00	1.0548E+00	9.4929E-01

SPECIES	MOLE FRACTIONS		
E-	7.1886E-23	3.4577E-18	1.1057E-18
O	7.5967E-09	9.6967E-06	1.0684E-04
O+	1.4996E-30	1.1616E-26	5.8237E-22
O++	0.	0.	1.7531E+00
O-	1.1671E-38	1.2231E-21	3.4775E-19
O2	4.4259E-04	3.0652E-02	1.0177E-02
O2+	1.7557E-18	1.7187E-18	1.9395E-18
O2-	1.2224E-35	1.3701E-20	1.2078E-18
C	3.3260E-35	4.1667E-22	2.1097E-19
C+	1.4602E-46	6.5708E-34	7.7575E-30
C++	0.	1.1600E-82	2.3403E-73
C-	3.7839E-65	4.1803E-38	1.2553E-33
CO	5.3624E-06	5.2627E-03	1.9589E-02
CO+	1.9881E-28	6.9749E-23	2.6299E-20
CO2	9.9954E-01	9.9166E-01	9.7013E-01
C2	5.2158E-62	6.1062E-51	4.2377E-25

$P_1 = 2.00E+01 \text{ N/SQ-M}$, $US_1 = 1.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1031E+01	2.9043E+02	4.1175E+02
T	4.6588E+00	4.5605E+00	7.0712E+00
RHO	8.8117E+00	4.2544E+01	5.6386E+01
H	8.9075E-01	7.4439E-01	6.9688E-01
A	2.0527E+00	2.2989E+00	2.4915E+00
S	1.1512E+00	1.1818E+00	1.1818E+00
Z	1.0002E+00	1.0162E+00	1.0326E+00
GAME	9.0489E-01	8.6314E-01	8.5494E-01
U	5.2499E+00	1.0635E+00	9.7264E-01

SPECIES	MOLE FRACTIONS		
E-	1.9789E-22	1.5639E-15	7.6042E-14
O	2.0143E-07	2.7515E-04	6.9170E-04
O+	5.1792E-28	5.6784E-22	1.0323E-19
O++	0.	3.7684E-90	6.6730E-86
O-	2.9019E-27	9.9578E-19	4.5682E-17
O2	4.3997E-04	1.6145E-02	7.1024E-02
O2+	1.7557E-18	1.9789E-18	2.6374E-14
O2-	1.1213E-22	1.0247E-17	2.8649E-16
C	1.1228E-26	3.4208E-19	2.3442E-17
C+	2.6418E-79	2.2319E-30	1.4324E-27
C++	0.	4.2342E-73	1.8200E-69
C-	4.0387E-67	4.8934E-34	3.4924E-31
CO	3.9459E-04	2.1649E-02	6.2189E-02
CO+	1.9441E-29	5.6140E-20	2.9818E-18
CO2	9.9857E-01	9.9188E-01	9.9050E-01
C2	1.3762E-39	1.4590E-30	8.1150E-27

$P_1 = 2.00E+01 \text{ N/SQ-M}$, $US_1 = 1.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2176E+01	4.1284E+02	5.6218E+02
T	4.3463E+00	7.2742E+00	7.6850E+00
RHO	9.4795E+00	5.4519E+01	6.8969E+01
H	8.1621E-01	8.7178E-01	6.1887E-01
A	2.1589E+00	2.5623E+00	2.6397E+00
S	1.1787E+00	1.2182E+00	1.2405E+00
Z	1.0024E+00	1.0434E+00	1.0666E+00
GAME	8.8709E-01	8.5214E-01	8.4986E-01
U	5.9659E+00	1.0498E+00	9.6652E-01

SPECIES	MOLE FRACTIONS		
E-	8.5628E-19	1.0849E-13	6.7861E-13
O	1.1458E-07	1.4900E-03	3.7324E-03
O+	8.3048E-26	9.9588E-19	7.6855E-18
O++	0.	4.4188E-82	8.2091E-78
O-	4.9999E-23	1.7942E-16	1.8470E-15
O2	3.0473E-02	9.9344E-07	5.9344E-07
O2+	2.6124E-18	1.0946E-13	6.6797E-13
O2-	8.7282E-22	9.0970E-16	7.2094E-15
C	1.9095E-25	1.6890E-16	1.2971E-15
C+	4.3749E-74	1.6042E-26	5.9274E-25
C++	0.	1.2737E-66	9.4612E-62
C-	2.2179E-89	4.9694E-20	2.4970E-28
CO	4.6086E-41	6.9344E-07	1.8707E-07
CO+	9.2217E-07	1.2180E-01	1.2497E-16
CO2	8.1714E-24	1.2680E-17	1.2497E-16
CC2	9.9172E-01	8.7638E-01	8.1732E-01
C2	2.2884E-75	7.0908E-26	2.2817E-24

$P_1 = 2.00E+01 \text{ N/SQ-M}$, $US_1 = 2.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4824E+01	5.1721E+02	7.9893E+02
T	4.1102E+00	7.6822E+00	8.2237E+00
RHO	1.0501E+01	4.7897E+01	6.3067E+01
H	7.7285E-01	5.8942E-01	5.3062E-01
A	2.3119E+00	2.6849E+00	2.7854E+00
S	1.2067E+00	1.2587E+00	1.2807E+00
Z	1.0314E+00	1.0817E+00	1.1168E+00
GAME	8.8939E-01	8.4913E-01	8.4927E-01
U	6.6962E+00	1.0376E+00	9.6803E-01

SPECIES	MOLE FRACTIONS		
E-	2.7368E-18	1.3161E-12	6.3910E-12
O	1.5711E-04	4.4108E-07	9.5246E-02
O+	9.5728E-23	1.1795E-17	1.6210E-14
O++	0.	4.6541E-73	1.6009E-72
O-	4.8854E-20	3.9176E-15	2.6318E-14
O2	1.1530E-07	7.0489E-02	9.0859E-02
O2+	2.7789E-14	1.3347E-12	5.4893E-12
O2-	4.4025E-15	1.4981E-14	7.4238E-14
C	2.2589E-20	2.5051E-15	2.2670E-14
C+	6.4049E-32	3.2287E-24	2.4681E-23
C++	8.3469E-90	3.4294E-59	5.8250E-59
C-	2.0829E-36	1.8457E-27	2.0831E-26
CO	2.2346E-02	1.4588E-01	1.9005E-01
CO+	4.2693E-21	2.7150E-16	2.0886E-15
CO2	9.6997E-01	7.7893E-01	7.0977E-01
C2	2.6469E-31	2.3449E-24	1.1780E-22

Table I. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SC-M, US1 = 2.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8991E+01	7.9033E+02	1.0140E+03
T	0.6253E+00	8.2092E+00	8.7322E+00
RHO	1.1597E+01	8.3444E+01	9.9829E+01
M	7.2430E-01	4.5727E-01	4.3189E-01
H	2.4107E+00	2.8361E+00	2.9358E+00
A	1.2342E+00	1.2574E+00	1.3224E+00
S	1.0275E+00	1.1288E+00	1.1635E+00
Z	8.9329E-01	8.4941E-01	8.5085E-01
GAME	7.4387E+00	1.0357E+00	9.7731E-01
U			

SPECIES	MOLE FRACTIONS		
E-	8.0691E-15	1.0372E-11	2.9576E-11
O	7.9511E-04	1.2634E-02	1.9666E-02
O+	1.2955E-20	4.7436E-16	1.9833E-15
D+	1.1450E-90	2.8133E-71	2.7369E-67
G2	3.3006E-18	5.9827E-16	2.2730E-13
D2+	2.7659E-02	1.0184E-01	1.2124E-01
O2+	8.0919E-15	1.0511E-11	4.8189E-12
O2-	1.8121E-17	1.4441E-13	3.0284E-11
C	2.2870E-18	5.8569E-14	2.3734E-13
C+	5.2298E-29	1.7678E-22	9.1879E-22
C-	3.2848E-73	1.4578E-57	1.6910E-54
C0	2.0396E-33	1.1499E-25	7.5011E-25
CO	5.3485E-02	2.1543E-01	2.6140E-01
CO+	3.3447E-19	5.1844E-15	1.9776E-14
CO2	9.1897E-01	6.7200E-01	5.9769E-01
C2	1.4327E-28	4.6626E-22	2.8373E-21

P1 = 2.00E+01 N/SC-M, US1 = 2.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4621E+01	1.0566E+03	1.3311E+03
T	7.0485E+00	8.8895E+00	9.2243E+00
RHO	1.2777E+01	1.0042E+02	1.1709E+02
M	6.7170E-01	3.9567E-01	3.2291E-01
H	6.3425E+00	2.9930E+00	3.1069E+00
A	1.2634E+00	1.3604E+00	1.3683E+00
S	1.0505E+00	1.1839E+00	1.2241E+00
Z	8.4752E-01	8.1133E-01	8.5375E-01
GAME	8.1894E+00	1.0433E+00	9.9485E-01
U			

SPECIES	MOLE FRACTIONS		
E-	8.4766E-14	5.1933E-11	1.2670E-10
O	2.3994E-03	2.4581E-02	3.4608E-02
O+	4.2825E-19	5.4023E-14	1.8011E-14
D+	3.4622E-84	6.5304E-67	2.8479E-63
G2	6.4798E-17	4.3480E-13	1.4288E-12
D2+	6.3425E-02	1.3112E-01	1.4785E-01
O2+	8.9044E-14	5.2311E-11	1.7026E-10
O2-	2.3957E-14	8.2250E-13	2.2905E-12
C	5.7907E-17	5.5827E-13	1.8880E-12
C+	6.9341E-27	5.4963E-21	1.6297E-20
C-	5.4220E-68	5.1433E-54	3.4870E-51
C0	6.1944E-31	4.5853E-24	1.9664E-23
CO	9.4625E-02	2.3608E-01	3.3359E-01
CO+	7.2073E-18	4.6175E-14	1.4011E-13
CO2	0.9673E-01	5.5822E-01	4.0593E-01
C2	1.3392E-26	1.1347E-20	5.0100E-20

P1 = 2.00E+01 N/SC-M, US1 = 2.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1168E+02	1.3775E+03	1.7124E+03
T	7.4024E+00	5.9707E+00	9.7200E+00
RHO	1.3980E+01	1.1796E+02	1.3532E+02
M	4.1031E-01	2.8651E-01	2.0376E-01
A	2.5987E+00	3.1394E+00	3.2823E+00
S	1.2938E+00	1.3855E+00	1.4195E+00
Z	1.0792E+00	1.2463E+00	1.2924E+00
GAME	8.6533E-01	8.4775E-01	8.5764E-01
U	8.9322E+00	1.0609E+00	1.0217E+00
U			

SPECIES	MOLE FRACTIONS		
E-	4.5090E-13	2.0113E-10	4.4939E-10
O	5.4090E-03	4.2634E-02	5.9014E-02
O+	3.6664E-18	4.3592E-14	1.3476E-13
D+	1.0108E-78	2.0177E-63	8.3602E-59
G-	4.9308E-16	2.5093E-12	7.0479E-12
O2	6.8391E-02	1.2532E-01	1.6746E-01
O2+	4.5285E-13	2.0679E-10	4.7414E-10
O2-	1.9000E-15	7.4798E-12	6.6220E-12
C	4.7747E-16	1.8085E-12	1.1661E-11
C+	2.7112E-26	1.0124E-19	3.1429E-19
C-	1.2308E-83	3.8645E-51	2.5179E-48
C0	6.1616E-31	1.0137E-22	4.2434E-22
CO	1.4138E-01	3.5297E-01	5.9345E-01
CO+	8.5961E-17	2.8021E-13	8.1577E-13
CO2	7.6882E-01	4.4947E-01	3.7998E-01
C2	1.2984E-25	1.7096E-19	6.9337E-19

P1 = 2.00E+01 N/SC-M, US1 = 2.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3012E+02	1.7515E+03	2.1551E+03
T	7.7239E+00	9.8575E+00	1.0227E+01
RHO	1.5151E+01	1.3511E+02	1.5414E+02
M	5.9233E-01	3.6518E-01	2.7994E-01
A	2.6936E+00	3.3368E+00	3.4732E+00
S	1.3257E+00	1.4324E+00	1.4664E+00
Z	1.1122E+00	1.3154E+00	1.3678E+00
GAME	8.4478E-01	8.4883E-01	8.6226E-01
U	9.6745E+00	1.0266E+00	1.0542E+00
U			

SPECIES	MOLE FRACTIONS		
E-	1.9414E-12	4.4766E-10	1.4739E-09
O	1.0268E-02	6.8283E-02	9.1527E-02
O+	3.7508E-17	2.7732E-13	6.7954E-12
D+	1.4691E-74	1.8506E-60	1.0923E-56
G2	3.2020E-15	1.0587E-11	2.9378E-11
D2+	9.9107E-02	1.7189E-01	1.7769E-01
O2+	1.9635E-12	6.8871E-10	1.5249E-09
O2-	7.2953E-15	2.1277E-11	2.6768E-11
C	3.8827E-15	1.1749E-11	6.6295E-11
C+	2.1408E-24	1.3275E-18	4.4859E-18
C-	2.0725E-60	1.1141E-46	9.5111E-46
C0	2.9527E-28	1.2011E-23	7.1903E-23
CO	4.8581E-01	4.1132E-01	4.4427E-01
CO+	4.0482E-16	1.4420E-12	4.1927E-12
CO2	7.0783E-01	3.4854E-01	2.8451E-01
C2	3.5579E-24	1.8994E-18	7.9269E-18

P1 = 2.00E+01 N/SC-M, US1 = 3.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4995E+02	2.1794E+03	2.8635E+03
T	8.0215E+00	1.0352E+01	1.0756E+01
RHO	1.6277E+01	1.5135E+02	1.7075E+02
M	4.8581E-01	3.4693E-02	6.4766E-02
A	2.7510E+00	3.5267E+00	3.6798E+00
S	1.3995E+00	1.4809E+00	1.5155E+00
Z	1.1888E+00	1.3912E+00	1.4505E+00
GAME	8.4928E-01	8.4347E-01	8.6791E-01
U	1.0618E+01	1.1219E+00	1.0962E+00
U			

SPECIES	MOLE FRACTIONS		
E-	6.9776E-12	1.5428E-09	4.3226E-09
O	1.7410E-02	1.0304E-01	1.3860E-01
O+	2.5813E-16	1.1828E-12	9.2561E-12
D+	1.9489E-73	1.1628E-54	8.0723E-54
G2	1.4977E-14	4.0030E-11	1.0516E-10
D2+	1.1250E-01	1.7842E-01	1.7679E-01
O2+	6.6177E-12	2.2009E-09	4.4732E-05
O2-	2.6447E-14	3.3652E-11	7.0391E-11
C	2.2203E-14	6.0931E-11	9.2423E-10
C+	6.4911E-22	3.0772E-18	6.4913E-17
C-	7.9221E-55	5.1210E-44	2.2941E-43
C0	7.5675E-27	4.8649E-21	9.923E-20
CO	2.4157E-01	6.9926E-01	4.8650E-01
CO+	2.1147E-15	9.7809E-12	1.9761E-11
CO2	6.2843E-01	2.4928E-01	2.0265E-01
C2	4.7661E-22	0.4366E-18	7.9789E-17

P1 = 2.00E+01 N/SC-M, US1 = 3.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7115E+02	2.6990E+03	3.2391E+03
T	5.2207E+00	1.4886E+01	1.1319E+01
RHO	1.7590E+01	1.8809E+02	1.0598E+02
M	4.8470E-01	1.0091E-01	-2.1287E-01
A	2.8815E+00	3.7306E+00	3.9042E+00
S	1.3935E+00	1.5307E+00	1.5678E+00
Z	1.1096E+00	1.2732E+00	1.2601E+00
GAME	8.4668E-01	8.6923E-01	8.7427E-01
U	1.1197E+01	1.1697E+00	1.1480E+00
U			

SPECIES	MOLE FRACTIONS		
E-	1.7724E-11	3.4000E-09	1.1805E-08
O	2.7321E-02	1.0777E-01	1.8865E-01
O+	8.0070E-16	7.0141E-12	2.9677E-11
D+	6.0822E-69	1.6145E-52	3.7992E-51
G-	0.9775E-14	1.3312E-10	3.3115E-10
O2	1.3241E-01	1.7369E-01	1.6233E-01
O2+	1.7842E-11	5.9823E-09	1.2175E-08
O2-	7.8623E-14	8.2198E-11	1.5809E-10
C	7.9661E-14	4.2972E-10	1.5977E-09
C+	9.2425E-23	4.3883E-17	9.7015E-16
C-	1.4482E-57	3.7205E-42	3.0116E-41
C0	1.1796E-24	1.1745E-19	1.1929E-18
CO	2.9139E-01	4.9458E-01	5.1275E-01
CO+	7.0243E-18	2.3993E-11	8.8773E-11
CO2	5.4888E-01	1.8400E-01	1.3627E-01
C2	1.1881E-27	9.0407E-17	7.4682E-16

Table I. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SC-M, US1 = 3.40E+02 M/SEC				P1 = 2.00E+01 N/SC-M, US1 = 4.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0271E+01	3.16E+02	3.8661E+03	P	2.45E+02	5.0045E+03	6.1238E+03
T	8.5782E+00	1.1416E+01	1.1930E+01	T	9.3902E+00	1.7511E+01	1.4917E+01
RHO	1.8206E+01	1.7873E+02	1.9802E+02	RHO	2.0671E+01	2.0017E+02	2.1136E+02
H	3.7929E-01	-2.4709E-01	-3.7386E-01	H	8.4562E-02	-7.3733E-01	-9.2616E-01
A	7.8622E+00	1.0116E+00	4.1501E+00	A	2.3394E+00	4.7733E+00	5.2630E+00
S	1.4294E+00	1.5511E+00	1.4216E+00	S	1.8282E+00	1.7371E+00	1.7860E+00
Z	1.2740E+00	1.5511E+00	1.4216E+00	Z	1.3885E+00	1.8505E+00	1.9423E+00
GAME	8.4811E-01	8.7567E-01	8.8214E-01	GAME	8.5726E-01	9.1133E-01	9.5600E-01
U	1.1855E+01	1.2162E+00	1.2103E+00	U	1.4085E+01	1.4561E+00	1.5292E+01

P1 = 2.00E+01 N/SC-M, US1 = 3.40E+02 M/SEC				P1 = 2.00E+01 N/SC-M, US1 = 4.20E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1763E+02	3.7792E+02	4.7787E+02	P	2.9743E+02	5.6526E+02	7.9388E+02
T	1.6104E+01	1.2000E+01	1.2627E+01	T	9.6697E+00	1.4782E+01	1.8188E+01
RHO	2.5787E+01	-4.6167E-01	-5.4488E-01	RHO	2.1257E+01	1.5714E+02	1.9389E+02
H	3.1077E+00	4.1855E+00	4.4288E+00	H	-9.4000E-02	-9.1721E-01	-1.1537E+00
A	1.4444E+00	1.3333E+00	1.6758E+00	A	1.6492E+00	5.2279E+00	6.1089E+00
S	1.2822E+00	1.5444E+00	1.7286E+00	S	1.4444E+00	1.7877E+00	1.8940E+00
Z	8.5017E-01	8.8346E-01	8.9245E-01	Z	8.5827E-01	1.9400E+00	1.9952E+00
GAME	1.2627E+01	1.2825E+00	1.2861E+00	GAME	1.6810E+01	1.5925E+00	1.6278E+00

P1 = 2.00E+01 N/SC-M, US1 = 3.40E+02 M/SEC				P1 = 2.00E+01 N/SC-M, US1 = 4.40E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4299E+02	4.76E+02	6.3732E+02	P	3.2670E+02	6.2773E+02	7.9748E+02
T	9.1105E+00	1.2677E+01	1.2506E+01	T	9.9565E+00	1.7304E+01	2.1018E+01
RHO	1.9574E+01	1.5652E+02	2.1214E+02	RHO	2.1780E+01	1.8224E+02	1.8684E+02
H	1.7356E-01	-5.6542E-01	-7.2750E-01	H	-1.0793E-01	-1.1039E+00	-1.3845E+00
A	3.2196E+00	4.6554E+00	4.7713E+00	A	3.5576E+00	5.637E+00	6.2478E+00
S	1.5046E+00	1.8733E+00	1.7508E+00	S	1.6290E+00	1.8345E+00	1.8846E+00
Z	1.2329E+00	1.7420E+00	1.8479E+00	Z	1.5087E+00	1.9905E+00	2.0310E+00
GAME	8.2956E-01	8.5384E-01	8.1067E-01	GAME	8.6161E-01	1.0328E+00	9.1453E-01
U	1.3357E+01	1.2591E+00	1.2837E+00	U	1.5533E+01	1.8594E+00	2.0464E+00

P1 = 2.00E+01 N/SC-M, US1 = 3.00E+02 M/SEC				P1 = 2.00E+01 N/SC-M, US1 = 4.40E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4440E-10	8.3270E-08	2.0748E-07	P	1.9425E-09	6.9200E-06	1.5858E-04
T	2.8787E-02	2.2700E-01	2.9404E-01	T	1.7245E-01	4.9388E-01	5.0705E-01
RHO	7.0564E-14	1.1149E-09	6.5764E-05	RHO	2.0893E-12	2.0165E-06	2.4767E-05
H	3.1781E-44	6.0872E-47	2.5391E-42	H	1.9701E-37	5.8937E-32	3.6449E-26
A	1.2497E-12	2.4357E-05	5.6582E-09	A	1.3816E-11	5.5239E-08	6.0382E-07
S	7.1164E-01	9.6875E-02	6.1794E-02	S	1.6499E-01	3.9447E-03	6.3912E-04
Z	2.4637E-01	8.2829E-04	1.5449E-07	Z	1.9558E-09	1.0794E-06	1.0839E-04
GAME	5.8574E-01	4.6896E-14	6.2571E-10	GAME	8.0384E-11	2.2882E-10	1.5796E-02
U	1.1265E-16	2.8102E-12	6.7644E-12	U	1.0473E-17	2.6176E-07	8.3746E-05
C	1.3255E-21	5.6491E-27	7.0028E-23	C	2.9502E-16	1.4690E-23	1.2128E-08
CO	2.5676E-02	1.6003E-16	2.1321E-15	CO	2.4527E-21	1.4522E-11	3.7795E-18
CO2	4.2144E-01	5.2885E-01	6.1918E-01	CO2	4.0185E-01	5.0087E-01	4.7805E-01
C2	2.8454E-12	2.2101E-05	1.2308E-08	C2	5.3541E-12	2.4222E-06	4.9596E-05
	3.2811E-01	4.4474E-07	2.7959E-02		1.6070E-01	1.0353E-03	1.5319E-04
	5.5105E-03	9.6110E-14	1.2294E-12		3.6671E-18	1.9468E-08	9.6343E-06

Table I. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

$P_1 = 2.00E+01 \text{ N/SC-M}, \quad US_1 = 4.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5728E+02	4.9022E+02	8.2778E+02
T	1.0277E+01	2.0208E+01	2.2255E+01
RHD	2.2134E+01	1.4956E+02	1.9105E+02
H	-2.1103E-01	-1.2583E+00	-1.6079E+00
A	2.7774E+00	6.1599E+00	4.4255E+00
S	1.4448E+00	1.8727E+00	1.5252E+00
Z	1.5738E+00	1.0144E+00	2.0835E+00
GAME	8.6535E-01	9.4172E-01	8.8870E-01
U	1.6252E+01	2.1245E+00	2.1357E+00

$P_1 = 2.00E+01 \text{ N/SC-M}, \quad US_1 = 5.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5675E+02	9.0527E+02	1.1522E+03
T	1.1314E+01	2.2301E+01	2.4410E+01
RHD	2.2615E+01	1.7790E+02	2.0598E+02
H	1.7180E-01	-1.9411E+00	-2.3138E+00
A	4.2221E+00	6.4939E+00	7.0211E+00
S	1.7972E+00	1.9846E+00	2.0438E+00
Z	1.7851E+00	2.1838E+00	2.2920E+00
GAME	8.8265E-01	8.8078E-01	8.8112E-01
U	1.8351E+01	2.3419E+00	2.2694E+00

SPECIES ----- MOLE FRACTIONS -----

F-	2.7007E-05	2.7477E-05	4.0534E-04
C	2.1347E-01	4.0289E-01	5.2027E-01
C+	4.7275E-12	1.7177E-05	4.1771E-05
O+	9.7502E-27	3.9919E-27	1.0147E-24
D+	2.7898E-11	3.5237E-07	1.7022E-04
O2	1.5125E-01	8.0455E-04	4.3167E-04
O2+	2.7160E-09	1.0801E-06	1.0144E-06
O2+	9.1331E-12	4.8946E-10	1.1155E-09
C-	2.7775E-10	8.0391E-07	4.1407E-02
C+	9.0649E-17	3.5468E-05	2.8203E-04
C++	2.7546E-45	1.1922E-19	6.4073E-17
C-	1.3576E-20	2.7887E-09	6.8397E-08
CO	9.7171E-03	4.8780E-01	4.2677E-01
CO+	1.0080E-11	2.4122E-05	7.8822E-05
CO2	1.1057E-01	2.0278E-04	9.1882E-05
C2	1.8095E-17	3.4525E-05	7.8701E-05

SPECIES ----- MOLE FRACTIONS -----

F-	2.2917E-08	8.6076E-04	1.4725E-03
C	3.5710E-01	5.4115E-01	5.6220E-01
C+	2.1576E-10	6.4908E-03	9.6400E-05
D+	9.0413E-11	1.2363E-23	3.3437E-22
O2	1.7180E-10	2.3971E-06	4.1972E-06
O2+	2.5782E-08	3.1388E-04	2.8757E-04
O2+	2.1948E-11	1.8959E-09	3.0046E-09
C-	6.1214E-09	0.2902E-02	1.2920E-01
C	1.7270E-14	6.9340E-04	1.2502E-03
C++	4.3901E-40	3.3814E-16	3.1451E-15
C-	1.4027E-18	2.3656E-07	6.2840E-07
CO	5.2252E-01	3.7737E-01	3.0933E-01
CO+	3.3911E-10	1.0441E-04	1.2969E-04
CO2	2.7429E-02	9.4734E-09	3.9023E-05
C2	1.4949E-14	9.5284E-05	1.8960E-04

$P_1 = 2.00E+01 \text{ N/SC-M}, \quad US_1 = 4.80E+02 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8917E+02	7.5055E+02	9.7710E+02
T	1.0575E+01	2.1674E+01	2.2697E+01
RHD	2.2417E+01	1.7024E+02	1.9469E+02
H	-3.1870E-01	-1.4032E+00	-1.8247E+00
A	2.8854E+00	4.2318E+00	6.6207E+00
S	1.7097E+00	1.6333E+00	1.9482E+00
Z	1.4417E+00	2.0710E+00	2.1509E+00
GAME	8.6576E-01	9.5698E-01	8.8216E-01
U	1.4946E+01	2.2591E+00	2.1974E+00

$P_1 = 2.00E+01 \text{ N/SC-M}, \quad US_1 = 9.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9239E+02	9.7203E+02	1.2919E+03
T	1.1797E+01	2.3914E+01	2.4991E+01
RHD	2.2498E+01	1.8048E+02	2.0807E+02
H	-4.4252E-01	-2.1717E+00	-2.5056E+00
A	4.4252E+00	6.8945E+00	7.2265E+00
S	1.8384E+00	2.0288E+00	2.0931E+00
Z	1.8582E+00	2.2522E+00	2.3670E+00
GAME	8.9488E-01	8.8003E-01	8.8260E-01
U	1.9092E+01	2.3797E+00	2.3191E+00

SPECIES ----- MOLE FRACTIONS -----

F-	6.7955E-05	2.8702E-04	7.0230E-04
C	2.5876E-01	4.1430E-01	4.9424E-01
C+	2.0130E-11	2.2801E-05	5.7939E-04
O+	8.5920E-27	2.4327E-27	7.3559E-24
D+	5.2078E-11	8.4379E-07	2.1238E-04
O2	1.7278E-01	4.6442E-04	3.4727E-04
O2+	6.8063E-09	5.4607E-07	1.0184E-06
O2+	1.3705E-11	1.0205E-09	1.9310E-09
C-	4.6272E-10	2.5746E-02	4.8255E-02
C+	4.1460E-14	1.8561E-04	5.6116E-04
C++	1.2280E-43	2.0640E-17	3.2884E-16
C-	6.7580E-20	2.2644E-09	1.8282E-07
CO	5.2298E-01	4.2477E-01	3.9459E-01
CO+	2.9426E-11	6.9397E-05	9.9489E-05
CO2	8.6540E-02	1.0647E-04	6.6268E-04
C2	1.3221E-17	2.2870E-05	7.8811E-05

SPECIES ----- MOLE FRACTIONS -----

F-	4.4536E-08	1.2270E-03	1.9437E-03
C	4.0647E-01	5.8472E-01	5.7871E-01
C+	8.8374E-10	8.2101E-05	1.2130E-04
D+	3.1880E-10	4.0911E-23	4.0306E-22
O2	3.0040E-10	3.2256E-06	6.4939E-06
O2+	4.2659E-08	2.8170E-04	2.0490E-04
O2+	2.3962E-11	9.5652E-07	1.1016E-06
C-	7.9456E-00	1.0990E-01	5.6959E-09
CO	1.8073E-13	1.0302E-03	1.7007E-03
CO	8.3781E-30	1.9724E-15	7.8016E-15
CO	6.9126E-19	4.2029E-07	9.7047E-07
CO+	1.2767E-09	3.2460E-01	2.6800E-01
CO2	2.1111E-02	1.1015E-04	1.4094E-04
C2	1.2750E-14	4.2541E-08	3.0091E-03
		1.3009E-04	2.1142E-04

$P_1 = 2.00E+01 \text{ N/SC-M}, \quad US_1 = 5.00E+02 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2234E+02	8.3744E+02	1.0642E+03
T	1.0924E+01	2.2549E+01	2.3789E+01
RHD	2.2584E+01	1.7408E+02	2.0193E+02
H	-4.3082E-01	-1.7182E+00	-2.0700E+00
A	4.3453E+00	6.8007E+00	6.8116E+00
S	1.7970E+00	1.6174E+00	1.9944E+00
Z	1.7126E+00	2.1184E+00	2.2165E+00
GAME	8.7412E-01	8.4382E-01	8.4079E-01
U	1.7482E+01	2.2582E+00	2.2266E+00

$P_1 = 2.00E+01 \text{ N/SC-M}, \quad US_1 = 9.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2897E+02	1.0248E+03	1.2918E+03
T	1.2682E+01	2.4461E+01	2.3930E+01
RHD	2.1572E+01	1.8093E+02	2.0660E+02
H	-7.9475E-01	-4.0708E+00	-4.8232E+00
A	4.7078E+00	7.0793E+00	7.0235E+00
S	1.8810E+00	2.0642E+00	2.1278E+00
Z	1.9206E+00	2.2339E+00	2.4458E+00
GAME	9.2044E-01	8.8078E-01	8.8479E-01
U	1.9779E+01	2.0144E+00	2.0992E+00

SPECIES ----- MOLE FRACTIONS -----

F-	1.2311E-08	5.4697E-04	1.0566E-03
C	2.0714E-01	5.2751E-01	4.4873E-01
C+	5.7732E-11	4.8794E-05	7.7478E-05
O+	1.2305E-27	2.3574E-24	3.3639E-23
D+	9.8792E-11	1.5597E-06	3.0865E-04
O2	1.0914E-01	3.6159E-04	2.1627E-04
O2+	1.2265E-09	9.4263E-07	1.0570E-06
O2+	1.3921E-11	1.4291E-09	2.4013E-09
C-	1.7674E-09	4.8722E-02	9.7242E-02
C+	1.3707E-14	4.1147E-04	1.6730E-04
C++	6.0795E-41	1.4194E-15	1.1977E-15
C-	2.2917E-19	1.0287E-07	3.6627E-07
CO	5.2491E-01	4.1707E-01	3.7182E-01
CO+	1.0704E-10	8.7477E-05	1.1499E-04
CO2	5.2814E-02	7.2421E-05	4.1181E-05
C2	2.5647E-16	5.4607E-05	1.2419E-04

SPECIES ----- MOLE FRACTIONS -----

F-	1.0049E-07	1.5538E-03	2.9428E-03
C	4.7348E-01	5.4797E-01	5.8862E-01
C+	2.0664E-04	1.0259E-06	1.9198E-04
D+	5.4308E-10	1.6099E-22	1.4920E-21
O2	2.8076E-10	2.9645E-06	6.8281E-04
O2+	8.8971E-08	1.0400E-04	2.4243E-04
O2+	2.1710E-11	2.7246E-09	4.2116E-09
C-	1.4658E-07	1.2826E-01	1.7751E-01
CO	8.8315E-12	1.4260E-03	2.2407E-03
CO	2.1900E-34	3.9086E-15	3.8187E-14
CO	6.3764E-17	6.7871E-07	1.4066E-06
CO	4.0918E-01	2.9197E-01	2.8239E-01
CO+	6.9742E-09	1.2911E-04	1.4946E-04
CO2	9.2416E-03	3.2164E-05	2.3960E-05
C2	1.4060E-13	1.7997E-04	2.4508E-04

Table I. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

$P_1 = 2.00E+01 \text{ N/50-M}$, $US_1 = 5.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.6566E+02	1.0387E+04	1.3028E+C4
T	1.3757E+01	2.4933E+01	2.4036E+01
RHO	7.0759E+01	1.7383E+02	1.9818E+02
H	-9.2475E-01	-2.6473E+00	-3.0817E+C0
A	5.2046E+00	7.2653E+00	7.6388E+C0
S	1.9219E+00	2.1117E+00	2.1739E+C0
Z	1.9808E+00	2.3567E+00	2.5249E+C0
GAME	9.9408E-01	8.8218E-01	8.8759E-C1
U	2.0428E+01	2.4437E+00	2.3925E+C0

SPECIES ----- MOLE FRACTIONS -----

E-	4.1584E-07	2.1423E-03	2.2264E-03
O	4.8784E-01	5.8064E-01	6.0074E-01
O+	8.2361E-08	1.2582E-04	1.8798E-04
O++	5.2154E-40	4.4283E-22	4.0772E-21
O-	1.3195E-09	5.1256E-06	8.1279E-06
O2-	2.1676E-07	2.3135E-04	2.1801E-04
O2-	1.5092E-11	1.6700E-06	1.7020E-06
F	3.4538E-06	1.6153E-01	2.0174E-01
C+	6.6975E-10	1.8850E-03	2.4930E-02
C+	3.7822E-20	8.5054E-15	3.8832E-14
C-	5.1936E-15	9.6716E-07	1.6718E-06
CO	5.0244E-01	2.8307E-01	1.9054E-01
CO+	1.1738E-07	1.3679E-04	1.9425E-04
CO2	2.1849E-03	2.7336E-05	1.7212E-05
C2	1.5820E-11	2.6680E-04	2.6504E-04

$P_1 = 2.00E+01 \text{ N/50-M}$, $US_1 = 6.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0191E+02	9.9912E+03	1.2465E+04
T	1.6106E+01	2.5214E+01	2.4466E+01
RHO	1.8701E+01	1.5478E+02	1.8094E+02
H	-1.0587E-00	-2.8927E+00	-3.3947E+00
A	5.4014E+00	7.4347E+00	7.8949E+00
S	1.9588E+00	2.1965E+00	2.2185E+C0
Z	1.9983E+00	2.4701E+00	2.6031E+00
GAME	1.0458E+00	8.8294E-01	8.9094E-C1
U	2.1015E+01	2.4633E+00	2.4237E+C0

SPECIES ----- MOLE FRACTIONS -----

E-	6.2889E-06	2.6956E-03	4.0322E-03
O	4.9885E-01	5.9249E-01	6.1182E-01
O+	2.0308E-06	1.5165E-04	2.3127E-04
O++	1.1765E-33	1.0107E-21	1.0119E-20
O-	7.9848E-09	5.8792E-06	9.1581E-06
O2-	9.3976E-04	2.0417E-04	1.9012E-04
O2-	3.2665E-07	1.0727E-06	1.3171E-06
O2-	1.3718E-11	3.0149E-09	4.4200E-09
C	3.4714E-04	1.8191E-01	2.2394E-C1
C+	5.8137E-07	2.4100E-03	2.4567E-03
C+	4.1800E-24	1.6183E-14	7.6698E-14
C-	2.1899E-12	1.2513E-06	2.3081E-06
CO	4.9960E-01	2.1647E-01	1.5568E-01
CO+	5.3947E-06	1.3947E-04	1.9445E-04
CO2	2.5250E-04	1.8730E-05	1.2102E-05
C2	1.2136E-08	2.2475E-04	2.4764E-04

$P_1 = 2.00E+01 \text{ N/50-M}$, $US_1 = 6.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4015E+02	9.9741E+03	1.2394E+C4
T	1.8193E+01	2.5771E+01	2.7019E+01
RHO	1.7510E+01	1.5202E+02	1.7804E+02
H	-1.1973E+00	-3.1397E+00	-3.6041E+00
A	5.8133E+00	7.4281E+00	8.0436E+00
S	1.9914E+00	2.2002E+00	2.2647E+00
Z	2.0140E+00	2.5462E+00	2.6855E+C0
GAME	9.3331E-01	8.8875E-01	8.9612E-01
U	2.1631E+01	2.4994E+00	2.4692E+C0

SPECIES ----- MOLE FRACTIONS -----

E-	6.2064E-05	3.3795E-03	5.1129E-03
O	5.0338E-01	6.0393E-01	6.2247E-01
O+	1.0489E-05	1.8647E-04	2.9364E-04
O++	1.3555E-29	2.8244E-21	3.0422E-20
O-	4.1937E-08	6.8823E-06	1.0694E-05
O2-	2.3928E-04	1.8318E-04	1.8648E-04
O2-	2.8088E-07	1.1082E-06	1.3776E-06
O2-	2.0902E-11	3.1612E-09	4.5125E-09
C	7.1467E-03	2.0807E-01	2.4339E-01
C+	2.2413E-03	3.0572E-03	4.6752E-03
C+	2.6841E-20	3.4105E-14	1.6904E-13
C-	3.6321E-10	1.6220E-06	2.9062E-06
CO	4.8903E-01	1.8079E-01	1.2149E-01
CO+	1.8923E-05	1.4316E-04	1.5429E-04
CO2	6.0757E-04	1.3745E-05	8.1206E-05
C2	9.9703E-07	2.2818E-04	2.6320E-04

$P_1 = 2.00E+01 \text{ N/50-M}$, $US_1 = 6.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8172E+02	1.0956E+04	1.3057E+04
T	1.4163E+01	2.6364E+01	2.7790E+C1
RHO	1.7377E+01	1.7241E+02	1.7008E+C2
H	-1.3412E+00	-7.4000E+00	-9.9019E+C0
A	5.904CF+00	7.8562E+00	8.3456E+C0
S	2.0221E+00	2.2423E+00	2.3055E+C0
Z	2.3472E+00	2.6271E+00	2.7711E+C0
GAME	8.8853E-01	8.5113E-01	8.0446E-01
U	2.2318E+01	2.5481E+00	2.5938E+C0

SPECIES ----- MOLE FRACTIONS -----

E-	1.8214E-04	4.2749E-02	6.6672E-03
O	5.1141E-01	6.1508E-01	4.3231E-01
O+	1.7879E-05	2.3770E-04	4.0155E-C4
O++	4.4284E-28	9.2463E-21	1.2891E-19
O-	9.8878E-08	8.4198E-05	1.0779E-05
O2-	1.4422E-04	1.6765E-04	1.4652E-C4
O2+	2.3981E-07	1.1990E-06	1.5159E-04
O2-	3.1070E-11	3.9318E-09	4.9244E-09
C	2.2920E-02	2.3046E-01	2.6536E-01
C+	1.1336E-04	9.9004E-03	4.1268E-03
C++	6.3071E-19	7.8171E-14	4.5242E-13
C-	2.7677E-09	2.1702E-06	2.8214E-06
CO	4.6512E-01	1.4967E-01	8.8561E-02
CO+	2.1811E-05	1.4714E-04	1.5422E-04
CO2	3.3940E-05	9.9266E-06	5.1230E-06
C2	5.3688E-06	2.4873E-04	2.5152E-04

$P_1 = 2.00E+01 \text{ N/50-M}$, $US_1 = 6.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2336E+02	1.1351E+04	1.4083E+04
T	1.9704E+01	2.7060E+01	2.8814E+C1
RHO	1.7950E+01	1.9478E+02	1.7092E+C2
H	-1.4900E+00	-3.6824E+00	-4.2189E+00
A	6.0160E+00	8.1126E+00	8.6979E+00
S	2.0927E+00	2.2841E+00	2.3593E+C0
Z	2.0881E+00	2.7102E+00	2.8595E+C0
GAME	8.7568E-01	8.9747E-01	9.1818E-C1
U	2.3030E+01	2.6147E+00	2.6322E+C0

SPECIES ----- MOLE FRACTIONS -----

E-	3.3906E-04	4.4790E-03	9.1413E-03
O	5.2004E-01	6.2940E-01	6.4079E-01
O+	2.4030E-05	1.1321E-04	1.9319E-04
O++	3.1531E-27	3.5768E-20	8.0565E-19
O-	1.6414E-07	1.0423E-05	1.6526E-05
O2-	1.1277E-04	1.9219E-04	1.2387E-04
O2+	2.1864E-07	1.2225E-06	1.7181E-06
O2-	4.1883E-11	4.0209E-09	7.2646E-09
C	4.1689E-02	2.5144E-01	2.8292E-01
C+	2.7493E-04	5.0240E-03	6.4172E-03
C++	3.4394E-18	1.5636E-13	1.9483E-12
C-	8.4054E-09	2.9007E-06	5.1229E-06
CO	4.3644E-01	1.1168E-01	8.7613E-02
CO+	4.0633E-04	1.4975E-04	1.5091E-04
CO2	2.4339E-03	6.7907E-06	2.7713E-06
C2	1.2573E-05	2.4960E-04	2.2301E-04

$P_1 = 2.00E+01 \text{ N/50-M}$, $US_1 = 6.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7063E+02	1.2244E+04	1.5216E+04
T	2.0277E+01	2.7881E+01	3.0209E+C1
RHO	1.7819E+01	1.9710E+02	1.7104E+C2
H	-1.6435E+00	-3.9790E+00	-4.2539E+00
A	6.1366E+00	8.4039E+00	9.1464E+00
S	2.0833E+00	2.3275E+00	2.3974E+C0
Z	2.1329E+00	2.7993E+00	2.9449E+C0
GAME	8.7073E-01	9.0647E-01	9.4036E-01
U	2.3749E+01	2.6966E+00	2.7576E+C0

SPECIES ----- MOLE FRACTIONS -----

E-	4.2099E-04	7.1600E-03	1.3443E-02
O	5.3079E-01	6.3473E-01	6.4618E-01
O+	3.0024E-05	4.3083E-04	9.8478E-04
O++	1.3079E-26	1.6378E-19	8.2619E-18
O-	2.4290E-07	1.2975E-05	2.1400E-05
O2-	9.6444E-03	1.3467E-04	9.7354E-04
O2+	2.1326E-07	1.4776E-06	2.0028E-06
O2-	5.2221E-11	4.6884E-09	5.6435E-09
C	4.1622E-02	2.7029E-01	2.9494E-01
C+	4.4315E-04	6.5948E-03	1.2365E-02
C++	1.1234E-17	5.4871E-13	7.2771E-12
C-	1.7887E-08	3.8513E-06	6.9266E-06
CO	4.0667E-01	8.0252E-02	3.1618E-02
CO+	4.7464E-05	1.4978E-04	1.4201E-04
CO2	1.9060E-03	4.2498E-06	1.1842E-06
C2	2.1571E-05	2.3689E-04	1.7492E-04

Table I. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SC-M, US1 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.1738E+02	1.2195E+04	1.6711E+C4
T	2.0680E+01	2.8905E+01	2.2203E+C1
RMO	1.8122E+01	1.5869E+02	1.5914E+02
H	-1.8015E+00	-4.2767E+00	-4.9117E+00
A	6.2594E+00	9.7513E+00	9.7036E+00
S	2.1147E+00	2.2672E+00	2.4417E+00
Z	2.1807E+00	2.8766E+00	3.0241E+00
GAME	8.6867E-01	9.2104E-01	9.6889E-01
U	2.4472E+C1	2.7980E+00	2.9281E+C0

SPECIES	MOLE FRACTIONS		
F-	7.2634E-04	9.7520E-03	2.1965E-02
O	5.4073E-01	6.4221E-01	4.4559E-01
O+	3.6235E-C0	6.3519E-04	1.9299E-03
O++	4.2357E-76	1.0118E-18	1.7370E-16
C-	3.2822E-07	1.6310E-05	2.8416E-05
O2	8.7136E-05	1.1394E-04	6.8466E-05
O2+	2.1374E-C7	1.8753E-06	2.4192E-06
O2+	4.8140E-11	4.8712E-09	5.5732E-09
C	9.1412E-C2	2.8550E-01	2.9446E-01
C+	6.3701E-04	8.9516E-03	1.9945E-02
C++	2.8846E-17	1.8512E-12	5.2965E-11
C-	3.1748E-C8	5.1041E-06	9.7572E-C6
CO	3.7627E-C1	4.2018E-02	1.3645E-02
CO+	5.3144E-C0	1.4557E-04	1.2584E-04
CO2	1.9513E-05	2.2992E-04	7.6476E-07
C2	3.1604E-05	2.0158E-04	1.1401E-04

P1 = 2.00E+01 N/SC-M, US1 = 7.20E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.6555E+C2	1.4182E+04	1.7815E+C4
T	2.1042E+01	3.0297E+01	3.4647E+C1
RMO	1.8042E+01	1.4863E+02	1.6400E+C2
H	-1.9642E+00	-4.5868E+00	-5.2866E+00
A	6.3841E+00	9.1814E+00	1.0224E+01
S	2.1855E+C0	2.4082E+00	2.4893E+00
Z	2.2295E+00	2.5548E+00	2.8949E+00
GAME	8.6797E-01	9.4200E-01	9.7793E-01
U	2.5156E+01	2.9311E+00	3.1480E+C0

SPECIES	MOLE FRACTIONS		
F-	9.7769E-04	1.4152E-02	2.6759E-02
O	5.5072E-01	6.6458E-01	4.2862E-01
O+	4.3258E-05	1.0242E-03	4.0433E-03
O++	1.2271E-29	9.6587E-18	4.7427E-15
C-	4.2562E-07	2.8027E-05	3.6881E-C6
O2	8.0207E-05	8.9866E-05	4.5234E-C6
O2+	2.1780E-07	1.9609E-06	2.9577E-C6
O2+	7.6846E-11	5.0772E-09	5.1538E-09
C	1.2368E-01	2.9551E-01	2.8476E-C1
C+	8.5664E-04	1.3003E-02	3.2859E-C2
C++	4.9289E-17	8.2891E-12	4.6670E-10
C-	4.0594E-08	6.7613E-06	1.1598E-07
CO	3.4588E-01	2.8894E-02	5.0948E-02
CO+	5.8044E-C0	1.3889E-04	1.0654E-04
CO2	1.2848E-05	9.9810E-07	8.9719E-08
C2	6.2053E-05	1.6197E-04	8.4804E-05

P1 = 2.00E+01 N/SC-M, US1 = 7.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.1511E+02	1.1899E+04	1.9225E+C4
T	2.1402E+01	3.2058E+01	3.7029E+C1
RMO	1.8742E+01	1.6642E+02	1.7000E+C2
H	-2.1315E+00	-4.4047E+00	-5.4716E+00
A	6.5104E+00	9.4811E+00	1.0647E+01
S	2.1772E+00	4.4480E+00	2.7268E+00
Z	2.2812E+00	3.0251E+00	3.1691E+00
GAME	8.6807E-01	9.6644E-01	9.4418E-01
U	2.5920E+01	3.1052E+00	3.3467E+C0

SPECIES	MOLE FRACTIONS		
F-	1.2177E-03	2.2056E-02	5.5823E-02
O	5.4073E-01	6.6458E-01	4.2116E-01
O+	5.1011E-05	1.9125E-03	7.5455E-03
O++	2.1147E-25	1.5147E-16	7.7344E-14
C-	4.3467E-07	2.8840E-05	4.4597E-05
O2	7.5071E-05	6.4029E-05	3.1571E-05
O2+	2.2456E-07	2.2990E-06	3.5152E-C6
O2+	8.9952E-11	4.4980E-09	4.6735E-09
C	1.2104E-01	2.9670E-01	2.6485E-01
C+	1.1042E-03	2.0055E-02	4.8222E-02
C++	1.3327E-16	5.0699E-11	2.8301E-09
C-	7.4931E-08	8.8480E-06	1.3961E-05
CO	3.1574E-01	1.3318E-02	2.1546E-02
CO+	6.2304E-05	1.2221E-04	9.0498E-05
CO2	1.0768E-05	3.3239E-07	2.6706E-08
C2	5.2825E-05	1.0897E-04	3.7570E-05

P1 = 2.00E+01 N/SC-M, US1 = 7.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4804E+C2	1.4213E+04	2.0677E+C4
T	2.1732E+01	3.4169E+01	3.9126E+C1
RMO	1.9062E+01	1.5369E+02	1.6286E+C2
H	-2.3037E+00	-4.2308E+00	-4.6043E+00
A	6.4785E+00	1.0126E+01	1.1013E+01
S	2.2092E+00	2.4859E+00	2.5449E+00
Z	2.3348E+00	3.0884E+00	3.2442E+00
GAME	8.6844E-01	9.7748E-01	9.8252E-01
U	2.4444E+C1	3.7068E+00	3.9264E+C0

SPECIES	MOLE FRACTIONS		
F-	1.4088E-03	3.4695E-02	7.4592E-02
O	4.7020E-01	6.2800E-01	4.0282E-01
O+	5.6879E-05	3.6619E-03	1.2411E-02
O++	7.4807E-25	2.7594E-15	7.0749E-13
C-	4.4728E-07	3.3747E-C6	6.0748E-C6
O2	7.0761E-05	4.5216E-05	2.3488E-05
O2+	2.2328E-07	2.7195E-06	4.0392E-06
O2+	1.0413E-10	4.6401E-09	4.2377E-09
C	1.4050E-01	2.8647E-C1	2.4274E-01
C+	1.3826E-03	3.0969E-02	6.4165E-02
C++	2.5746E-16	3.2710E-C6	1.1600E-C6
C-	1.0557E-C7	1.1003E-05	1.4106E-05
CO	2.8604E-C1	6.8667E-02	1.0870E-02
CO+	4.4054E-04	1.0555E-04	7.8094E-04
CO2	9.0226E-06	5.6611E-08	4.9912E-08
C2	6.2775E-C6	6.4648E-05	2.3200E-C5

P1 = 2.00E+01 N/SC-M, US1 = 7.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0183E+C3	1.7268E+04	2.2143E+C4
T	2.2027E+01	3.6293E+01	4.1021E+01
RMO	1.9220E+01	1.4114E+02	1.4264E+C2
H	-2.4798E+00	-4.5790E+00	-4.6611E+00
A	6.7703E+00	1.0314E+01	1.1293E+01
S	2.2918E+00	2.5234E+00	2.6038E+00
Z	2.3854E+00	3.1514E+00	3.2700E+00
GAME	8.6944E-01	9.7744E-01	9.8260E-01
U	2.7488E+01	3.5025E+00	3.6844E+C0

SPECIES	MOLE FRACTIONS		
F-	1.8794E-03	5.0976E-02	9.7745E-02
O	5.7900E-01	6.2327E-01	5.5282E-01
O+	7.0234E-05	4.6412E-03	1.9444E-02
O++	1.8477E-26	2.5709E-14	4.2146E-12
C-	7.4523E-07	4.0231E-05	5.7922E-05
O2	4.6662E-05	3.2651E-C6	1.8374E-05
O2+	2.4326E-07	2.1974E-C6	4.1149E-06
O2+	2.2818E-11	4.2383E-09	3.8951E-09
C	1.5970E-01	2.8998E-01	2.7091E-01
C+	1.7007E-03	4.4444E-02	7.9279E-02
C++	4.4093E-16	1.7327E-05	3.5729E-05
C-	1.4329E-07	1.2714E-05	1.5592E-05
CO	2.7687E-01	2.9706E-02	5.8894E-02
CO+	4.9362E-04	5.1035E-05	4.1819E-04
CO2	7.2755E-06	3.2752E-08	4.4154E-08
C2	7.2148E-C6	4.0652E-05	1.4098E-05

P1 = 2.00E+01 N/SC-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0715E+C3	1.8361E+04	2.3689E+C4
T	2.2781E+01	3.8163E+01	4.2745E+01
RMO	1.9502E+01	1.4224E+02	1.4266E+C2
H	-2.6408E+00	-4.6032E+00	-4.6881E+C0
A	5.9051E+00	1.0097E+01	1.1746E+01
S	2.2768E+00	2.5991E+00	2.6408E+00
Z	2.4055E+00	3.2138E+00	3.4024E+00
GAME	8.7100E-01	9.8000E-01	9.8867E-01
U	2.8090E+01	3.6900E+00	3.8782E+C0

SPECIES	MOLE FRACTIONS		
F-	2.2144E-03	4.9137E-02	1.1885E-01
O	5.8904E-01	6.0974E-01	5.6142E-01
O+	6.2403E-05	1.0395E-02	2.5886E-C2
O++	4.1914E-24	2.8775E-13	1.8831E-11
C-	9.5110E-07	4.9665E-05	5.8766E-05
O2	4.3512E-C6	2.4499E-05	1.4749E-05
O2+	2.4477E-C7	3.6317E-06	4.9435E-06
O2+	1.4454E-10	3.8647E-09	3.5044E-09
C	1.7802E-01	2.5050E-01	2.0018E-01
C+	2.0617E-03	8.0714E-02	1.8714E-02
C++	8.4494E-16	6.7218E-09	9.0771E-08
C-	1.8902E-C7	1.3822E-02	1.5600E-02
CO	2.2834E-C1	1.2244E-02	3.2454E-02
CO+	7.2184E-04	7.4390E-04	5.9931E-04
CO2	6.4222E-06	1.2911E-08	2.1759E-08
C2	8.0449E-C6	2.4024E-05	1.0177E-C5

Table I. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SC-M, US1 = 8.20E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1270E+02	1.9490E+04	2.5247E+04
T	2.3711E+01	3.5903E+01	4.4745E+01
RHO	1.9922E+01	1.4823E+02	1.5237E+02
H	-2.8464E+00	-6.2417E+00	-7.2834E+00
A	7.0447E+00	1.1386E+01	1.2090E+01
S	2.3920E+00	2.5940E+00	2.5772E+00
Z	2.5037E+00	2.2883E+00	2.4849E+00
GAME	8.7274E-01	9.4117E-01	9.4591E-01
U	2.8814E+01	1.4799E+00	1.9785E+00

SPECIES	MOLE FRACTIONS		
E-	2.4455E-03	8.8117E-02	1.2957E-01
O	5.9822E-01	5.8223E-01	5.9544E-01
O+	9.7055E-05	1.7341E-02	7.2988E-02
O++	5.9926E-24	1.6410E-12	4.8081E-11
C-	1.1213E-06	4.9938E-05	4.1044E-04
O2	5.0112E-07	1.9277E-04	1.2106E-05
O2+	2.8947E-07	4.0423E-06	5.2147E-06
O2++	1.5140E-10	3.5272E-05	2.1175E-05
C	1.0698E-01	2.2035E-01	1.8033E-01
C+	2.4789E-07	7.2767E-02	1.0540E-01
C++	1.6424E-15	2.0252E-08	2.0022E-07
C-	2.4300E-07	1.4796E-04	1.2717E-04
CO	2.0074E-01	7.4833E-04	2.2305E-04
CO+	7.4471E-04	4.9881E-04	5.2853E-04
CO2	4.1058E-04	3.8425E-04	1.1590E-09
C2	8.7274E-04	1.7329E-03	7.6437E-06

P1 = 2.00E+01 N/SC-M, US1 = 8.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2955E+03	2.2545E+04	2.9945E+04
T	2.3801E+01	4.4347E+01	4.8605E+01
RHO	2.0246E+01	1.4745E+02	1.6474E+02
H	-3.4204E+00	-7.3682E+00	-8.5732E+00
A	7.5023E+00	1.2123E+01	1.3083E+01
S	2.4101E+00	2.6956E+00	2.7837E+00
Z	2.6826E+00	3.2073E+00	3.7399E+00
GAME	8.8120E-01	9.4450E-01	9.4144E-01
U	3.0962E+01	4.2782E+00	4.3515E+00

SPECIES	MOLE FRACTIONS		
E-	4.5055E-03	1.4503E-01	1.9808E-01
O	6.2290E-01	5.3403E-01	4.7040E-01
O+	1.6744E-04	3.5884E-02	6.4177E-02
O++	1.4848E-22	7.7222E-11	1.3671E-09
C-	1.8131E-06	5.6948E-05	6.2573E-05
O2	4.9455E-07	1.0752E-05	7.1198E-06
O2+	2.2190E-07	5.0327E-06	6.0355E-06
O2++	2.0243E-10	2.6627E-09	2.3133E-09
C	2.4551E-01	1.7557E-01	1.3321E-01
C+	4.2620E-03	1.0916E-01	1.3394E-01
C++	1.0758E-14	2.2184E-07	1.2348E-06
C-	4.8074E-07	1.3967E-05	1.3202E-05
CO	1.2202E-01	1.9374E-04	7.0292E-05
CO+	7.8400E-09	4.8967E-05	3.6438E-05
CO2	2.4444E-06	9.0314E-10	2.3435E-10
C2	6.5231E-07	6.0089E-06	2.6010E-06

P1 = 2.00E+01 N/SC-M, US1 = 8.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8313E+02	2.0627E+04	2.8608E+04
T	7.3032E+01	4.1493E+01	4.5879E+01
RHO	2.0028E+01	1.4804E+02	1.4387E+02
H	-2.0285E+00	-4.4212E+00	-7.7091E+00
A	7.1867E+00	1.1504E+01	1.2434E+01
S	2.2418E+00	2.4282E+00	2.7130E+00
Z	2.5424E+00	3.2577E+00	3.5686E+00
GAME	8.7492E-01	9.4484E-01	9.4795E-01
U	2.9530E+01	4.2006E+00	4.1114E+00

SPECIES	MOLE FRACTIONS		
E-	3.1591E-03	1.0722E-01	1.4967E-01
O	6.0670E-01	5.7378E-01	5.1693E-01
O+	1.1520E-04	2.1211E-02	4.3228E-02
O++	2.4191E-23	7.1078E-12	2.0781E-10
C-	1.3211E-06	5.2156E-05	6.2343E-05
O2	5.6745E-05	1.0587E-05	1.0973E-04
O2+	7.8487E-07	4.1140E-04	5.6232E-06
O2++	1.4491E-10	7.2189E-09	2.8145E-05
C	2.1337E-01	2.1114E-01	1.4341E-01
C+	2.9484E-03	8.5746E-02	1.1447E-01
C++	3.0372E-14	1.0747E-08	2.9626E-07
C-	1.0567E-07	1.4441E-04	1.4710E-05
CO	1.7344E-01	4.4457E-04	1.7307E-04
CO+	7.4474E-04	6.1909E-04	4.6496E-04
CO2	4.1065E-04	2.4332E-09	8.1522E-10
C2	9.2484E-05	1.1022E-04	4.9802E-04

P1 = 2.00E+01 N/SC-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3595E+03	2.4088E+04	3.1489E+04
T	2.4232E+01	4.5684E+01	4.9908E+01
RHO	2.0437E+01	1.4709E+02	1.6485E+02
H	-3.5342E+00	-7.7358E+00	-9.0245E+00
A	7.6747E+00	1.2425E+01	1.3410E+01
S	2.4484E+00	2.7290E+00	2.8190E+00
Z	2.7452E+00	3.5846E+00	3.8277E+00
GAME	8.8590E-01	9.4281E-01	9.4109E-01
U	3.1673E+01	4.4070E+00	4.4723E+00

SPECIES	MOLE FRACTIONS		
E-	5.4478E-03	1.6340E-01	2.1644E-01
O	6.2029E-01	5.1321E-01	4.4665E-01
O+	2.0774E-04	4.4470E-02	7.3694E-02
O++	4.3510E-22	2.0881E-10	3.0769E-09
C-	2.1291E-06	5.7679E-05	6.1860E-05
O2	4.9395E-04	9.0652E-06	6.0045E-06
O2+	3.4449E-07	7.2648E-06	6.1329E-06
O2++	1.1866E-10	2.4061E-09	2.0522E-09
C	2.6079E-01	1.9700E-01	1.2026E-01
C+	5.1641E-03	1.1899E-02	1.4078E-01
C++	2.2059E-14	4.0466E-07	2.0074E-06
C-	9.9285E-07	1.3397E-05	1.2343E-05
CO	9.7802E-02	1.3291E-04	4.9970E-05
CO+	7.8305E-05	4.3584E-05	3.2108E-05
CO2	1.1794E-06	9.3602E-10	1.4835E-10
C2	9.4051E-05	4.3629E-06	1.9075E-06

P1 = 2.00E+01 N/SC-M, US1 = 8.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2407E+03	2.1786E+04	2.8383E+04
T	2.3412E+01	4.2516E+01	4.7258E+01
RHO	2.0206E+01	1.4773E+02	1.6427E+02
H	-3.2312E+00	-6.4508E+00	-8.1384E+00
A	7.3410E+00	1.1816E+01	1.2745E+01
S	2.3785E+00	2.6420E+00	2.7486E+00
Z	2.6276E+00	3.4717E+00	3.6529E+00
GAME	8.7747E-01	9.4677E-01	9.4257E-01
U	3.0274E+01	4.1430E+00	4.2391E+00

SPECIES	MOLE FRACTIONS		
E-	3.7400E-03	1.2627E-01	1.7924E-01
O	4.1503E-01	5.5426E-01	4.9376E-01
O+	1.3787E-04	2.8121E-02	5.7362E-02
O++	1.7463E-23	2.5334E-11	4.6172E-10
C-	1.4689E-06	5.4446E-05	6.2822E-05
O2	4.3244E-04	1.2841E-04	1.0445E-04
O2+	3.2373E-07	4.7444E-09	6.4456E-06
O2++	1.0546E-10	2.9323E-09	5.8544E-06
C	2.3006E-01	1.9274E-01	1.4749E-01
C+	3.5901E-02	9.8157E-02	1.2591E-01
C++	5.6012E-14	1.1148E-07	7.2743E-07
C-	2.8755E-07	1.4371E-04	1.4000E-04
CO	1.4726E-01	2.9110E-04	1.0051E-04
CO+	7.7726E-04	5.4020E-05	4.1251E-05
CO2	3.2189E-04	1.5844E-09	3.8546E-10
C2	9.5568E-04	8.3894E-06	3.5729E-06

P1 = 2.00E+01 N/SC-M, US1 = 9.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4207E+02	2.5191E+04	3.2972E+04
T	2.4725E+01	4.6934E+01	5.1159E+01
RHO	2.0470E+01	1.4685E+02	1.6499E+02
H	-3.4424E+00	-8.1470E+00	-9.4770E+00
A	7.8497E+00	1.2723E+01	1.3729E+01
S	2.4792E+00	2.7623E+00	2.8543E+00
Z	2.8074E+00	3.6322E+00	3.9164E+00
GAME	8.9236E-01	9.4196E-01	9.4086E-01
U	3.2379E+01	4.5304E+00	4.5896E+00

SPECIES	MOLE FRACTIONS		
E-	6.6912E-03	1.8132E-01	2.2419E-01
O	4.3659E-01	4.9194E-01	4.2282E-01
O+	2.6526E-04	3.3794E-02	6.7766E-02
O++	1.9960E-21	5.0995E-10	6.4512E-09
C-	2.5014E-06	7.7727E-05	6.0149E-05
O2	4.0826E-04	1.6404E-06	5.0007E-06
O2+	1.7055E-07	5.4428E-06	4.1334E-06
O2++	2.3327E-10	2.1605E-09	1.8044E-09
C	2.7440E-01	1.4916E-01	1.0863E-01
C+	6.3516E-03	1.2759E-01	1.4651E-01
C++	6.8363E-16	6.9849E-07	3.1240E-06
C-	7.2921E-07	1.2710E-05	1.1496E-05
CO	1.0051E-04	9.3382E-05	3.6835E-05
CO+	7.7261E-05	3.8734E-05	2.8222E-05
CO2	1.2059E-06	3.2806E-10	9.1674E-11
C2	6.8746E-04	3.2022E-06	1.4097E-06

Table i. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 9.40E+03 \text{ M/SEC}$				$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.00E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4829E+03	2.7220E+04	3.4777E+04	P	1.6743E+03	2.8228E+04	3.7162E+04
T	2.8313E+03	4.8124E+01	5.2274E+01	T	2.8201E+03	2.8228E+04	5.1339E+01
RMC	2.0622E+03	1.4758E+02	1.4290E+02	RMC	1.9546E+03	1.3831E+02	1.4903E+02
H	-4.0522E+00	-8.7472E+00	-9.9408E+00	H	-4.7155E+00	-9.7790E+00	-1.1398E+01
A	8.0910E+00	1.3017E+01	1.4049E+01	A	9.0221E+00	1.3872E+01	1.4983E+01
S	2.5125E+00	2.7558E+00	2.8E57E+00	S	2.6157E+00	2.8888E+00	2.9981E+00
Z	2.8682E+00	2.7421E+00	4.00E1E+00	Z	2.0358E+00	3.9897E+00	4.2794E+00
GAME	9.0188E-01	9.4047E-01	9.4053E-01	GAME	9.4078E-01	9.3955E-01	9.4262E-01
U	3.3088E-01	4.6493E+00	4.7935E+00	U	3.9111E+01	4.9690E+00	5.0213E-00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	8.4314E-02	1.5974E-01	2.7137E-01	E-	7.2257E-02	2.4824E-01	2.9910E-01
C	6.4277E-01	4.7038E-01	3.8901E-01	O	6.4714E-01	4.0466E-01	3.2920E-01
C+	3.2943E-01	6.2755E+02	1.0008E-01	O+	1.3157E-02	9.6506E-02	1.3807E-01
O+	5.2537E-01	1.1912E-02	1.2726E-01	O++	2.1072E-18	8.6189E-09	7.2050E-08
O-	5.6834E-06	7.7133E-04	5.8087E-05	C-	5.3989E-06	3.9228E-06	4.8570E-05
O2	3.4701E-01	4.5349E-04	4.2523E-06	C2	1.7983E-05	5.1722E-05	2.6329E-06
O2+	4.0786E-07	5.5774E-04	4.0974E-04	O2-	5.6250E-07	5.6624E-06	9.4400E-06
O2-	2.4441E-10	1.9240E-09	1.5697E-09	O2+	2.3519E-10	1.2589E-09	9.6396E-10
C	2.8823E-01	1.3190E-01	9.8148E-02	C	2.9754E-01	9.8710E-02	7.2491E-02
C+	8.0045E-01	1.2507E-01	1.1127E-01	C+	3.0931E-02	1.5174E-01	1.6104E-01
C++	1.1897E-13	1.3749E-04	4.6851E-06	C++	6.1842E-12	8.8298E-06	1.3257E-05
C-	8.5992E-07	1.1934E-05	1.0571E-05	C-	1.7194E-06	9.3488E-06	7.8595E-06
CO	6.8014E-07	4.4828E-03	2.4797E-03	CO	4.0297E-02	2.6137E-03	1.0959E-05
CO+	2.4992E-04	2.4395E-04	2.4773E-05	CO+	4.7851E-05	5.2390E-05	1.6190E-05
CO2	7.4756E-07	2.0527E-02	8.8456E-14	CO2	4.9452E-08	5.2678E-11	1.3587E-11
C2	2.9802E-05	2.2692E-04	1.0474E-04	C2	2.5537E-09	9.7967E-07	4.3290E-07
$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 9.40E+03 \text{ M/SEC}$				$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.05E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7460E+03	2.7123E+04	3.5763E+04	P	1.8000E+03	2.9446E+04	3.8628E+04
T	2.6047E+01	4.6344E+01	4.7710E+01	T	3.1495E+01	5.3723E+01	5.8221E+01
RMC	2.0272E+01	1.4604E+02	1.4224E+02	RMC	1.8895E+01	1.3054E+02	1.4705E+02
H	-4.2749E+00	-4.5532E+00	-1.0410E+01	H	-3.3042E+00	-1.0847E+01	-1.2594E+01
A	8.3544E+00	1.2304E+01	1.4744E+01	A	9.7050E+00	1.4556E+01	1.8742E+01
S	2.5493E+00	2.8357E+00	2.9254E+00	S	2.6552E+00	2.9848E+00	3.0897E+00
Z	2.9215E+00	1.8235E+00	4.0566E+00	Z	3.1584E+00	4.1588E+00	4.5119E+00
GAME	9.1847E-01	9.4007E-01	9.4137E-01	GAME	9.4691E-01	9.4024E-01	9.4578E-01
U	3.3770E+01	4.7627E+00	4.7178E+00	U	3.6751E+01	5.2149E+00	5.2795E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.1061E-02	2.1578E-01	2.6785E-01	E-	4.2174E-02	2.0566E-01	3.3821E-01
C	6.4708E-01	4.6875E-01	3.7477E-01	C	6.2672E-01	3.9089E-01	2.7340E-01
C+	5.0235E-04	7.4174E-02	1.3268E-01	O	4.6257E-03	1.2939E-01	1.6981E-01
O+	2.6757E-02	2.3714E-05	2.3780E-01	O+	4.8072E-16	3.3019E-08	2.0570E-07
O-	2.6749E-06	5.4935E-06	4.7503E-06	O-	8.0656E-06	4.5121E-05	3.9986E-05
O2	4.4254E-07	5.6989E-06	5.8441E-06	O2-	8.3374E-04	2.3302E-06	1.4562E-06
O2-	2.5142E-10	1.4568E-09	1.2444E-09	O2+	7.6132E-07	5.0304E-08	4.6540E-08
C	2.6522E-01	1.1990E-01	8.6741E-02	C	1.9450E-10	6.3078E-10	5.6639E-10
C+	1.0452E-02	1.4143E-01	1.4520E-01	C+	2.6779E-01	7.2722E-01	1.8571E-01
C++	3.4885E-13	1.7624E-04	8.4089E-06	C++	4.7814E-07	1.6029E-01	1.8571E-01
C-	3.1127E-04	1.1124E-05	9.4449E-06	C-	2.3820E-10	8.6306E-06	2.7946E-05
CO	3.3737E-02	4.6757E-04	1.2777E-02	C-	2.6887E-04	3.3479E-06	5.0765E-06
CO+	7.1118E-08	2.6444E-05	2.1847E-05	CO	1.8135E-03	1.2600E-05	4.9886E-06
CO2	4.0549E-01	1.7887E-10	2.7844E-11	CO+	4.0981E-05	1.6037E-05	1.1020E-05
C2	6.7109E-05	1.7644E-04	7.8040E-07	CO2	1.8691E-11	5.0071E-11	9.0071E-12
$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 9.40E+03 \text{ M/SEC}$				$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.10E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6099E+03	2.7802E+04	3.4708E+04	P	2.0158E+03	3.1214E+04	4.1001E+04
T	2.6599E+01	4.0217E+01	4.6404E+01	T	3.4214E+01	9.6176E+01	6.1013E+01
RMC	1.8091E+01	1.4141E-02	1.3945E+01	RMC	1.7904E+01	1.2504E+02	1.4143E+02
H	-4.8404E+00	-9.7462E+00	-1.0883E+01	H	-4.9176E+00	-1.1577E+01	-1.3895E+01
A	8.6752E+00	1.7590E+01	1.4674E+01	A	1.0748E+01	1.5291E+01	3.1803E+01
S	2.8824E+00	2.8436E+00	2.9615E+00	S	2.7701E+00	3.1297E+00	1.8680E+01
Z	2.9841E+00	3.9058E+00	4.1877E+00	Z	2.2904E+00	4.4155E+00	4.7817E+00
GAME	9.7410E-01	9.3705E-01	9.4184E-01	GAME	9.3677E-01	9.4262E-01	9.5120E-01
U	3.4448E+01	4.8811E+00	4.9188E+00	U	3.8629E+01	5.4796E+00	5.4899E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.5723E-02	2.2910E-01	2.8977E-01	E-	8.8929E-02	3.2049E-01	3.6879E-01
O	6.4864E-01	4.2679E-01	3.5211E-01	O	4.6674E-01	2.9745E-01	2.1941E-01
C+	7.7902E-04	8.5174E-02	1.2737E-01	C+	1.0000E-02	1.5544E-01	2.0144E-01
O+	1.9862E-06	4.4224E-05	4.2984E-06	O+	2.7480E-14	1.1545E-07	8.0027E-07
O-	4.3784E-06	5.4102E-04	8.2930E-06	O-	9.9228E-06	3.8461E-05	3.1450E-05
O2	2.3839E-06	4.6743E-06	2.9978E-06	O2	4.8701E-06	1.6061E-06	9.2957E-07
O2+	4.5228E-07	4.8671E-04	5.7850E-06	O2-	4.4639E-10	4.4663E-06	3.7602E-06
O2-	2.5004E-10	1.4730E-09	1.1348E-09	O2+	1.5850E-10	1.6525E-01	1.6722E-01
C	2.6995E-01	1.0885E-01	8.0219E-02	C	2.2812E-01	6.1087E-02	4.3035E-02
C+	1.4497E-02	1.4699E-01	1.8842E-01	C+	7.7909E-02	1.6525E-01	1.6722E-01
C++	1.2041E-12	2.4811E-06	9.4155E-06	C++	2.7655E-09	1.8163E-05	5.7791E-05
C-	1.3877E-04	1.0240E-05	8.7484E-06	C-	2.7577E-06	5.7417E-06	4.3495E-06
CO	2.0040E-02	2.8529E-05	1.4273E-05	CO	9.0647E-06	6.2744E-08	2.2121E-06
CO+	6.8311E-08	2.4817E-06	1.8747E-06	CO+	3.0458E-05	1.1924E-09	7.2899E-06
CO2	1.8533E-07	3.7689E-11	2.8058E-11	CO2	1.0158E-09	6.9877E-12	1.5370E-12
C2	5.1420E-05	1.1159E-06	4.6170E-07	C2	4.0516E-06	2.4448E-07	9.8149E-07

Table I. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.17E+04 \text{ M/SEC}$				$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.30E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2003E+03	3.2399E+04	4.3987E+04	P	2.0071E+03	4.1241E+04	5.3239E+04
T	3.6492E+01	5.8729E+01	6.4097E+01	T	4.2081E+01	6.7724E+01	7.7830E+01
RMD	1.7564E+01	1.2226E+02	1.3733E+02	RMD	1.7123E+01	1.2489E+02	1.2479E+02
M	-6.5598E+00	-1.2165E+01	-1.5262E+01	M	-8.4589E+00	-1.7059E+01	-1.9989E+01
A	1.1114E-05	1.6058E+01	1.7526E+01	A	1.2300E+01	1.8713E+01	2.1203E+01
S	2.8430E+00	3.1841E+00	3.2699E+00	S	7.0562E+00	3.4007E+00	3.5515E+00
Z	3.4320E+00	4.6378E+00	4.9948E+00	Z	3.8969E+00	5.3066E+00	5.6899E+00
GAME	9.2882E-01	9.4674E-01	9.5949E-01	GAME	9.2278E-01	9.7438E-01	1.0150E+00
U	4.0130E+01	5.7587E+00	5.9845E+00	U	4.5294E+01	6.7620E+00	7.2037E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.2649E-01	3.5326E-01	3.9548E-01	E-	2.3010E-01	4.3476E-01	4.7279E-01
O	5.4171E-01	2.4564E-01	1.6897E-01	O	4.4986E-01	1.0972E-01	4.5722E-02
C+	2.0621E-02	1.8554E-01	2.3180E-01	C+	6.3811E-02	2.6714E-01	3.0568E-01
O++	4.6096E-13	3.6707E-07	2.5622E-06	O++	1.3032E-10	1.0063E-05	1.4219E-04
O2	1.1114E-05	3.1699E-05	2.3363E-05	O2	1.1339E-05	1.2862E-05	4.5482E-06
O2+	1.1053E-06	9.8233E-07	4.2514E-07	O2+	1.1758E-06	1.4085E-07	5.4817E-07
O2-	1.2064E-10	3.7878E-06	2.8978E-06	O2-	1.3902E-06	1.8618E-06	5.8934E-12
C	1.8910E-01	4.7799E-02	1.6712E-10	C	6.7824E-11	4.6138E-11	1.0089E-02
C+	1.0584E-01	1.6767E-01	3.2944E-02	C+	9.8157E-02	2.1052E-02	1.6219E-01
C++	1.5922E-06	3.6628E-05	1.2035E-04	C++	4.6167E-07	1.6700E-01	1.6219E-01
CO	2.6836E-08	4.4132E-04	3.0949E-06	C-	1.8299E-04	3.0194E-04	1.8299E-02
CO+	1.8649E-04	3.0933E-06	1.0168E-06	CO	1.8724E-05	2.7679E-07	6.2180E-07
CO2	2.3292E-05	8.3566E-04	4.5899E-06	CO+	1.0846E-07	2.0900E-04	4.5917E-07
CO2	2.6051E-10	2.3923E-12	4.4204E-13	CO2	1.1795E-11	5.9908E-14	1.7969E-15
C2	2.3262E-06	1.2343E-07	4.4636E-08	C2	7.0749E-07	1.2474E-08	1.7241E-05
$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.20E+04 \text{ M/SEC}$				$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.35E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3940E+03	3.5863E+04	4.7362E+04	P	3.0264E+03	4.4185E+04	5.4680E+04
T	3.8506E+01	6.1413E+01	6.7661E+01	T	4.3724E+01	7.1749E+01	8.5225E+01
RMD	1.7554E+01	1.2013E+02	1.3363E+02	RMD	1.7056E+01	1.1163E+02	1.1942E+02
M	-1.3310E+00	-1.4410E+01	-1.6751E+01	M	-9.4195E+00	-1.8459E+01	-2.1759E+01
A	2.9146E+00	1.6886E+01	1.8749E+01	A	1.2754E+01	1.9816E+01	2.2601E+01
Z	3.5826E+00	3.2368E+00	3.3590E+00	Z	3.1266E+00	3.4801E+00	3.6193E+00
GAME	9.2569E-01	9.3285E-01	9.7183E-01	GAME	4.0581E+00	5.5184E+00	5.8639E+00
U	4.1844E+01	6.0536E+00	6.2434E+00	U	9.2247E-01	9.5290E-01	1.0221E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.6280E-01	3.8297E-01	4.2736E-01	E-	2.6087E-01	4.5509E-01	4.8847E-01
O	5.2442E-01	1.5642E-01	1.2184E-01	O	4.0119E-01	7.3985E-02	2.3799E-02
C+	3.3707E-02	2.1448E-01	2.6014E-01	C+	9.1675E-02	2.8907E-01	3.1687E-01
O++	4.2622E-12	1.0994E-06	8.5166E-06	O++	5.1377E-10	3.2608E-05	7.2533E-04
O2	2.2888E-06	2.4027E-07	1.5882E-05	O2	1.0754E-05	7.6769E-06	1.8276E-06
O2+	1.2388E-06	3.0474E-07	1.9928E-07	O2+	0.9921E-07	5.4645E-08	3.8867E-09
O2-	1.0569E-10	1.9709E-10	7.3821E-11	O2-	1.3944E-06	4.4230E-07	2.1492E-07
C	1.4975E-01	3.7158E-02	2.3868E-02	C	5.3015E-11	1.6625E-11	9.7727E-13
C+	1.2914E-01	1.6838E-01	1.6669E-01	C+	7.7052E-07	1.6599E-01	1.8402E-01
C++	6.1279E-08	7.2166E-05	2.6319E-04	C++	1.0709E-06	6.8763E-04	6.0185E-03
CO	2.4883E-06	3.2159E-06	2.0633E-06	C-	1.5411E-06	8.8776E-07	2.6996E-07
CO+	7.9899E-05	1.4493E-06	4.0146E-07	CO	9.7827E-06	9.6642E-08	5.9754E-05
CO2	8.2906E-11	5.8539E-06	2.8453E-06	CO+	8.3792E-06	3.1035E-06	1.9149E-07
C2	1.1408E-06	6.1439E-08	1.0297E-13	CO2	4.8815E-12	1.0302E-14	1.2912E-16
			1.8698E-08	C2	1.6751E-07	4.6668E-09	3.5532E-10
$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.25E+04 \text{ M/SEC}$				$P_1 = 2.00E+01 \text{ N/SC-M, US1} = 1.40E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5943E+03	3.8911E+04	5.1119E+04	P	3.2940E+03	4.7622E+04	6.4299E+04
T	4.0352E+01	6.4359E+01	7.2044E+01	T	4.9310E+01	7.6804E+01	9.2747E+01
RMD	1.7214E+01	1.1768E+02	1.2962E+02	RMD	1.7003E+01	1.0750E+02	1.1521E+02
M	-7.9355E+00	-1.4708E+01	-1.8312E+01	M	-1.0202E+01	-1.9907E+01	-2.3896E+01
A	1.1803E+01	1.7742E+01	1.9745E+01	A	1.3250E+01	2.1077E+01	2.3895E+01
S	2.9876E+00	3.3192E+00	3.4475E+00	S	3.1970E+00	2.5573E+00	2.6994E+00
Z	3.7372E+00	5.0898E+00	5.4742E+00	Z	4.2238E+00	5.7000E+00	6.0112E+00
GAME	9.2387E-01	9.4166E-01	9.9051E-01	GAME	9.2293E-01	1.0148E+00	9.9497E-01
U	4.3566E+01	6.3837E+00	6.6692E+00	U	4.8756E+01	7.7221E+00	8.4237E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.9744E-01	4.1021E-01	4.5206E-01	E-	2.8986E-01	4.7377E-01	5.0100E-01
O	4.8487E-01	1.9131E-01	7.9905E-02	O	3.5822E-01	4.4247E-02	1.2800E-02
C+	5.0212E-02	2.4191E-01	2.8940E-01	C+	1.1918E-01	3.0639E-01	3.1707E-01
O++	2.6960E-11	3.2480E-06	3.1585E-05	O++	1.7334E-09	1.2889E-04	2.8419E-02
O2	1.1657E-07	1.6579E-05	9.4194E-05	O2	9.9679E-06	3.9215E-06	7.8874E-07
O2+	1.6199E-06	3.0240E-07	7.3499E-08	O2+	6.2067E-07	1.6420E-08	8.9214E-10
O2-	1.3367E-06	2.2857E-06	1.1491E-06	O2-	3.3518E-06	4.7891E-07	8.132E-08
C	8.5244E-11	1.0307E-10	2.5306E-11	C	4.0587E-11	4.4263E-12	1.8862E-13
C+	1.2018E-01	2.8375E-02	1.6627E-02	C+	6.1540E-02	1.0192E-02	3.9880E-03
C++	3.4372E-08	1.6802E-01	1.6532E-01	C	1.7469E-01	1.6355E-01	1.4634E-01
CO	1.8174E-07	1.4413E-04	6.3369E-04	C+	2.0578E-06	1.7797E-03	1.5954E-02
C-	2.1625E-06	2.3846E-06	1.2342E-06	C++	1.2840E-06	5.3069E-07	1.1817E-07
CO	3.7491E-05	6.7761E-07	1.3134E-07	C-	5.2717E-06	2.6847E-08	1.2887E-09
CO+	1.4078E-05	3.5425E-06	1.3563E-06	CO	6.4027E-06	4.9664E-07	6.8731E-08
CO2	2.9994E-11	2.2701E-13	1.7579E-14	CO+	2.0845E-12	1.3269E-15	1.0015E-17
C2	5.8274E-07	2.8987E-08	6.4804E-09	C2	9.3215E-08	1.4139E-09	7.9664E-11

Table I. - Continued.

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SC-M, US1 = 1.45E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4895E+02	4.5956E+04	6.8930E+04
T	4.6823E+01	8.3108E+01	9.8887E+01
RHD	1.4993E+01	1.0270E+02	1.1223E+02
M	-1.1016E+01	-2.1400E+01	-2.5844E+01
A	1.3743E+01	2.2316E+01	2.4320E+01
S	3.2675E+00	3.6322E+00	3.7737E+00
Z	4.3927E+00	5.8927E+00	6.1552E+00
GAME	9.2420E+01	1.0238E+02	9.7174E+01
U	5.0488E+01	8.3225E+00	8.8798E+00

P1 = 2.00E+01 N/SC-M, US1 = 1.57E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9878E+03	4.6026E+04	7.8221E+04
T	4.9983E+01	9.5231E+01	1.0834E+02
RHD	1.6827E+01	9.6428E+01	1.1176E+02
M	-1.2779E+01	-2.4544E+01	-2.9235E+01
A	1.4897E+01	2.2844E+01	2.5812E+01
S	3.4087E+00	3.7891E+00	3.8632E+00
Z	4.7251E+00	4.1011E+00	4.4602E+00
GAME	9.7935E+01	9.7855E+01	9.9152E+01
U	5.3949E+01	9.4271E+00	9.8557E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.1716E-01	4.8749E-01	5.1268E-01
D	2.1579E-01	2.4319E-02	8.7797E-03
O+	1.3949E-01	3.1685E-01	3.0941E-01
O++	5.2026E-09	5.4730E-04	7.1333E-03
D-	5.0331E-06	1.7322E-06	4.3514E-07
O2	4.4149E-07	1.8824E-09	7.1270E-10
O2+	1.2633E-06	2.0770E-07	4.6731E-08
O2-	3.0270E-11	8.8471E-13	5.9104E-14
C	4.9868E-02	6.3262E-03	2.7464E-03
C+	1.7167E-01	1.5927E-01	1.3029E-01
C++	3.8788E-06	5.0870E-03	2.5552E-02
C-	1.0644E-06	2.4853E-07	6.3814E-08
CO	2.8920E-06	1.0031E-09	6.1748E-10
CO+	4.8819E-06	1.9042E-07	3.1198E-08
CO2	9.0822E-12	1.1700E-14	1.6709E-14
C2	5.2822E-04	3.4576E-10	2.5188E-11

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.5706E-01	5.0836E-01	4.7549E-01
D	2.2766E-03	9.1178E-03	4.7448E-03
O+	1.4939E-01	3.1274E-01	2.8287E-01
O++	3.7329E-08	4.9079E-03	2.7008E-02
D-	6.8829E-06	4.4603E-07	1.9799E-07
O2	2.0659E-07	7.5532E-10	7.1537E-11
O2+	1.0038E-06	4.9079E-03	1.8644E-08
O2-	1.5078E-11	6.0753E-14	1.2644E-14
C	3.2215E-02	2.8573E-03	1.5245E-03
C+	1.7869E-01	1.3719E-01	9.7560E-02
C++	1.2275E-05	2.3787E-07	5.5440E-02
C-	1.0539E-07	6.5235E-08	2.5884E-08
CO	6.7430E-07	4.8631E-10	8.4012E-11
CO+	2.6710E-06	3.5102E-08	9.4224E-08
CO2	1.6701E-12	2.0685E-14	1.3942E-14
C2	1.7168E-08	2.9332E-11	4.4335E-12

P1 = 2.00E+01 N/SC-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7339E+03	5.2918E+04	7.2581E+04
T	4.8410E+01	8.4927E+01	1.0799E+02
RHD	1.6897E+01	9.8899E+01	1.1227E+02
M	-1.1858E+01	-2.2943E+01	-2.7323E+01
A	1.4307E+01	2.2169E+01	2.4070E+01
S	3.3781E+00	3.7015E+00	3.8449E+00
Z	4.5646E+00	5.5787E+00	6.3053E+00
GAME	9.2630E+01	1.0037E+02	9.5896E+01
U	5.2210E+01	8.4330E+00	9.2716E+00

P1 = 2.00E+01 N/SC-M, US1 = 1.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2886E+03	5.9245E+04	8.2854E+04
T	5.1610E+01	1.0001E+02	1.1235E+02
RHD	1.6784E+01	9.2069E+01	1.1139E+02
M	-1.3629E+01	-2.4202E+01	-3.1203E+01
A	1.5390E+01	2.4500E+01	2.6553E+01
S	3.4793E+00	3.8543E+00	3.9834E+00
Z	4.9153E+00	6.2214E+00	6.6203E+00
GAME	9.3352E+01	9.6224E+01	9.4792E+01
U	5.9668E+01	9.8183E+00	9.8626E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.4288E-01	4.5813E-01	5.2424E-01
D	2.7409E-01	1.4034E-02	6.1215E-03
O+	1.6408E-01	2.1869E-01	2.9749E-01
O++	1.4343E-08	1.9106E-03	1.5386E-02
D-	7.9924E-06	8.1617E-07	7.8108E-07
O2	1.0626E-06	1.0209E-09	1.4284E-10
O2+	1.1444E-06	9.3732E-08	2.8385E-08
O2-	2.1811E-11	1.5800E-13	2.1515E-14
C	4.0143E-02	4.1191E-03	2.0113E-03
C+	1.7882E-01	1.5087E-01	1.1361E-01
C++	6.9920E-06	1.2499E-02	4.3104E-02
C-	8.7277E-07	1.2001E-07	3.9117E-08
CO	1.5644E-06	1.4000E-09	1.7438E-10
CO+	3.6310E-06	7.6156E-08	1.6432E-08
CO2	3.9375E-13	1.2508E-17	4.2807E-19
C2	3.0163E-08	9.0799E-11	4.9327E-12

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.8975E-01	5.1864E-01	5.4692E-01
D	1.9489E-01	6.6018E-03	2.7893E-03
O+	2.1204E-01	3.0071E-01	2.6603E-01
O++	9.4051E-08	9.6413E-03	3.2277E-02
D-	4.7963E-06	2.8434E-07	1.4487E-07
O2	1.3318E-07	1.3803E-10	4.3041E-11
O2+	8.4108E-07	2.9723E-08	1.2694E-08
O2-	5.8272E-12	2.9184E-14	6.9582E-15
C	2.5663E-02	2.1060E-03	1.1763E-03
C+	1.7707E-01	1.2176E-01	6.3282E-02
C++	2.1346E-06	3.4740E-02	6.6525E-02
C-	5.9372E-07	4.0692E-08	1.7809E-08
CO	4.6769E-07	2.0701E-10	4.3682E-11
CO+	1.9178E-06	1.8647E-08	5.6372E-08
CO2	6.7431E-14	5.1854E-19	5.1426E-20
C2	9.6131E-09	1.1704E-11	2.1443E-12

Table I. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SQ-M, US1 = 1.00E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 1.60E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2750E+01	6.7533E+01	1.1241E+02	P	4.1079E+01	2.8936E+02	4.1219E+02
T	2.5812E+00	3.4570E+00	4.0726E+00	T	4.6576E+00	6.6384E+00	7.1945E+00
RHO	6.1029E+00	1.8532E+01	2.7600E+01	RHO	8.8078E+00	4.3027E+01	5.5669E+01
H	9.4419E-01	9.0758E-01	8.8126E-01	H	8.5507E-01	7.4452E-01	6.9641E-01
A	1.8476E+00	1.0799E+00	1.9286E+00	A	2.0541E+00	2.4157E+00	2.5209E+00
S	1.0680E+00	1.0000E+00	1.0000E+00	S	1.1553E+00	1.1864E+00	1.2076E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0001E+00	1.0137E+00	1.0289E+00
GAME	9.2819E-01	9.1622E-01	9.1115E-01	GAME	9.0577E-01	8.6719E-01	8.5827E-01
U	3.0950E+00	9.6509E-01	8.7895E-01	U	5.2496E+00	1.0762E+00	9.8376E-01

SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	3.0399E-03	9.0757E-04	3.2225E-02	E-	5.3195E-03	1.9567E-05	3.6963E-14
O	1.0760E-12	5.9554E-11	3.8384E-09	O	1.2266E-07	1.9561E-04	7.8230E-04
O+	6.3047E-37	4.2214E-33	2.5490E-30	O+	2.2953E-28	1.4498E-21	6.2273E-20
D+	0.	0.	0.	D+	0.	5.1639E-91	1.3982E-81
O-	2.9579E-07	8.9787E-07	1.8884E-07	O-	1.3749E-27	1.6977E-18	6.9732E-17
O2	4.3922E-04	4.3922E-04	4.4315E-04	O2	5.7192E-04	1.3713E-02	2.6749E-02
O2+	1.7557E-19	1.7597E-19	1.7597E-19	O2+	1.7594E-18	1.9802E-15	3.7599E-14
O2-	2.0357E-53	4.9450E-04	3.7772E-04	O2-	7.4483E-26	2.0133E-17	5.6779E-16
C	1.4926E-51	1.2107E-52	1.2985E-14	C	6.1851E-27	5.3537E-19	2.6349E-17
C+	8.2339E-03	1.8697E-03	4.8098E-06	C+	1.8600E-39	9.7543E-30	7.9036E-29
C-	2.1456E-06	1.9434E-09	1.3044E-03	C-	0.	6.0928E-74	2.7071E-66
CO	7.2283E-11	6.9567E-05	6.4831E-06	CO	1.7223E-47	1.5415E-33	4.8593E-31
CO+	1.0541E-45	2.3091E-11	4.9612E-24	CO+	2.6424E-04	2.6752E-02	5.5405E-02
CO2	9.9956E-01	9.9956E-01	9.9956E-01	CO2	1.1021E-25	7.8878E-20	3.3266E-18
U2	9.1543E-76	7.9731E-63	6.1094E-51	U2	9.9916E-01	9.5934E-01	9.1600E-01
				U2	9.4587E-40	8.9738E-29	6.0800E-27

P1 = 5.00E+01 N/SQ-M, US1 = 1.20E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 1.80E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2944E+01	1.2170E+02	1.9013E+02	P	5.2156E+01	4.1093E+02	5.6148E+02
T	2.1937E+00	4.5023E+00	5.2388E+00	T	5.4537E+00	7.4117E+00	7.8615E+00
RHO	7.1502E+00	2.7024E+01	3.6266E+01	RHO	9.5437E+00	5.3368E+01	6.7238E+01
H	9.1007E-01	8.6319E-01	8.2799E-01	H	8.1623E-01	6.7208E-01	6.1812E-01
A	1.7127E+00	2.0200E+00	2.1712E+00	A	2.2061E+00	2.5660E+00	2.6679E+00
S	1.0971E+00	1.1156E+00	1.1346E+00	S	1.1836E+00	1.2231E+00	1.2458E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0020E+00	1.0308E+00	1.0615E+00
GAME	9.1904E-01	9.0606E-01	8.9922E-01	GAME	8.9059E-01	8.5519E-01	8.5233E-01
U	3.8202E+00	1.0094E+00	9.2556E-01	U	5.9635E+00	1.0684E+00	9.8460E-01

SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	2.4700E-00	1.4252E-24	9.8721E-21	E-	5.5901E-19	1.2171E-13	6.2779E-13
O	5.5396E-12	2.0672E-08	1.1878E-06	O	6.9906E-06	1.3242E-03	3.0947E-03
O+	2.1440E-33	3.4519E-29	8.2458E-27	O+	5.5874E-26	6.3177E-19	1.0522E-17
O-	0.	0.	0.	O-	0.	1.1629E-81	1.5217E-76
O2	4.3941E-04	4.7024E-04	1.1211E-03	O2	4.4627E-23	3.2317E-16	3.8411E-15
O2+	1.7557E-19	1.7596E-19	1.7684E-19	O2+	2.4321E-03	3.6427E-02	9.5269E-02
O2-	3.4917E-42	4.7300E-27	4.6394E-18	O2-	2.3163E-18	1.2399E-13	8.4917E-13
C	5.2954E-47	5.6364E-28	5.3578E-25	C	1.1199E-21	1.9746E-15	1.7761E-14
C+	4.3111E-53	2.6285E-04	1.1331E-37	C+	2.8954E-36	2.4550E-26	2.1643E-15
C-	1.5682E-78	8.9440E-50	4.9567E-94	C-	1.2142E-88	4.0020E-66	5.1968E-62
CO	1.6478E-09	6.0899E-05	1.9739E-43	CO	4.8749E-81	1.3890E-29	1.0720E-27
CO+	2.4454E-31	6.4085E-27	2.0111E-24	CO+	3.9924E-03	7.3331E-02	1.1200E-01
CO2	9.9996E-01	9.9947E-01	9.9754E-01	CO2	7.1459E-24	1.7312E-17	2.1557E-16
U2	3.5751E-62	4.3845E-41	5.4057E-37	U2	9.9357E-01	8.8892E-01	8.2884E-01
				U2	2.4747E-35	1.8932E-25	7.7399E-24

P1 = 5.00E+01 N/SQ-M, US1 = 1.40E+03 M/SEC				P1 = 9.00E+01 N/SQ-M, US1 = 2.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1278E+01	1.3480E+02	2.9050E+02	P	6.4757E+01	5.8901E+02	7.5240E+02
T	2.8871E+00	5.4378E+00	6.3490E+00	T	6.1652E+00	8.0499E+00	8.4469E+00
RHO	8.0415E+00	3.4488E+01	4.5394E+01	RHO	7.7272E-01	6.5789E+01	8.0682E+01
H	8.8932E-01	8.0777E-01	7.6593E-01	H	2.3278E+00	2.7142E+00	2.7977E+00
A	1.8831E+00	2.2435E+00	2.3698E+00	A	1.2119E+00	1.2617E+00	1.2816E+00
S	1.1285E+00	1.1510E+00	1.1711E+00	S	1.0096E+00	1.0752E+00	1.1040E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	8.7003E-01	8.5172E-01	8.5174E-01
GAME	9.1298E-01	8.7103E-01	8.7449E-01	GAME	6.6892E+00	1.0591E+00	9.8830E-01
U	4.5382E+00	1.0589E+00	9.7731E-01	U			

SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	2.8542E-03	1.5613E-18	2.0518E-17	E-	2.1790E-16	1.6140E-12	7.3000E-12
O	2.2710E-09	9.9295E-06	7.2469E-05	O	1.0719E-08	4.4945E-03	8.2115E-03
O+	0.5171E-31	3.8640E-25	4.1912E-23	O+	5.9367E-23	1.6021E-07	2.5524E-16
O-	0.	0.	0.	O-	0.	2.0158E-72	3.0721E-71
O2	7.2659E-09	7.9251E-22	2.3491E-19	O2	5.3020E-23	7.7802E-12	5.9925E-14
O2+	4.4161E-04	2.4362E-03	8.4727E-03	O2+	9.8021E-03	6.5863E-02	6.4395E-02
O2-	1.7557E-19	1.9226E-19	2.1510E-17	O2-	2.2035E-16	1.6570E-12	7.5604E-12
C	1.2052E-33	1.1864E-20	5.2997E-14	C	6.6339E-19	3.5612E-14	1.9643E-13
C+	1.3432E-35	1.7105E-22	1.1484E-17	C+	1.9370E-20	6.0300E-15	4.2427E-14
C-	5.9468E-47	2.2068E-24	1.2000E-23	C-	4.0450E-32	4.2527E-24	9.5494E-23
CO	0.	3.0796E-83	5.2997E-73	CO	3.9262E-60	1.0227E-50	9.2466E-58
CO	1.5192E-65	7.7147E-39	1.1683E-33	CO	2.4575E-36	5.1004E-27	1.8888E-23
CO+	3.4002E-06	4.0002E-03	1.6145E-02	CO+	1.8842E-02	1.3540E-01	1.8020E-01
CO2	1.2685E-24	2.9092E-23	1.3714E-20	CO2	3.5136E-21	4.1762E-16	3.7206E-15
U2	9.9956E-01	9.9756E-01	9.7531E-01	U2	9.7125E-01	7.9424E-01	7.2519E-01
U2	2.1245E-52	3.8892E-33	2.7978E-29	U2	3.0589E-31	3.4260E-24	4.7135E-22

Table I. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SQ-M, US1 = 2.20E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 2.80E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8897E+01	7.7841E+02	1.0020E+03	P	1.2993E+02	1.7070E+03	2.1136E+03
T	6.7284E+01	4.0151E+03	8.7945E+00	T	7.9242E+00	1.0200E+01	1.0615E+01
RHC	1.2440E+01	9.0406E+01	9.6423E+01	RHC	1.4834E+01	1.2845E+02	1.4607E+02
H	7.2450E+01	9.9912E+01	4.3117E+01	H	5.5243E+01	1.6673E+01	7.3634E+02
A	2.4203E+00	2.8641E+01	2.9779E+00	A	2.7240E+00	3.3840E+00	3.3929E+00
S	1.2395E+00	1.3023E+00	1.3286E+00	S	1.3317E+00	1.4361E+00	1.4688E+00
Z	1.0241E+00	1.1208E+00	1.1553E+00	Z	1.1054E+00	1.3029E+00	1.3575E+00
GAME	8.5601E+01	8.5189E+01	8.5235E+01	GAME	8.4712E+01	8.0169E+01	8.6394E+01
U	7.4294E+00	1.0595E+00	1.0001E+00	U	9.6619E+00	1.1174E+00	1.0858E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	6.4917E-10	1.3285E-11	4.1946E-11	E-	2.6085E-12	9.4551E-10	2.2469E-09
D	5.4811E-14	1.0881E-02	1.7398E-02	D	8.8940E-03	6.2091E-02	8.4581E-02
H+	3.6200E-11	4.2800E-18	3.3840E-15	C+	5.2299E-17	3.6464E-13	1.6483E-12
O++	2.4372E-03	2.2081E+00	7.9938E-66	O++	5.0143E-74	4.9960E-56	3.0482E-35
N-	2.4527E-14	1.2425E-13	5.4444E-13	O+	7.1110E-15	2.9737E-11	7.5401E-11
O2	2.3705E-04	9.7281E-02	1.1744E-01	O2	8.6811E-02	1.7073E-01	1.7813E-01
O2+	6.6225E-19	1.3866E-11	4.3831E-11	O2+	6.6342E-12	1.0018E-09	2.3913E-09
O2-	2.6782E-17	3.6435E-17	1.3317E-12	O2-	1.9300E-14	3.3378E-11	7.9261E-11
C	4.4077E-16	9.6667E-14	4.7328E-13	C	6.7689E-15	3.6717E-11	1.3849E-10
C+	2.5671E-26	7.2117E-22	3.0779E-21	C+	3.8729E-24	2.6144E-19	1.8242E-17
C++	6.0400E-44	7.1634E-37	1.2004E-33	C++	6.4873E-60	2.5579E-43	1.0129E-44
C-	5.9400E-32	4.2072E-25	5.1044E-24	C-	1.0689E-27	2.6919E-29	4.9082E-20
C0	4.7338E-02	2.0466E+01	2.5151E-01	C0	1.8176E-01	4.0287E-01	4.4020E-01
C0+	1.4722E-14	8.1819E-19	3.7611E-14	C0+	6.7710E-16	2.4555E-12	8.4647E-12
C0-	4.2876E-01	6.0711E-01	8.1366E-01	C0-	7.2251E-01	3.6431E-01	2.9708E-01
C2	8.7000E-24	1.4213E-21	1.2124E-20	C2	1.1524E-23	4.5075E-18	3.4660E-17
P1 = 5.00E+01 N/SQ-M, US1 = 2.40E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 3.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4487E+01	1.0341E+03	1.3104E+03	P	1.4973E+02	2.1202E+03	2.6076E+03
T	7.1871E+01	9.1503E+03	9.5283E+00	T	8.2467E+00	1.0738E+01	1.1919E+01
RHC	1.2589E+01	9.0199E+01	1.1223E+02	RHC	1.5907E+01	1.4344E+02	1.6214E+02
H	6.7174E+01	3.9674E+01	3.2116E+01	H	4.8500E-01	3.8331E-02	-6.5802E-02
A	2.5287E+00	3.0247E+00	3.1483E+00	A	2.8246E+00	3.8015E+00	3.7426E+00
S	1.2692E+00	1.3450E+00	1.3734E+00	S	1.3648E+00	1.4839E+00	1.5190E+00
Z	1.0421E+00	1.1744E+00	1.2147E+00	Z	1.1414E+00	1.3770E+00	1.4370E+00
GAME	8.7022E+01	8.5401E+01	8.5436E+01	GAME	8.4755E+01	8.6680E+01	8.7166E+01
U	8.1731E+00	1.0064E+00	1.0200E+00	U	1.0403E+01	1.1555E+00	1.1310E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	9.6765E-14	7.0216E-11	1.8525E-10	E-	9.1300E-12	2.8852E-09	6.6978E-09
D	3.9249E-02	2.1611E-02	3.2071E-02	D	1.5390E-02	9.8728E-02	1.2567E-01
H+	4.4947E-17	7.9775E-15	3.2063E-14	C+	3.5752E-16	2.1196E-12	9.9816E-12
O++	3.8823E-44	1.7211E-06	6.4800E-62	O++	4.9651E-70	2.1866E-53	2.1304E-32
N-	1.1551E-17	3.5119E-12	3.5119E-12	O+	3.4441E-14	9.5297E-11	2.7632E-10
O2	4.2706E-04	1.2717E-01	1.4502E-01	O2	1.0880E-01	1.7934E-01	1.7872E-01
O2+	5.3407E-14	7.4405E-11	1.9495E-10	O2+	9.2337E-12	3.0686E-09	7.1352E-09
O2-	5.3407E-14	2.1098E-12	0.5025E-12	O2-	7.3250E-14	9.7705E-11	2.1247E-10
C	7.8940E-17	1.0642E-12	3.7957E-12	C	3.9318E-14	1.8336E-10	7.0804E-10
C+	8.6016E-27	1.1270E-20	6.6648E-20	C+	9.9720E-23	2.1331E-18	2.5930E-16
C++	5.8826E+05	7.9426E+53	3.2440E-50	C++	9.5650E-57	4.4896E-43	2.1630E-02
C-	1.5077E-30	1.4875E-23	1.4875E-23	C-	2.1159E-26	4.0033E-20	6.7182E-19
C0	8.6710E+00	2.7820E+01	2.1138E+01	C0	4.5282E-01	4.0249E-01	4.0249E-01
C0+	4.5815E+01	7.6797E-14	2.7629E-17	C0+	3.6059E-15	1.1516E-11	4.1449E-11
C0-	8.6884E+01	5.7589E+01	5.0154E-01	C0-	6.4355E-01	2.7309E-01	2.1313E+00
C2	2.4963E-25	4.0134E-20	2.4115E-19	C2	1.4209E-22	4.2864E-17	3.9063E-16
P1 = 5.00E+01 N/SQ-M, US1 = 2.60E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 3.20E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1154E+02	1.3440E+03	1.6808E+03	P	1.7089E+02	2.5202E+03	3.1417E+03
T	7.9767E+01	4.4375E+00	1.0065E+01	T	8.2532E+00	1.1299E+01	1.1006E+01
RHC	1.2706E+01	1.1242E+01	1.3030E+02	RHC	1.4912E+01	1.5682E+02	1.7589E+02
H	6.1435E+01	2.8627E+01	2.0204E+01	H	6.1480E+01	-9.8862E-02	-2.1560E-01
A	3.6260E+00	3.2011E+00	3.3717E+00	A	2.9205E+00	3.7907E+00	3.9745E+00
S	1.2998E+00	1.3407E+00	1.3202E+00	S	1.3392E+00	1.3330E+00	1.3705E+00
Z	1.0733E+00	1.2352E+00	1.2816E+00	Z	1.1813E+00	1.4973E+00	1.5251E+00
GAME	8.4765E+01	8.5739E+01	8.6051E+01	GAME	8.4880E+01	8.7271E+01	8.7034E+01
U	8.5184E+00	1.0086E+00	1.0504E+00	U	1.1140E+01	1.2030E+00	1.1869E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	6.3458E-12	2.6287E-10	6.8714E-10	E-	2.7349E-11	8.2618E-09	1.8853E-08
D	4.5644E-07	2.8246E-02	5.3908E-02	D	2.4513E-02	1.3715E-01	3.7781E-01
H+	7.7280E-19	6.7947E-14	2.4723E-13	C+	3.6458E-19	1.0892E-01	6.8978E-01
O++	1.2200E-74	1.7985E+23	1.2149E+58	O++	1.3629E-13	3.4031E-10	8.7601E-10
N-	1.2557E-15	5.8387E-12	1.7854E-11	C-	1.2536E-01	1.7693E-01	1.8678E-01
O2	6.4268E-02	1.5255E-01	1.6818E-01	O2	2.7659E-11	6.7754E-09	1.9076E-08
O2+	6.3596E-17	2.9775E-10	7.2010E-10	O2+	2.2815E-13	2.4313E-10	4.0661E-10
O2-	4.1478E-17	9.5954E-12	2.5015E-11	C	1.9215E-13	9.6150E-10	3.4103E-09
C	1.3913E-14	7.1777E-12	2.4676E-11	C+	1.0879E-21	4.0896E-16	3.4093E-15
C+	4.8281E-24	2.7294E-19	1.1863E-19	C+	7.8659E-54	9.4731E-42	1.8580E-08
C++	1.5363E-62	7.6450E-59	2.5625E-21	C++	4.4011E-25	1.0350E-18	7.9232E-18
C-	1.1905E-20	4.7055E-22	2.5625E-21	C-	2.8248E-01	4.9042E-01	9.1060E-01
C0	1.3228E+01	3.4264E+01	1.6584E-12	C0	1.6257E-14	5.3709E-11	1.0782E-10
C0+	1.7512E-16	5.0396E-13	1.6584E-12	C0+	5.6369E-01	1.9550E-01	1.4461E-01
C0-	7.9889E+01	4.6656E+01	3.7413E+01	C0-	1.5621E-21	5.9225E-16	5.7106E-15
C2	1.2511E-24	6.3715E-19	3.4087E-18	C2			

Table I. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SQ-M, US1 = 3.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9342E+02	3.0903E+03	3.7762E+03
T	8.8490E+00	1.1892E+01	1.2471E+01
RHO	1.7845E+01	1.6835E+02	1.8694E+02
H	3.5913E-01	-2.4480E-01	-3.7608E-01
A	1.4726E+01	4.0179E+00	4.2319E+00
S	1.4249E+00	1.5830E+00	1.6232E+00
Z	1.2250E+00	1.5434E+00	1.6199E+00
GAME	8.5056E-01	8.7951E-01	8.8653E-01
U	1.1876E+01	1.2604E+00	1.2530E+00

SPECIES	MOLE FRACTIONS		
E-	6.8371E-11	2.1927E-08	4.8560E-08
O	3.6748E-02	1.8941E-01	2.4006E-01
O+	6.9729E-15	8.1223E-11	3.1248E-10
O++	3.9452E-65	3.0657E-49	2.4811E-47
C-	4.1235E-13	1.0183E-09	2.4870E-09
C0	1.4726E+01	1.6298E-01	1.4287E-01
O2+	6.9321E-11	2.3133E-08	5.0850E-08
O2-	5.9433E-13	5.1841E-10	9.5187E-10
C	6.2548E-13	4.6008E-09	1.6261E-08
C+	1.6320E-21	6.5991E-15	4.6196E-14
C++	1.4188E-52	1.6172E-39	7.4047E-38
C0+	1.0479E-24	1.2888E-17	8.5166E-17
C0	3.3057E-02	5.1479E-01	5.2525E-01
CO	5.1185E-14	2.4488E-10	8.3848E-10
CO2	4.8540E-01	1.3283E-01	9.4181E-02
C2	5.5702E-21	5.8273E-15	3.4083E-14

P1 = 5.00E+01 N/SQ-M, US1 = 4.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6905E+02	4.8146E+03	5.9551E+03
T	9.7517E+00	1.4113E+01	1.5523E+01
RHO	2.0077E+01	1.8745E+02	1.9948E+02
H	8.4481E-01	-7.3405E-01	-9.2890E-01
A	2.3915E+00	4.8554E+00	5.3281E+00
S	1.5482E+00	1.7351E+00	1.7843E+00
Z	1.3771E+00	1.8275E+00	1.9232E+00
GAME	8.5816E-01	9.1405E-01	9.5098E-01
U	1.4064E+01	1.5081E+00	1.5733E+00

SPECIES	MOLE FRACTIONS		
E-	8.0010E-10	3.1730E-07	1.0815E-06
O	9.7758E-02	3.8456E-01	4.4969E-01
O+	4.2018E-13	1.1093E-08	1.1530E-07
O++	1.1226E-60	4.8723E-41	8.6413E-37
C-	8.0278E-12	1.4344E-08	3.8407E-08
C0	1.6211E-01	6.8078E-02	6.8078E-02
O2+	8.1211E-10	3.0110E-07	7.9792E-07
O2-	6.0411E-12	1.9619E-09	2.2712E-09
C	2.3893E-11	4.8567E-07	5.6820E-06
C+	1.7852E-18	1.7106E-11	7.5231E-10
C++	9.9354E-45	2.4103E-32	1.6880E-28
C0+	8.5169E-22	9.8783E-15	2.7758E-13
C0	5.2104E-01	5.1034E-01	5.1034E-01
CO+	1.6383E-12	2.1401E-08	2.0717E-07
CO2	2.7564E-01	2.5924E-02	9.4010E-03
C2	1.2272E-18	4.0603E-12	1.4332E-10

P1 = 5.00E+01 N/SQ-M, US1 = 3.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1730E+02	3.6384E+03	4.4454E+03
T	9.1428E+00	1.2532E+01	1.3223E+01
RHO	1.8680E+01	1.7759E+02	1.9542E+02
H	2.5889E-01	-3.9937E-01	-5.4750E-01
A	3.1494E+00	4.2842E+00	4.5315E+00
S	1.4115E+00	1.6336E+00	1.6766E+00
Z	1.4272E+00	1.6349E+00	1.7202E+00
GAME	8.5272E-01	8.8753E-01	8.9721E-01
U	1.2608E+01	1.3278E+00	1.3329E+00

SPECIES	MOLE FRACTIONS		
E-	1.7015E-10	5.3743E-08	1.2340E-07
O	5.2709E-02	2.5038E-01	3.0963E-01
O+	2.5890E-14	3.8161E-10	1.7711E-09
O++	1.2681E-64	5.0310E-47	6.6038E-44
C-	1.2735E-12	2.6716E-09	6.3732E-09
C0	1.6182E+01	1.3822E-01	1.0932E-01
O2+	1.7262E-10	5.6002E-08	1.2564E-07
O2-	1.4270E-12	9.5488E-10	1.5740E-09
C	2.5521E-12	1.9315E-08	8.2377E-08
C+	5.4901E-20	6.2311E-14	7.1101E-13
C++	4.9368E-52	1.4148E-37	6.1369E-35
C0+	2.6491E-23	1.0493E-16	9.1078E-16
C0	3.1542E-02	3.2628E-01	3.2775E-01
CO+	1.9256E-13	9.8544E-10	3.9419E-09
CO2	4.1042E-01	8.5129E-02	5.3302E-02
C2	5.6407E-20	4.2195E-14	3.4423E-13

P1 = 5.00E+01 N/SQ-M, US1 = 4.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9651E+02	5.4800E+03	6.8275E+03
T	1.0074E+01	1.3236E+01	1.8603E+01
RHO	2.0410E+01	1.8560E+02	1.8664E+02
H	-9.2612E-03	-9.1367E-01	-1.1522E+00
A	3.5215E+00	5.2787E+00	6.1241E+00
S	1.5875E+00	1.7847E+00	1.8377E+00
Z	1.4347E+00	1.9183E+00	1.9877E+00
GAME	8.6138E-01	9.4702E-01	1.0253E+00
U	1.4788E+01	1.6455E+00	1.8247E+00

SPECIES	MOLE FRACTIONS		
E-	1.6119E-09	9.3912E-07	1.1458E-05
O	1.2775E-01	4.4848E-01	4.9189E-01
O+	1.5011E-12	9.1551E-08	1.1917E-06
O++	2.7943E-60	1.8560E-37	2.5655E-30
C-	1.8071E-11	2.2772E-08	1.8671E-07
C0	1.7554E-01	3.2466E-02	5.2132E-03
O2+	1.6354E-09	7.1820E-07	1.8290E-06
O2-	1.1075E-11	2.0437E-09	2.1102E-09
C	6.8884E-11	4.3693E-06	3.9209E-04
C+	8.4891E-18	1.1775E-11	5.1175E-09
C++	1.5805E-47	3.6844E-39	1.9143E-32
C0+	4.0357E-21	1.8050E-13	9.1738E-11
C0	4.7822E-01	5.1094E-01	5.0109E-01
CO+	4.3964E-12	1.6370E-07	6.1184E-06
CO2	2.1849E-01	1.0109E-02	1.3836E-03
C2	4.4926E-18	9.3279E-11	6.6803E-08

P1 = 5.00E+01 N/SQ-M, US1 = 3.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4255E+02	4.2237E+03	5.1719E+03
T	9.4348E+00	1.3248E+01	1.4147E+01
RHO	1.9431E+01	1.8244E+02	2.0044E+02
H	1.7407E-01	-3.6253E-01	-7.3088E-01
A	3.2676E+00	4.5372E+00	4.8562E+00
S	1.5095E+00	1.6844E+00	1.7304E+00
Z	1.4230E+00	1.7305E+00	1.8240E+00
GAME	8.5528E-01	8.9796E-01	9.1394E-01
U	1.3337E+01	1.4084E+00	1.4328E+00

SPECIES	MOLE FRACTIONS		
E-	3.7011E-10	1.2892E-07	3.2247E-07
O	7.2886E-02	3.1686E-01	3.8212E-01
O+	1.0973E-13	1.9299E-09	1.1122E-08
O++	1.8254E-61	4.0283E-44	5.4608E-41
C-	1.2219E-12	6.4020E-09	1.5280E-08
C0	1.7157E-01	1.0551E-01	6.9874E-02
O2+	3.7573E-10	1.3064E-07	3.0708E-07
O2-	3.0457E-12	1.4986E-09	2.1505E-09
C	7.3316E-12	8.4848E-08	4.9170E-07
C+	1.9806E-19	7.7102E-13	1.3158E-11
C++	1.4117E-49	4.4832E-35	2.5512E-32
C0+	1.0734E-22	9.4160E-16	1.0712E-14
C0	4.1235E-01	5.2738E-01	5.2139E-01
CO+	5.3329E-13	4.2423E-09	2.1668E-08
CO2	3.4019E-01	5.0251E-02	2.6619E-02
C2	2.1220E-19	3.6169E-13	4.2733E-12

P1 = 5.00E+01 N/SQ-M, US1 = 4.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2620E+02	6.0676E+03	7.7376E+03
T	1.0347E+01	1.7531E+01	2.1607E+01
RHO	2.1001E+01	1.7478E+02	1.7716E+02
H	-1.0778E-01	-1.1009E+00	-1.3871E+00
A	3.6585E+00	5.9401E+00	6.3771E+00
S	1.6284E+00	1.8319E+00	1.8840E+00
Z	1.4950E+00	1.9803E+00	2.0214E+00
GAME	8.6494E-01	1.0164E+00	9.3111E-01
U	1.5509E+01	1.8723E+00	2.0543E+00

SPECIES	MOLE FRACTIONS		
E-	3.1423E-09	5.8243E-06	1.3558E-04
O	1.6294E-01	4.8727E-01	5.0420E-01
O+	3.8408E-12	1.4972E-06	2.9180E-05
O++	2.8951E-55	4.1524E-32	1.2339E-29
C-	3.8551E-11	1.1022E-07	1.0776E-06
C0	1.6870E-01	7.4927E-02	1.1701E-03
O2+	3.1849E-09	1.5607E-06	1.8681E-04
O2-	1.8927E-11	1.8140E-09	3.1761E-09
C	1.8062E-10	1.3426E-04	1.1859E-02
C+	3.2801E-17	2.0797E-07	5.6949E-05
C++	2.2017E-44	6.2385E-24	4.5658E-18
C0+	1.6780E-20	1.8379E-11	1.6502E-08
C0	4.9574E-01	5.0247E-01	4.8221E-01
CO+	1.1144E-11	2.7705E-06	1.2884E-05
CO2	1.6862E-01	2.1572E-03	2.8472E-04
C2	1.8427E-17	1.3491E-08	9.5699E-06

Table 1. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SQ-M, US1 = 4.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5673E+02	6.4672E+02	6.4092E+03
T	1.0675E+01	2.0565E+01	2.3083E+01
RMD	2.1429E+01	1.6138E+02	1.7976E+02
H	-2.1087E-01	-1.2941E+00	-1.6127E+00
A	3.8032E+00	6.3202E+00	6.5539E+00
S	1.6653E+00	1.8777E+00	1.9238E+00
Z	1.5598E+00	2.0061E+00	2.0748E+00
GAME	6.6894E-01	9.1635E-01	8.9678E-01
U	1.6227E+01	2.1974E+00	2.2015E+00

SPECIES	MOLE FRACTIONS		
E-	6.0344E-09	6.6171E-05	3.7798E-04
O	2.0297E-01	5.0004E-01	5.1711E-01
C+	1.2942E-11	1.5282E-05	4.6693E-05
O++	1.3757E-54	6.5428E-27	4.7577E-24
C-	7.8664E-11	5.8220E-07	2.4421E-06
O2	1.5613E-01	1.6111E-03	7.4156E-04
O2+	6.0980E-09	1.8337E-06	1.7616E-06
O2-	3.0004E-11	2.2609E-09	4.7550E-09
C	5.3349E-10	4.9640E-03	3.4237E-02
C+	2.6448E-16	8.1844E-05	2.3874E-04
C++	1.2028E-43	3.3673E-19	1.1752E-16
C-	9.6795E-20	3.7094E-09	1.1378E-07
CO	5.1467E-01	4.9284E-01	4.4491E-01
CO+	3.2053E-11	3.1480E-05	9.3349E-05
CO2	1.2623E-01	4.0646E-04	1.6129E-04
C2	9.1370E-17	2.5735E-06	4.7919E-05

P1 = 5.00E+01 N/SQ-M, US1 = 4.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8858E+02	7.3133E+05	9.4708E+02
T	1.1016E+01	2.2355E+01	2.4047E+01
RMD	2.1881E+01	1.5977E+02	1.8432E+02
H	-3.1852E-01	-1.4983E+00	-1.8410E+00
A	3.9566E+00	6.4405E+00	6.7598E+00
S	1.7112E+00	1.9107E+00	1.9628E+00
Z	1.6267E+00	2.0476E+00	2.1367E+00
GAME	8.7931E-01	9.0617E-01	8.8828E-01
U	1.6542E+01	2.3008E+00	2.2582E+00

SPECIES	MOLE FRACTIONS		
F-	1.1120E-08	2.4987E-04	6.7969E-04
O	2.4747E-01	5.1076E-01	5.3394E-01
O+	3.7127E-11	3.6015E-05	6.6725E-05
O++	1.6740E-52	8.9965E-25	4.2017E-23
O-	1.5033E-10	1.5954E-06	4.0690E-06
O2	1.3805E-01	8.2320E-04	5.7980E-04
O2+	1.1196E-08	1.6771E-06	1.7713E-06
O2-	4.4440E-11	3.3821E-09	6.9270E-09
C	2.1148E-09	2.3867E-02	6.3404E-02
C+	1.1256E-15	1.4001E-04	4.9933E-04
C++	3.8995E-42	3.0126E-17	7.0533E-16
C-	3.8568E-19	4.9033E-08	3.2474E-07
CO	5.2302E-01	4.6383E-01	4.0346E-01
CO+	6.2044E-11	7.3813E-05	1.2274E-04
CO2	9.1461E-02	1.8950E-04	1.1564E-04
C2	3.3690E-16	2.4494E-05	1.0485E-04

P1 = 5.00E+01 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2166E+02	8.0009E+03	1.0325E+04
T	1.1390E+01	2.3424E+01	2.4622E+01
RMD	2.1827E+01	1.6241E+02	1.8877E+02
H	-4.3022E-01	-1.7122E+00	-2.0771E+00
A	4.1212E+00	6.8824E+00	6.9628E+00
S	1.7394E+00	1.9481E+00	2.0014E+00
Z	1.6964E+00	2.1022E+00	2.2041E+00
GAME	8.7905E-01	8.9078E-01	8.8614E-01
U	1.7654E+01	2.3762E+00	2.3079E+00

SPECIES	MOLE FRACTIONS		
E-	2.0347E-08	5.0804E-04	1.0382E-03
O	2.9518E-01	5.2362E-01	5.4500E-01
O+	1.1333E-10	5.4620E-05	8.8043E-05
O++	8.1307E-50	1.0233E-23	2.0075E-22
O-	2.7795E-10	2.8721E-06	5.9191E-06
O2	1.1360E-01	6.1968E-04	7.2573E-04
O2+	6.0715E-11	4.6845E-09	8.1334E-09
O2-	3.9831E-09	4.8883E-02	9.1176E-02
C	5.3959E-15	3.5030E-04	8.0944E-04
C+	1.1838E-39	2.6108E-16	2.5333E-15
C-	1.6702E-18	1.7877E-07	6.7075E-07
CO	5.2586E-01	4.2564E-01	3.8095E-01
CO+	2.2221E-10	1.0456E-04	1.4514E-04
CO2	6.3356E-02	1.2713E-04	8.7531E-05
C2	1.3713E-15	6.9220E-05	1.7115E-04

P1 = 5.00E+01 N/SQ-M, US1 = 5.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5800E+02	8.8287E+03	1.1152E+04
T	1.1805E+01	2.4234E+01	2.5510E+01
RMD	2.1835E+01	1.6546E+02	1.9213E+02
H	-3.4747E-01	-1.9348E+00	-2.3212E+00
A	4.3025E+00	6.8196E+00	7.1724E+00
S	1.7937E+00	1.9855E+00	2.0409E+00
Z	1.7617E+00	2.1695E+00	2.2753E+00
GAME	8.8645E-01	8.8622E-01	8.8627E-01
U	1.8364E+01	2.4275E+00	2.3543E+00

SPECIES	MOLE FRACTIONS		
F-	3.7844E-09	8.2080E-04	1.4583E-03
O	3.4479E-01	5.3712E-01	5.5888E-01
C+	3.9536E-10	7.3685E-05	1.1325E-04
O++	7.6621E-49	6.3814E-23	7.8143E-22
O-	4.9468E-10	4.3621E-06	8.0666E-06
O2	8.9911E-02	5.2613E-04	4.7624E-04
O2+	3.7145E-08	1.6617E-06	1.9402E-06
O2-	7.6159E-11	6.0955E-09	1.0304E-08
C	4.5123E-08	7.5481E-02	7.3857E-02
C+	5.0607E-14	6.2200E-04	1.1882E-03
C++	1.2506E-38	1.0333E-15	7.2840E-15
C-	9.2407E-18	4.1271E-07	1.1688E-06
CO	5.2412E-01	3.8500E-01	3.1873E-01
CO+	6.8970E-10	1.2823E-04	1.6420E-04
CO2	4.1162E-02	9.4940E-05	6.8158E-05
C2	7.9059E-15	1.2577E-04	2.3694E-04

P1 = 5.00E+01 N/SQ-M, US1 = 5.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9151E+02	9.3239E+03	1.1917E+04
T	1.2311E+01	2.4921E+01	2.6151E+01
RMD	2.1890E+01	1.6761E+02	1.9399E+02
H	-6.6371E-01	-2.1646E+00	-2.5733E+00
A	4.5123E+00	7.0173E+00	7.3857E+00
S	1.9781E+00	2.0244E+00	2.0813E+00
Z	1.8407E+00	2.2322E+00	2.3496E+00
GAME	8.9787E-01	8.8517E-01	8.8766E-01
U	1.9060E+01	2.4705E+00	2.4001E+00

SPECIES	MOLE FRACTIONS		
F-	7.1922E-08	1.1879E-07	1.6519E-03
O	3.9461E-01	5.5064E-01	5.7240E-01
O+	1.5173E-09	9.4858E-05	1.4296E-04
O++	1.7711E-48	2.8773E-22	2.7523E-21
O-	6.0226E-10	6.0605E-06	1.0493E-06
O2	6.2345E-02	4.6858E-06	4.2707E-04
O2+	4.0935E-08	1.7254E-08	2.0608E-08
O2-	9.5785E-11	7.5629E-09	1.2304E-08
C	4.8150E-08	1.0225E-01	1.4550E-01
C+	4.7316E-13	9.5029E-04	1.6391E-03
C++	1.5898E-36	2.4127E-15	1.8606E-14
C-	5.3251E-17	7.6314E-07	1.8313E-06
CO	5.1805E-01	3.8399E-01	2.7738E-01
CO+	2.0131E-05	1.4751E-04	1.8095E-04
CO2	2.4275E-02	7.3513E-05	5.3056E-05
C2	5.0133E-14	1.8884E-04	3.0227E-04

P1 = 5.00E+01 N/SQ-M, US1 = 5.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2802E+02	9.8970E+03	1.2543E+04
T	1.2981E+01	2.5932E+01	2.6761E+01
RMD	2.1937E+01	1.6740E+02	1.9305E+02
H	-7.9450E-01	-2.4401E+00	-2.8332E+00
A	4.7767E+00	7.2195E+00	7.6034E+00
S	1.8800E+00	2.0639E+00	2.1225E+00
Z	1.9107E+00	2.3023E+00	2.4274E+00
GAME	8.9196E-01	8.8973E-01	8.8994E-01
U	1.9748E+01	2.5103E+00	2.4520E+00

SPECIES	MOLE FRACTIONS		
E-	1.5320E-07	1.6122E-03	2.5371E-03
O	4.4181E-01	5.6391E-01	5.8544E-01
O+	7.4236E-09	1.1917E-04	1.7928E-04
O++	4.4400E-47	9.1631E-23	8.9515E-21
O-	1.5271E-09	7.9262E-06	1.3159E-05
O2	3.9045E-02	4.2545E-04	4.0123E-04
O2+	1.3629E-07	1.8036E-06	2.1902E-06
O2-	8.2919E-11	6.9765E-09	1.4153E-08
C	2.4051E-07	1.2857E-01	1.7145E-01
C+	5.6690E-12	1.3303E-03	2.1749E-03
C++	1.4084E-35	8.7947E-15	4.3757E-14
C-	4.4739E-16	1.2332E-06	2.6605E-06
CO	5.1144E-01	3.0754E-01	2.3720E-01
CO+	1.0189E-08	1.6317E-04	1.9264E-04
CO2	1.1712E-02	5.7431E-05	4.0663E-05
C2	4.6094E-13	2.4601E-04	3.5529E-04

Table I. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 M/SQ-M, US1 = 5.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.6501E+02	1.0112E+04	1.2805E+04
T	1.4112E+01	2.6072E+01	2.727E+01
RHC	2.0304E+01	1.0233E+02	1.8659E+03
H	-9.2496E-01	-2.6414E+00	-3.0949E+00
A	5.2021E+00	7.4108E+00	7.9198E+00
S	1.9205E+00	2.0500E+00	2.1664E+00
Z	1.5688E+00	2.2745E+00	2.5016E+00
GAME	2.7400E-01	8.8713E-01	8.9290E-01
U	2.0407E+01	2.5450E+00	2.4747E+00

SPECIES ----- MOLE FRACTIONS -----

F-	4.9030E-07	2.1030E-02	3.7246E-03
F	4.7576E-01	5.7865E-01	5.9771E-01
O+	7.6019E-08	1.4705E-04	2.2519E-04
O++	9.7159E-40	2.6233E-21	2.7523E-20
C+	3.2224E-05	9.0057E-06	2.1361E-04
O2	1.2428E-02	3.8505E-04	1.5810E-05
O2+	3.0323E-07	1.8712E-04	2.2977E-06
O2-	6.4494E-11	1.0040E-09	1.5385E-08
C	3.1810E-06	1.5295E-01	1.9590E-01
C+	4.5595E-10	1.7509E-03	2.8176E-03
C++	2.0529E-33	1.9785E-14	9.5360E-14
E-	1.1514E-14	1.7558E-06	3.2952E-06
E+	5.0410E-01	2.8443E-01	1.9911E-01
CO	1.1263E-07	1.9480E-04	1.9085E-04
CO+	5.6700E-03	4.4301E-05	1.0248E-05
CO2	2.0162E-11	2.9555E-04	3.0355E-04

P1 = 5.00E+01 M/SQ-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0172E+02	9.8809E+03	1.2449E+04
T	1.6215E+01	2.5520E+01	2.7823E+01
RHC	1.9602E+01	1.5224E+02	1.7313E+02
H	-1.0590E+00	-2.8792E+00	-3.3526E+00
A	5.8111E+00	7.5262E+00	8.0288E+00
S	1.8979E+00	2.1984E+00	2.2113E+00
Z	1.5548E+00	2.4474E+00	2.5444E+00
GAME	1.0441E+00	3.8149E-01	3.9844E-01
U	2.1009E+01	2.5710E+00	2.5318E+00

SPECIES ----- MOLE FRACTIONS -----

F-	4.5312E-06	2.6596E-03	4.0304E-03
F	4.9681E-01	5.8872E-01	6.0899E-01
O+	1.4274E-06	1.7848E-04	2.7560E-04
O++	1.0247E-33	6.6219E-21	6.5457E-20
C+	1.3715E-08	1.1406E-05	1.8024E-05
C	2.1230E-03	3.4206E-04	1.2011E-04
O2	5.4168E-07	1.8959E-06	2.5523E-06
O2-	5.4168E-11	1.0344E-08	1.5417E-08
C	1.6455E-04	1.7783E-01	2.1846E-01
C+	1.5255E-07	2.3117E-03	3.5797E-03
C++	1.3683E-24	4.0027E-14	1.9229E-13
E-	2.6568E-12	2.3740E-06	4.5044E-06
E+	5.0020E-01	2.8725E-01	1.6369E-01
CO	2.7051E-06	1.8131E-04	2.0237E-04
CO2	5.7135E-04	3.5151E-05	2.1479E-05
C2	7.4840E-07	3.2798E-04	4.0009E-04

P1 = 5.00E+01 M/SQ-M, US1 = 6.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.3920E+02	9.7483E+03	1.2230E+04
T	1.8457E+01	2.5901E+01	2.8389E+01
RHC	1.7221E+01	1.9520E+02	1.8401E+02
H	-1.1971E+00	-3.1242E+00	-3.4188E+00
A	5.9731E+00	7.7910E+00	8.2566E+00
S	1.9905E+00	2.5161E+00	2.2944E+00
Z	2.0080E+00	2.2222E+00	2.6644E+00
GAME	9.6079E-01	3.0554E-01	9.0141E-01
U	2.1616E+01	2.6025E+00	2.5760E+00

SPECIES ----- MOLE FRACTIONS -----

F-	4.6610E-05	3.3242E-02	5.0727E-03
F	5.0119E-01	6.0012E-01	6.1951E-01
O+	9.4272E-06	2.1790E-04	3.4754E-04
O++	2.5601E-35	1.6631E-20	1.8401E-19
C+	7.0613E-06	1.3154E-05	2.0824E-05
O2	4.8078E-04	3.0676E-04	2.8051E-04
O2+	5.0219E-07	1.9447E-06	2.4397E-06
O2-	7.2555E-11	1.0671E-08	1.5477E-08
C	4.5271E-03	2.0075E-01	2.3963E-01
C+	1.7806E-07	2.9346E-03	4.5453E-03
C++	2.2203E-20	7.9969E-14	4.0651E-13
E-	2.9431E-10	5.0359E-08	5.5832E-08
CO	4.9308E-01	1.9171E-01	1.2944E-01
CO+	1.8445E-05	1.8594E-04	2.0364E-04
CO2	1.2299E-04	2.4498E-05	1.4675E-05
C2	7.8559E-07	3.4974E-04	3.9621E-04

P1 = 5.00E+01 M/SQ-M, US1 = 6.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8061E+02	1.0212E+04	1.2787E+04
T	1.9738E+01	2.7603E+01	2.9184E+01
RHC	1.8924E+01	1.4225E+02	1.5936E+02
H	-1.3408E+00	-2.3504E+00	-3.9140E+00
A	6.0163E+00	8.0196E+00	8.5424E+00
S	2.0216E+00	2.2327E+00	2.3001E+00
Z	2.0375E+00	2.6008E+00	2.7494E+00
GAME	9.0002E-01	8.9589E-01	9.0946E-01
U	2.2282E+01	2.6557E+00	2.6474E-00

SPECIES ----- MOLE FRACTIONS -----

F-	1.9922E-04	4.1794E-03	6.5615E-03
F	5.0898E-01	6.1128E-01	6.2952E-01
O+	1.9629E-05	2.7470E-04	4.6554E-04
O++	1.9042E-27	5.1290E-20	7.2777E-19
C+	1.8173E-07	1.5938E-05	2.4955E-05
O2	2.8027E-04	2.8089E-04	2.4756E-04
O2+	4.2546E-07	2.0886E-06	2.6655E-06
O2-	1.0697E-10	1.1827E-08	1.6673E-08
C	1.8451E-02	2.2301E-01	2.5995E-01
C+	1.0284E-04	3.7306E-03	5.9209E-03
C++	1.0118E-18	1.7682E-13	1.0449E-12
E-	4.1503E-09	4.0430E-06	7.2550E-06
E+	4.7192E-01	1.5664E-01	9.6706E-02
CO	3.6613E-05	1.9190E-04	2.0461E-04
CO+	6.2148E-05	1.7972E-05	9.4704E-06
CO2	5.6797E-06	3.6810E-04	3.8265E-04

P1 = 5.00E+01 M/SQ-M, US1 = 6.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2401E+02	1.0934E+04	1.3688E+04
T	2.0487E+01	2.8333E+01	3.0226E+01
RHC	1.7025E+01	1.4384E+02	1.5966E+02
H	-1.4855E+00	-3.6711E+00	-4.2299E+00
A	6.1825E+00	8.0913E+00	8.6913E+00
S	2.0518E+00	2.2739E+00	2.3434E+00
Z	2.0764E+00	2.6830E+00	2.8363E+00
GAME	8.8429E-01	9.0196E-01	9.2212E-01
U	2.2987E+01	2.7241E+00	2.7400E+00

SPECIES ----- MOLE FRACTIONS -----

F-	3.1314E-04	5.3194E-03	8.8191E-03
F	5.1809E-01	6.2187E-01	6.3820E-01
O+	2.7558E-05	3.5812E-04	6.6794E-04
O++	1.7786E-26	1.0473E-19	3.9096E-18
C+	3.1705E-07	1.9574E-05	3.1052E-05
O2	1.4853E-04	2.5611E-04	2.1272E-04
O2+	3.9220E-07	2.2936E-06	3.0015E-06
O2-	1.4375E-10	1.3330E-08	1.8138E-08
C	3.6475E-02	2.6436E-01	2.7792E-01
C+	2.3628E-04	4.7873E-03	7.9863E-03
C++	6.9875E-10	4.2806E-13	3.2533E-12
E-	1.4274E-08	5.8804E-06	9.5899E-06
E+	4.8453E-01	1.2244E-01	6.5602E-02
CO	1.9684E-04	1.9684E-04	2.0245E-04
CO2	4.2970E-05	1.2577E-05	5.4953E-06
C2	1.5823E-05	3.7441E-04	3.4759E-04

P1 = 5.00E+01 M/SQ-M, US1 = 6.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.6911E+02	1.1769E+04	1.4753E+04
T	2.1036E+01	2.9189E+01	3.1621E+01
RHC	1.7266E+01	1.4581E+02	1.5949E+02
H	-1.4429E+00	-3.9625E+00	-4.5838E+00
A	6.2505E+00	8.3750E+00	8.9300E+00
S	2.0821E+00	2.3146E+00	2.3860E+00
Z	2.1200E+00	2.7658E+00	2.9218E+00
GAME	8.7608E-01	9.1060E-01	9.4220E-01
U	2.3702E+01	2.8072E+00	2.8625E+00

SPECIES ----- MOLE FRACTIONS -----

F-	4.9503E-04	6.8755E-03	1.2600E-02
F	5.2783E-01	6.3136E-01	6.4430E-01
O+	3.5073E-05	4.8368E-04	1.0590E-04
O++	8.0431E-26	7.8213E-19	3.2542E-17
C+	4.7105E-07	1.5965E-05	3.9479E-05
O2	1.6534E-04	2.2925E-04	1.7212E-04
O2+	3.8112E-07	2.5573E-06	3.4705E-06
O2-	1.8230E-10	1.4894E-08	1.9214E-08
C	5.5859E-02	2.6365E-01	2.9137E-01
C+	4.0121E-04	6.2219E-03	1.1396E-02
C++	2.9306E-17	1.1366E-12	1.1359E-11
E-	3.1293E-06	7.0978E-06	1.2774E-05
CO	4.1509E-01	1.0597E-02	3.8860E-02
CO+	5.8875E-05	1.9856E-04	1.9405E-04
CO2	5.3174E-05	8.1921E-06	2.5944E-06
C2	2.8753E-05	3.6241E-04	2.8471E-04

Table I. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SQ-M, US1 = 7.00E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 7.60E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.1572E+02	1.0267E+04	1.5945E+04	P	9.6405E+02	1.9533E+04	1.9978E+04
T	2.1490E+01	1.0212E+01	3.3593E+01	T	2.2651E+01	3.5922E+01	4.1008E+01
RHO	1.7515E+01	1.4722E+02	1.5815E+02	RHO	1.8355E+01	1.4333E+02	1.5194E+02
H	-1.8005E+03	-4.2633E+00	-4.9207E+00	H	-2.3026E+00	-5.2147E+00	-6.0791E+00
A	1.7777E+00	8.9156E+00	9.8820E+00	A	8.7710E+00	1.0309E+01	1.1300E+01
S	2.1120E+00	2.9351E+00	2.4305E+00	S	2.2051E+00	2.4723E+00	2.9528E+00
Z	6.1582E+00	2.8478E+00	3.0022E+00	Z	2.3187E+00	3.0620E+00	3.2151E+00
GAME	8.7341E-01	9.7345E-01	9.6460E-01	GAME	8.7297E-01	9.8059E-01	9.8499E-01
U	3.4427E+01	2.6092E+00	3.0406E+00	U	2.6589E+01	3.4099E+00	3.6630E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	7.0277E-04	2.1593E-02	1.9693E-02	E-	1.44913E-03	2.9485E-02	6.8840E-02
O	5.2176E-01	1.3922E-01	6.4544E-01	O	5.6723E-01	6.4068E-01	6.0810E-01
O+	4.28E-02	8.8963E-04	1.0396E-03	O+	7.1460E-05	3.3715E-05	1.2047E-02
N+	2.7501E-15	4.1923E-18	5.3383E-16	N+	5.2147E-24	5.3574E-15	1.7147E-12
O-	6.4437E-07	2.9457E-05	5.1307E-05	O-	1.30271E-05	5.9359E-05	9.1866E-05
C2	1.4721E-04	1.0821E-04	1.2618E-04	C2	1.1860E-04	8.8257E-05	4.5064E-05
O2+	2.8125E-07	3.8647E-06	4.1460E-06	O2+	4.1540E-07	4.5916E-06	6.9569E-06
O2-	2.2273E-10	1.5265E-08	1.7249E-08	O2-	3.6833E-10	1.6301E-08	1.9037E-08
C	1.5684E+00	2.8014E+00	1.7424E+00	C	1.3468E+00	4.9278E+00	2.5206E+01
C+	5.4394E-04	8.3094E-02	1.7647E-02	C+	1.3362E-03	2.6039E-02	5.4771E-02
C++	6.8561E-17	3.4653E-12	8.1445E-11	C++	4.5671E-16	3.9473E-10	1.5970E-08
C-	5.8407E-04	4.7977E-05	1.7351E-05	C-	2.0422E-07	1.9683E-05	2.8306E-05
CO	3.8421E-01	6.1719E-02	1.8318E-02	CO	2.9479E-01	8.7043E-03	1.5879E-03
CO+	6.7968E-05	1.9624E-04	1.7688E-04	CO+	8.4803E-05	1.9311E-04	1.1817E-04
CO2	2.6896E-05	4.7505E-06	8.4774E-07	CO2	1.5564E-05	2.9430E-07	2.8041E-08
C2	4.3595E-05	3.2302E-04	1.9866E-04	C2	9.0795E-05	1.2667E-04	4.4480E-05
P1 = 5.00E+01 N/SQ-M, US1 = 7.20E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 7.80E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.6371E+02	1.2604E+04	2.7250E+04	P	1.0162E+03	1.4529E+04	2.1412E+04
T	2.1905E+01	2.1525E+01	7.6306E+01	T	2.3005E+01	3.7621E+01	4.3166E+01
RHO	1.7799E+01	1.4745E+02	1.5923E+02	RHO	1.8615E+01	1.4072E+02	1.5003E+02
H	-1.8005E+03	-4.2633E+00	-4.9207E+00	H	-2.4790E+00	-5.5479E+00	-6.0810E+00
A	1.7799E+00	2.9351E+00	2.4305E+00	A	8.9700E+00	1.0727E+01	1.1688E+01
S	2.1434E+00	2.9351E+00	2.4305E+00	S	2.2390E+00	2.5085E+00	2.9908E+00
Z	6.2152E+00	2.9264E+00	3.0744E+00	Z	2.3729E+00	3.1223E+00	3.2902E+00
GAME	8.7747E-01	9.4270E-01	9.4195E-01	GAME	8.7391E-01	9.7062E-01	9.6171E-01
U	2.8142E+01	3.0570E+00	3.2521E+00	U	2.7311E+01	3.6172E+00	3.8398E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	8.3449E-04	1.2823E-02	1.2172E-02	E-	1.8271E-03	4.3662E-02	8.9390E-02
O	5.4774E-01	6.4461E-01	6.2978E-01	O	5.7685E-01	6.3018E-01	9.0808E-01
O+	5.1501E-05	1.0677E-07	3.8800E-05	O+	8.3861E-05	5.9659E-03	1.8214E-02
N+	7.9063E-15	3.0687E-17	1.1059E-14	N+	1.2402E-22	6.7300E-14	1.0782E-11
O-	8.3911E-07	3.7546E-05	6.8401E-05	O-	1.5789E-04	7.1198E-05	1.0082E-04
C2	1.3546E-04	1.6201E-04	8.8055E-04	C2	1.1224E-04	6.3798E-05	3.4928E-05
O2+	3.8840E-07	3.2107E-06	5.0414E-06	O2+	4.3364E-07	3.5761E-06	7.8203E-06
O2-	2.6892E-10	1.7145E-08	1.9150E-08	O2-	4.1547E-10	1.5025E-08	2.3159E-08
C	9.5578E-02	2.9202E-01	3.0702E-01	C	1.5371E-01	2.7811E-01	2.8158E-01
C+	8.1116E-04	1.1614E-02	2.8222E-02	C+	1.6513E-03	3.7651E-02	7.1198E-02
C++	1.5779E-14	1.2739E-12	6.1731E-12	C++	1.2671E-15	2.0485E-09	5.1310E-06
C-	9.5735E-04	1.2117E-05	2.1450E-05	C-	2.7905E-07	2.3105E-05	2.9362E-05
CO	3.8421E-01	3.7165E-02	7.4747E-03	CO	2.8556E-01	4.0611E-03	6.7522E-04
CO+	7.4588E-05	1.6804E-04	1.7761E-04	CO+	8.4803E-05	1.3396E-04	1.0104E-04
CO2	2.2250E-05	2.3177E-06	7.4771E-07	CO2	1.3061E-05	1.0000E-07	1.2167E-08
C2	5.9219E-05	3.6990E-04	1.1038E-04	C2	1.0536E-04	7.9663E-05	2.9012E-05
P1 = 5.00E+01 N/SQ-M, US1 = 7.40E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 8.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.1322E+02	1.4452E+04	1.8591E+04	P	1.0697E+03	1.7536E+04	2.2076E+04
T	2.2286E+01	4.3250E+01	5.8866E+01	T	2.3350E+01	3.9732E+01	4.5041E+01
RHO	1.8008E+01	1.4660E+02	1.9274E+02	RHO	1.8057E+01	1.5007E+02	1.5092E+02
H	-2.1300E+03	-4.8880E+00	-6.8404E+00	H	-2.6800E+00	-5.8897E+00	-6.9902E+00
A	1.6378E+00	5.8150E+00	1.0901E+01	A	7.0461E+00	1.1085E+01	1.2046E+01
S	2.1745E+00	2.4342E+00	2.5146E+00	S	2.2703E+00	2.9436E+00	2.6263E+00
Z	2.2847E+00	2.9980E+00	3.1448E+00	Z	2.4280E+00	3.1841E+00	3.3653E+00
GAME	8.7241E-01	9.1604E-01	9.7177E-01	GAME	8.7528E-01	9.7122E-01	9.5701E-01
U	2.5667E+01	3.7064E+00	3.4670E+00	U	2.8032E+01	3.8141E+00	4.0010E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.1971E-03	1.4096E-02	4.5631E-02	E-	2.1998E-03	6.0251E-02	1.0936E-01
O	5.5761E-01	5.4424E-01	6.2512E-01	O	5.8614E-01	6.1606E-01	5.6821E-01
O+	6.0719E-05	1.8310E-03	4.2512E-03	O+	5.8410E-05	6.6779E-03	2.9206E-02
N+	2.0479E-15	3.5182E-15	1.3637E-13	N+	2.8302E-23	5.7570E-13	4.7331E-11
O-	1.0583E-06	4.7457E-05	8.0391E-05	O-	1.8878E-04	8.1391E-05	1.0729E-04
C2	1.2610E-04	1.2317E-04	6.0441E-05	C2	1.0645E-04	4.7997E-05	2.8221E-05
O2+	4.0091E-07	3.8751E-06	6.0292E-06	O2+	4.5839E-07	6.1517E-06	8.5748E-06
O2-	1.1360E-10	1.7187E-08	1.6526E-08	O2-	4.7125E-10	1.3737E-08	1.2484E-08
C	1.2706E-01	2.9655E-01	2.7210E-01	C	1.7227E-01	2.6104E-01	2.1223E-01
C+	1.0576E-03	1.7151E-02	4.2269E-02	C+	2.0098E-03	5.0356E-02	0.4111E-02
C++	1.2940E-17	6.6107E-11	3.8511E-09	C++	2.4744E-15	8.1658E-09	1.2993E-07
C-	1.4379E-07	1.5737E-05	2.5817E-05	C-	1.4896E-07	2.5935E-05	3.3607E-04
CO	3.8451E-01	1.9125E-02	3.1776E-03	CO	2.3695E-01	2.0810E-03	9.9678E-04
CO+	7.9376E-05	1.7201E-04	1.3206E-04	CO+	9.3496E-05	1.1779E-04	8.9678E-05
CO2	1.8016E-05	6.0125E-07	7.4313E-08	CO2	1.0867E-05	3.9024E-08	6.1001E-09
C2	7.9263E-05	1.7602E-04	1.1842E-04	C2	1.1842E-04	5.1460E-05	1.9947E-05

Table I. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

$P_1 = 5.00E+01 \text{ N/50-M}$, $U_{S1} = 8.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1246E+03	1.0611E+04	2.4365E+04
T	1.3714E+01	4.1604E+01	4.4820E+01
RHO	1.9077E+01	1.3749E+02	1.5113E+02
H	-2.8456E+00	-6.2404E+00	-7.3073E+00
A	7.1905E+00	1.1424E+01	1.2399E+01
S	2.3030E+00	2.5777E+00	2.6617E+00
Z	2.4857E+00	2.2485E+00	3.4426E+00
GAME	8.7705E-01	6.4401E-01	9.5357E-01
U	2.8751E+01	3.9945E+00	4.1529E+00

SPECIES	MOLE FRACTIONS		
E-	2.6336E-02	7.8003E-02	1.2929E-01
D	5.9515E-01	5.9976E-01	5.4672E-01
O+	1.1598E-04	1.4444E-02	3.3481E-02
O++	6.7825E-23	3.4113E-12	1.7042E-10
D-	2.2558E-06	8.9633E-05	1.1176E-04
O2	1.0088E-04	3.7592E-05	2.3196E-05
O2*	6.7971E-07	6.8797E-06	9.2342E-06
O2-	5.2907E-10	1.2855E-08	1.1352E-08
C	1.9022E-01	2.4275E-01	1.9383E-01
C+	2.2702E-02	6.3364E-02	9.5984E-02
C++	4.2022E-15	2.5642E-08	2.8814E-07
C-	6.7816E-07	2.6976E-05	2.9567E-05
CO	2.0902E-01	1.1779E-02	3.4262E-04
CO+	9.6603E-05	1.0441E-04	7.5692E-05
CO2	8.9318E-06	1.7311E-08	3.2778E-09
C2	1.2548E-04	3.4590E-05	1.4008E-05

$P_1 = 5.00E+01 \text{ N/50-M}$, $U_{S1} = 8.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1807E+03	1.9688E+04	2.5875E+04
T	2.4084E+01	4.2449E+01	4.8486E+01
RHO	1.9270E+01	1.2660E+02	1.5145E+02
H	-3.0357E+00	-6.5948E+00	-7.7326E+00
A	3.99E+00	1.1755E+01	1.2747E+01
S	2.560E+00	2.1117E+00	2.6966E+00
Z	2.540E+00	3.717E+00	3.8234E+00
GAME	8.7927E-01	7.5916E-01	9.5110E-01
U	2.9465E+01	4.1610E+00	4.2958E+00

SPECIES	MOLE FRACTIONS		
E-	3.1378E-03	9.6216E-02	1.4901E-01
D	6.0386E-01	5.8201E-01	5.2456E-01
O+	1.3715E-04	2.0197E-02	4.2595E-02
O++	1.6090E-22	1.5273E-11	5.1008E-10
D-	2.6288E-06	9.5977E-05	1.1447E-04
O2	9.5264E-05	3.0346E-05	1.9337E-03
O2*	3.2708E-07	7.5491E-06	9.7899E-06
O2-	6.8855E-10	1.1477E-08	1.0293E-08
C	2.0777E-01	2.2454E-01	1.7886E-01
C+	2.9037E-02	7.6042E-02	1.0608E-01
C++	7.6592E-15	6.5651E-08	5.7227E-07
C-	6.0777E-07	2.7402E-05	2.8758E-05
CO	1.8185E-01	7.1778E-04	2.2996E-04
CO+	9.964E-05	9.3112E-05	7.0092E-05
CO2	7.2313E-06	8.7624E-09	1.8709E-09
C2	1.3808E-04	2.6013E-05	1.0051E-05

$P_1 = 5.00E+01 \text{ N/50-M}$, $U_{S1} = 8.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2381E+03	2.0777E+04	2.7589E+04
T	2.4470E+01	4.5177E+01	5.0052E+01
RHO	1.9434E+01	1.3601E+02	1.5177E+02
H	-3.2303E+00	-1.9876E+00	-8.1663E+00
A	1.4961E+00	1.2080E+01	1.3089E+01
S	2.3692E+00	2.6443E+00	2.7311E+00
Z	2.6035E+00	2.2859E+00	3.6047E+00
GAME	8.8203E-01	9.5521E-01	9.4934E-01
U	3.0185E+01	4.3204E+00	4.4224E+00

SPECIES	MOLE FRACTIONS		
E-	3.7336E-03	1.1470E-01	1.6814E-01
D	6.1222E-01	5.6703E-01	5.0192E-01
O+	1.6315E-04	2.8948E-02	5.2513E-02
O++	3.8201E-22	5.5954E-11	1.3859E-09
D-	3.0794E-06	1.0051E-04	1.1564E-04
O2	8.9705E-05	2.4963E-05	1.6243E-05
O2*	5.3783E-07	8.1403E-06	1.0217E-05
O2-	6.4858E-10	1.0460E-08	9.2910E-08
C	2.2454E-01	2.0682E-01	1.6133E-01
C+	3.4715E-02	8.7915E-02	1.1569E-01
C++	1.4137E-14	1.4812E-07	1.4505E-06
C-	7.6121E-07	2.7580E-05	2.7625E-05
CO	1.5553E-01	4.6057E-04	1.5933E-04
CO+	1.0181E-04	8.3215E-05	6.3161E-05
CO2	5.7330E-06	4.6917E-09	1.1144E-09
C2	1.4375E-04	1.7024E-05	7.3279E-06

$P_1 = 3.00E+01 \text{ N/50-M}$, $U_{S1} = 8.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2968E+03	2.1879E+04	2.9901E+04
T	2.4884E+01	4.6652E+01	5.1565E+01
RHO	1.9567E+01	1.3565E+02	1.5200E+02
H	-3.4295E+00	-7.3440E+00	-8.6084E+00
A	7.6615E+00	1.2932E+01	1.3427E+01
S	2.4021E+00	2.6765E+00	2.7653E+00
Z	2.6638E+00	3.5664E+00	3.6879E+00
GAME	8.8554E-01	9.5234E-01	9.4813E-01
U	3.0898E+01	4.4625E+00	4.5640E+00

SPECIES	MOLE FRACTIONS		
E-	4.4554E-03	1.3264E-01	1.8673E-01
D	6.2017E-01	5.4366E-01	4.7895E-01
O+	1.9701E-04	3.4398E-02	6.3115E-02
O++	9.5410E-22	1.6999E-10	3.3383E-09
D-	2.5378E-06	1.0379E-04	1.2546E-04
O2	8.3715E-05	2.0938E-05	1.3749E-05
O2*	5.7250E-07	9.6502E-06	1.0528E-05
O2-	7.0904E-10	9.5652E-09	8.3394E-09
C	2.4053E-01	1.9045E-01	1.6719E-01
C+	4.1586E-03	9.8292E-02	1.2368E-01
C++	2.6868E-14	2.9945E-07	1.7854E-06
C-	9.4328E-07	2.7116E-05	2.6279E-05
CO	1.3015E-01	3.1124E-04	1.1232E-04
CO+	1.0125E-04	7.4471E-05	5.8198E-05
CO2	4.4141E-06	2.7071E-09	4.8624E-10
C2	1.4592E-04	1.2408E-05	5.4122E-06

$P_1 = 5.00E+01 \text{ N/50-M}$, $U_{S1} = 9.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3567E+03	2.2957E+04	3.0390E+04
T	2.5326E+01	4.8114E+01	5.3006E+01
RHO	1.9690E+01	1.3514E+02	1.5203E+02
H	-3.6332E+00	-7.7289E+00	-9.0589E+00
A	7.9392E+00	1.2703E+01	1.3761E+01
S	2.4326E+00	2.7085E+00	2.7996E+00
Z	2.7245E+00	3.5207E+00	3.7711E+00
GAME	8.9011E-01	9.5016E-01	9.4737E-01
U	3.1607E+01	4.6014E+00	4.6915E+00

SPECIES	MOLE FRACTIONS		
E-	5.3567E-03	1.5050E-01	2.0676E-01
D	6.2763E-01	5.2345E-01	4.5577E-01
O+	2.4297E-04	4.2698E-02	7.4285E-02
O++	3.6087E-21	4.5924E-10	7.3922E-09
D-	4.1835E-06	1.0547E-04	1.1407E-04
O2	6.1257E-05	1.7689E-05	1.6583E-05
O2*	6.1205E-07	9.0729E-06	1.0714E-05
O2-	7.6697E-10	8.6982E-09	7.4370E-09
C	2.5580E-01	1.7500E-01	1.3474E-01
C+	5.0149E-02	1.0780E-01	1.3055E-01
C++	5.2605E-14	5.4381E-07	2.8920E-06
C-	1.1603E-06	2.5285E-05	2.4783E-05
CO	1.0909E-01	1.6123E-04	8.2029E-05
CO+	1.8558E-04	6.7014E-05	4.9925E-05
CO2	3.2687E-06	1.6204E-09	4.3276E-10
C2	1.4412E-04	5.1796E-06	4.0349E-06

$P_1 = 5.00E+01 \text{ N/50-M}$, $U_{S1} = 9.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4177E+03	2.4010E+04	3.1820E+04
T	2.5850E+01	4.9479E+01	5.4382E+01
RHO	1.9845E+01	1.3470E+02	1.5177E+02
H	-3.8415E+00	-8.1202E+00	-9.5137E+00
A	9.0342E+00	1.3003E+01	1.4091E+01
S	2.4705E+00	2.7403E+00	2.9332E+00
Z	2.7861E+00	3.6026E+00	3.8594E+00
GAME	8.9626E-01	9.4857E-01	9.4701E-01
U	3.2312E+01	4.7320E+00	4.8024E+00

SPECIES	MOLE FRACTIONS		
E-	6.5243E-03	1.6765E-01	2.2211E-01
D	6.3447E-01	5.0328E-01	4.3270E-01
O+	3.0627E-04	5.1500E-02	8.5805E-02
O++	7.8702E-21	7.1004E-09	1.1518E-08
D-	4.8862E-06	1.0603E-04	1.1161E-04
O2	7.0077E-05	1.5092E-05	9.8853E-06
O2*	6.5790E-07	9.2983E-06	1.0772E-05
O2-	8.2008E-10	7.8173E-09	6.5784E-09
C	2.6945E-01	1.6099E-01	1.2275E-01
C+	6.1208E-03	1.1621E-01	1.3637E-01
C++	1.1415E-13	9.3225E-07	4.4654E-06
C-	1.4211E-06	2.5274E-05	2.3214E-05
CO	8.2802E-02	1.5512E-04	6.0439E-05
CO+	1.0284E-04	6.0224E-05	4.4305E-05
CO2	2.2923E-06	1.0127E-09	2.7850E-10
C2	1.3777E-04	6.8545E-06	3.0400E-06

Table I. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SQ-M, US1 = 9.40E+02 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4795E+03	2.4999E+04	3.3174E+04	P	1.4712E+03	2.7157E+04	3.6101E+04
T	2.8450E+01	5.0823E+01	5.9718E+01	T	2.9285E+01	5.4355E+01	5.9403E+01
RHC	1.9452E+01	1.3366E+02	1.5107E+02	RHC	1.8922E+01	1.2757E+02	1.4457E+02
M	-4.0347E+00	-2.5192E+00	-5.9798E+00	M	-4.7104E+00	-9.7452E+00	-1.2409E+01
A	8.2548E+00	1.3311E+01	1.4421E+01	A	9.1732E+00	1.4187E+01	1.5931E+01
S	2.5044E+00	2.7733E+00	2.8674E+00	S	2.6044E+00	2.8717E+00	2.9715E+00
Z	2.8471E+00	3.6800E+00	3.9413E+00	Z	3.0159E+00	3.9139E+00	4.2039E+00
GAME	9.0487E-01	9.4736E-01	9.4698E-01	GAME	9.5272E-01	9.4577E-01	9.4800E-01
U	3.3012E+01	4.8610E+00	4.9241E+00	U	3.5047E+01	5.7064E+00	5.2666E+00

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
F-	8.1144E-03	1.0570E-01	2.2904E-01	E-	1.7744E-07	2.2571E-01	2.8654E-01
O	6.4046E-01	4.0160E-01	4.0947E-01	O	6.4752E-01	4.1627E-01	3.4117E-01
O+	4.0016E-04	6.1265E-07	9.7747E-02	O+	1.3078E-05	9.2510E-02	1.3441E-01
D-	2.7467E-20	2.4033E-09	2.4545E-08	D-	6.1860E-14	1.4930E-01	1.6151E-07
D0	5.7926E-04	1.0528E-04	1.0814E-04	C-	9.3348E-06	5.6842E-05	9.2448E-05
C2	6.2050E-05	1.2814E-05	8.3587E-06	C2	3.3375E-05	7.3791E-06	4.4972E-06
O2+	7.1241E-07	9.6181E-06	1.0703E-05	O2+	9.7421E-07	9.5754E-07	9.7491E-06
O2-	8.6429E-10	6.9945E-09	5.7581E-09	O2-	8.7344E-10	4.7066E-09	3.5596E-09
C	2.8173E-01	1.4475E-01	1.1214E-01	C	2.8470E-01	1.1402E-01	8.5925E-02
C+	7.8213E-03	1.2390E-01	1.4136E-01	C+	1.8367E-01	1.4125E-01	1.5218E-01
C++	2.9877E-12	1.5367E-06	6.6840E-06	C++	9.3120E-12	5.2693E-06	1.8777E-05
C-	1.7391E-08	2.1578E-05	2.1578E-05	C-	1.2254E-06	1.9358E-05	1.6517E-05
CO	6.1310E-02	1.1190E-04	4.4906E-05	CO	1.4154E-02	4.6262E-05	1.7090E-05
CO+	1.0070E-04	5.5753E-05	3.9163E-05	CO+	8.2078E-05	7.7828E-05	2.6366E-05
CO2	1.4893E-06	6.3525E-10	1.8064E-10	CO2	1.8170E-07	1.7571E-10	5.0492E-11
C2	1.2672E-04	5.1192E-06	2.2957E-06	C2	6.4090E-05	2.2267E-06	9.9817E-07

P1 = 5.00E+01 N/SQ-M, US1 = 9.60E+02 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 1.05E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5430E+03	2.5087E+04	3.4384E+04	P	1.5344E+03	2.8194E+04	3.7998E+04
T	2.7182E+01	5.2079E+01	5.7003E+01	T	3.2723E+01	5.7051E+01	6.2247E+01
RHD	1.9925E+01	1.3231E+02	1.4975E+02	RHD	1.7874E+01	1.2013E+02	1.3602E+02
M	-4.2714E+00	-8.9244E+00	-1.0452E+01	M	-5.2030E+00	-1.0812E+01	-1.2642E+01
A	8.5132E+00	1.3609E+01	1.4748E+01	A	9.9201E+00	1.4903E+01	1.6198E+01
S	2.5387E+00	3.8057E+00	2.9017E+00	S	2.6821E+00	2.9591E+00	3.0801E+00
Z	2.9067E+00	3.7570E+00	4.0281E+00	Z	3.1351E+00	4.1190E+00	4.4204E+00
GAME	9.1727E-01	9.4654E-01	9.4728E-01	GAME	9.3801E-01	9.4616E-01	9.5180E-01
U	3.3704E+01	4.9822E+00	5.0420E+00	U	3.6680E+01	5.4671E+00	5.5498E+00

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.0456E-02	2.0176E-01	2.5424E-01	E-	4.6914E-02	2.7114E-01	3.2269E-01
O	6.4519E-01	4.8072E-01	3.8641E-01	O	6.4307E-01	3.6557E-01	2.9847E-01
O+	5.5129E-04	7.1134E-01	1.0990E-02	O+	1.4680E-05	1.2029E-01	1.6504E-01
C-	6.8111E-04	1.0351E-04	1.0374E-04	C-	1.8025E-05	8.5242E-03	5.3118E-07
O2	5.3117E-05	2.0926E-05	7.0398E-06	O2	1.6244E-05	5.1547E-06	7.6260E-05
O2+	7.7949E-07	9.7243E-06	1.0507E-05	O2+	1.3112E-06	8.8966E-06	2.0940E-06
O2-	8.8324E-10	6.2052E-09	4.9798E-09	O2-	7.7775E-10	3.1677E-09	2.1914E-09
C	2.9147E-01	1.3540E-01	1.0247E-01	C	2.7454E-01	9.1929E-02	6.7997E-02
C+	9.7855E-03	1.3048E-01	1.4558E-01	C+	1.1502E-01	1.1663E-01	1.3932E-01
C++	7.0003E-12	1.3532E-05	1.9906E-05	C++	3.3201E-10	1.5089E-01	1.5764E-01
C-	2.1378E-06	2.2492E-05	1.9906E-05	C-	4.1104E-06	1.9508E-05	1.9327E-05
CO	4.2111E-07	8.2514E-05	3.3622E-05	CO	2.6779E-03	2.3301E-05	1.2623E-05
CO+	9.6770E-05	4.7985E-05	3.4491E-05	CO+	5.4807E-05	2.7639E-05	9.4452E-06
CO2	8.6627E-07	4.0982E-10	1.1100E-10	CO2	1.1720E-06	6.3232E-11	1.7238E-11
C2	1.0946E-04	3.8720E-06	1.7392E-06	C2	2.3721E-05	1.1429E-06	4.9602E-07

P1 = 5.00E+01 N/SQ-M, US1 = 9.80E+03 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 1.10E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6088E+03	2.6619E+04	3.9376E+04	P	2.0108E+03	2.9724E+04	3.9571E+04
T	2.8110E+01	5.3268E+01	5.8031E+01	T	2.5807E+01	5.9702E+01	6.5364E+01
RHC	1.9289E+01	1.3021E+02	1.4761E+02	RHC	1.7210E+01	1.1519E+02	1.3014E+02
M	-4.4930E+00	-9.3548E+00	-1.0928E+01	M	-5.0251E+00	-1.1923E+01	-1.3946E+01
A	8.8785E+00	1.5795E+01	1.5071E+01	A	1.0502E+01	1.5644E+01	1.7058E+01
S	2.5716E+00	2.8385E+00	2.9384E+00	S	2.7367E+00	3.0570E+00	3.1472E+00
Z	2.9635E+00	3.8350E+00	4.1156E+00	Z	3.2611E+00	4.2321E+00	4.6582E+00
GAME	9.3439E-01	9.4602E-01	9.4781E-01	GAME	9.4461E-01	9.4845E-01	9.5713E-01
U	3.4281E+01	5.0972E+00	5.1558E+00	U	3.8329E+01	5.7392E+00	5.8444E+00

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.4005E-02	2.1796E-01	2.7135E-01	E-	8.1066E-02	2.0680E-01	3.5611E-01
O	6.4792E-01	4.3949E-01	3.6362E-01	O	6.0182E-01	3.1962E-01	2.7392E-01
C+	8.1522E-04	8.1784E-02	1.2215E-01	C+	1.0905E-02	1.4884E-01	1.9333E-01
O++	7.2999E-19	1.0004E-08	9.5870E-08	O++	7.8140E-14	2.3071E-07	1.6317E-06
O2	8.1841E-06	1.0066E-04	9.8467E-05	O2	1.4873E-05	7.3342E-05	6.0092E-05
O2+	6.4483E-07	9.2958E-06	5.8938E-06	O2+	9.3413E-06	3.3412E-06	1.7415E-06
O2-	8.5884E-10	5.4404E-09	1.0188E-05	O2-	1.6645E-06	7.9846E-06	6.8904E-06
C	2.9746E-01	1.2427E-01	9.3632E-02	C	2.3554E-01	2.1005E-09	1.2788E-09
C+	1.3109E-02	1.3624E-01	1.4915E-01	C+	7.0129E-02	1.5707E-01	5.3801E-02
C++	2.2813E-12	3.5791E-06	1.7446E-05	C++	4.1957E-09	2.4201E-05	7.8810E-05
C-	6.8281E-06	3.0960E-05	1.8213E-05	C-	5.4003E-06	1.2329E-05	9.4698E-06
CO	2.5961E-02	6.1536E-05	2.6311E-05	CO	7.3662E-04	1.2068E-05	4.6364E-06
CO+	4.9501E-05	4.2861E-05	3.0237E-05	CO+	4.5006E-05	2.3027E-05	1.2485E-05
CO2	4.3309E-07	2.6748E-10	7.7261E-11	CO2	2.8205E-09	2.3957E-12	5.7363E-12
C2	8.7772E-05	2.9401E-06	1.3186E-06	C2	5.8527E-06	5.8953E-07	2.4573E-07

Table I. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

$P_1 = 5.00E+01 \text{ N/SQ-M}, \quad US_1 = 1.15E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.194E+03	2.170E+04	4.232E+04
T	1.853E+01	1.240E+01	6.856E+01
RHF	1.884E+01	1.195E+01	1.261E+02
H	-6.557E+00	-1.211E+01	-1.533E+01
A	1.105E+01	1.643E+01	1.788E+01
S	2.427E+00	1.117E+00	2.222E+00
Z	2.294E+00	4.554E+00	4.804E+00
GAME	5.273E-01	1.527E-01	1.650E-01
U	4.102E+01	6.029E+00	6.172E+00

$P_1 = 1.00E+01 \text{ N/SQ-M}, \quad US_1 = 1.30E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.753E+02	3.903E+04	5.286E+04
T	4.450E+01	7.197E+01	8.254E+01
RHF	1.835E+01	1.047E+02	1.148E+02
H	-8.655E+00	-1.098E+01	-2.002E+01
A	1.261E+01	1.908E+01	2.153E+01
S	3.037E+00	3.354E+00	3.488E+00
Z	3.845E+00	5.179E+00	5.977E+00
GAME	1.795E-01	5.775E-01	1.012E+00
U	4.516E+01	7.062E+00	7.480E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.175E-01	1.544E-01	3.022E-01
H	5.874E-01	1.622E-01	1.885E-01
O	2.049E-02	1.777E-01	2.245E-01
O++	1.341E-12	4.407E-07	4.8E-08E-06
C-	1.117E-05	5.110E-05	4.637E-05
H2	2.177E-05	7.111E-06	5.745E-07
O2+	1.934E-06	6.869E-06	5.352E-06
O2-	4.870E-10	1.348E-09	6.868E-10
C	1.961E-01	5.962E-02	4.215E-01
C+	9.719E-02	1.407E-01	1.462E-01
C++	2.489E-07	4.731E-05	1.578E-04
C-	5.410E-08	9.623E-06	6.946E-06
CO	2.755E-04	4.287E-06	2.207E-06
CO+	1.905E-02	1.427E-05	4.192E-06
CO2	7.214E-10	8.767E-12	1.400E-12
C2	4.647E-08	3.165E-07	1.187E-07

SPECIES ----- MOLE FRACTIONS -----

E-	2.200E-01	4.208E-01	4.622E-01
H	4.511E-01	1.291E-01	6.087E-02
O	6.862E-02	2.569E-01	2.975E-01
O++	1.557E-10	1.504E-05	1.805E-04
C-	1.197E-05	2.717E-05	1.129E-05
H2	2.308E-06	3.681E-07	6.602E-08
O2+	2.437E-05	1.206E-06	1.328E-06
O2-	2.612E-10	2.260E-10	3.862E-11
C	1.084E-01	2.940E-02	1.670E-02
C+	1.513E-01	1.632E-01	1.606E-01
C-	1.162E-07	3.445E-04	1.852E-03
CO	2.842E-06	3.897E-06	1.703E-06
CO+	2.997E-05	7.216E-07	1.094E-07
CO2	1.711E-05	4.154E-06	1.314E-06
C2	1.536E-11	2.994E-13	1.474E-14
C2	6.864E-07	3.895E-08	6.698E-09

$P_1 = 5.00E+01 \text{ N/SQ-M}, \quad US_1 = 1.20E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.587E+03	3.197E+04	4.567E+04
T	4.057E+01	6.536E+01	7.235E+01
RHF	1.662E+01	1.094E+01	1.225E+02
H	-7.228E+00	-1.432E+01	-1.080E+01
A	1.158E+01	1.726E+01	1.903E+01
S	2.856E+00	1.197E+00	3.138E+00
Z	2.541E+00	4.749E+00	5.127E+00
GAME	4.234E-01	9.581E-01	9.765E-01
U	4.175E+01	6.142E+00	6.334E+00

$P_1 = 5.00E+01 \text{ N/SQ-M}, \quad US_1 = 1.35E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.017E+03	4.173E+04	5.703E+04
T	4.430E+01	7.598E+01	8.947E+01
RHF	1.627E+01	1.019E+02	1.105E+02
H	-9.412E+00	-1.838E+01	-2.179E+01
A	1.312E+01	2.015E+01	2.297E+01
S	3.101E+00	3.430E+00	3.569E+00
Z	4.002E+00	5.385E+00	5.762E+00
GAME	1.245E-01	4.923E-01	1.023E+00
U	4.688E+01	7.494E+00	8.077E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.514E-01	3.684E-01	4.158E-01
H	5.205E-01	2.152E-01	1.774E-01
O	3.534E-02	2.157E-01	2.520E-01
O++	1.232E-11	2.001E-06	1.494E-05
C-	7.227E-05	4.044E-05	3.166E-05
H2	4.332E-06	1.274E-06	4.792E-07
O2+	2.166E-06	5.688E-06	2.823E-06
O2-	1.565E-10	8.279E-10	3.231E-10
C	1.107E-01	4.776E-02	2.249E-01
C+	1.194E-01	1.625E-01	1.623E-01
C-	5.662E-09	4.211E-05	3.747E-04
C-	5.352E-04	7.435E-05	4.792E-04
CO	1.197E-04	1.220E-06	9.517E-07
CO+	2.757E-05	4.908E-06	4.302E-06
CO2	2.327E-10	3.159E-12	4.782E-13
C2	2.397E-08	1.047E-07	1.750E-08

SPECIES ----- MOLE FRACTIONS -----

E-	2.506E-01	4.430E-01	4.794E-01
H	4.094E-01	1.249E-02	3.559E-02
O	8.964E-02	2.788E-01	3.107E-01
O++	1.347E-09	4.584E-05	7.142E-04
C-	3.098E-05	1.782E-05	5.375E-06
H2	1.895E-06	1.047E-07	1.771E-08
O2+	2.449E-06	2.111E-06	6.240E-07
O2-	2.070E-10	9.526E-11	8.920E-12
C	1.093E-01	2.222E-02	1.117E-02
C+	1.816E-01	1.626E-01	1.572E-01
C++	1.567E-06	7.280E-04	5.009E-03
C-	3.284E-06	2.566E-06	8.460E-07
CO	1.617E-05	2.944E-07	2.786E-08
CO+	1.241E-05	2.407E-04	5.442E-07
CO2	1.524E-11	7.141E-14	1.590E-15
C2	2.370E-07	1.656E-08	1.805E-09

$P_1 = 5.00E+01 \text{ N/SQ-M}, \quad US_1 = 1.25E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.888E+03	3.643E+04	4.970E+04
T	4.260E+01	6.856E+01	7.688E+01
RHF	1.645E+01	1.074E+01	1.185E+02
H	-7.927E+00	-1.564E+01	-1.036E+01
A	1.210E+01	1.812E+01	2.022E+01
S	2.865E+00	1.276E+00	3.403E+00
Z	3.657E+00	4.985E+00	5.354E+00
GAME	4.211E-01	9.663E-01	9.928E-01
U	4.544E+01	6.685E+00	6.949E+00

$P_1 = 5.00E+01 \text{ N/SQ-M}, \quad US_1 = 1.40E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.244E+03	4.447E+04	6.140E+04
T	4.804E+01	8.032E+01	9.705E+01
RHF	1.622E+01	9.868E+01	1.068E+02
H	-1.019E+01	-1.982E+01	-2.362E+01
A	1.539E+01	2.134E+01	2.405E+01
S	3.105E+00	1.506E+00	3.446E+00
Z	4.245E+00	5.570E+00	5.919E+00
GAME	1.297E-01	1.010E+00	1.007E+00
U	4.860E+01	7.998E+00	8.675E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.875E-01	3.959E-01	4.404E-01
H	4.914E-01	1.704E-01	1.626E-02
O	4.972E-02	2.321E-01	2.768E-01
O++	7.587E-11	5.975E-06	4.877E-05
C-	2.246E-05	1.788E-05	2.074E-05
H2	3.143E-06	7.185E-07	2.008E-07
O2+	2.350E-06	6.425E-06	7.544E-06
O2-	3.255E-10	4.274E-10	1.708E-10
C	1.326E-01	7.782E-02	2.387E-02
C+	1.370E-01	1.622E-01	1.619E-01
C++	2.878E-07	1.772E-04	7.365E-04
C-	4.521E-08	5.518E-06	3.047E-06
CO	5.790E-09	1.584E-06	3.597E-07
CO+	2.174E-05	6.603E-06	2.187E-06
CO2	8.702E-11	1.039E-12	1.008E-13
C2	1.250E-06	6.274E-08	2.078E-08

SPECIES ----- MOLE FRACTIONS -----

E-	2.795E-01	4.619E-01	4.932E-01
H	3.682E-01	6.165E-02	2.092E-02
O	1.120E-01	2.969E-01	3.143E-01
O++	4.382E-09	1.449E-04	2.513E-03
C-	1.556E-05	1.042E-05	5.254E-06
H2	1.245E-06	6.180E-08	4.735E-09
O2+	2.047E-05	1.239E-06	2.864E-07
O2-	1.408E-10	3.251E-11	2.035E-12
C	7.257E-02	1.616E-02	7.439E-03
C+	1.674E-01	1.614E-01	1.490E-01
C++	2.119E-06	1.624E-03	1.239E-02
C-	2.878E-06	1.538E-06	4.086E-07
CO	9.042E-06	1.030E-07	7.091E-09
CO+	1.047E-05	2.186E-06	2.186E-07
CO2	1.787E-12	1.310E-14	1.732E-16
C2	2.241E-07	6.112E-09	4.730E-10

Table 1. - Continued.

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4791E+01	4.7216E+04	6.5837E+04
T	4.9746E+01	6.6277E+01	1.0580E+02
RWC	1.4180E+01	6.4955E+01	1.0487E+02
H	-1.1011E+01	-2.1352E+01	-2.5495E+01
A	1.4159E+01	2.7551E+01	2.4859E+01
S	1.2375E+00	2.7275E+00	3.7203E+00
Z	4.5274E+00	5.7595E+00	6.0851E+00
GAME	9.7121E+01	1.0573E+02	7.9462E+01
U	5.0321E+01	1.7777E+02	5.1955E+00

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
F-	3.0644E-01	4.7739E-01	5.0544E-01
O	3.2665E-01	2.8834E-02	1.3867E-02
[+]	1.2540E-01	3.0967E-01	3.0947E-01
C++	1.2776E-01	4.8955E-04	6.4172E-03
C-	-1.2828E-01	5.4311E-06	1.2615E-06
O2	8.9859E-07	1.7927E-03	1.6510E-09
O2+	2.2559E-01	6.5677E-07	1.5054E-07
O2-	1.2172E-01	6.4955E-13	6.2947E-13
C	5.9435E-07	1.1284E-02	5.2384E-03
C+	2.7111E-01	1.5837E-01	1.7620E-01
C++	5.8574E-09	3.3729E-03	2.1517E-02
C-	-2.4813E-01	8.1187E-07	2.7115E-07
CO	4.1534E-06	3.3767E-09	3.5321E-09
CO+	1.0594E+01	5.7007E-07	1.0058E-07
CO2	7.0626E-12	1.7250E-15	2.6088E-17
C2	1.5111E-07	1.7311E-09	1.5230E-10

P1 = 5.00E+01 N/50-M, US1 = 1.55E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9732E+03	5.2888E+04	7.4700E+04
T	5.3151E+01	9.9242E+01	1.1437E+02
RWC	1.6327E+01	8.8705E+01	1.0265E+02
H	-1.2776E+01	-2.4439E+01	-2.9315E+01
A	1.5235E+01	2.4337E+01	2.6854E+01
S	3.3731E+00	3.7126E+00	3.8579E+00
Z	4.6641E+00	6.0055E+00	6.3679E+00
GAME	9.2621E+01	7.9375E+01	9.6159E+01
U	5.3775E+01	7.7214E+00	9.9497E+00

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	3.5672E-01	5.0053E-01	5.2859E-01
O	2.4656E-01	1.5475E-02	7.9060E-03
[+]	1.8240E-01	3.1347E-01	2.8596E-01
O++	8.3577E-08	4.0847E-03	2.0655E-02
C-	-1.3907E-05	1.4819E-06	6.1279E-07
O2	4.4802E-07	2.0131E-09	3.8789E-10
O2+	1.8379E-06	1.6513E-07	5.9417E-08
O2-	4.3406E-11	7.0422E-13	1.2915E-13
C	3.9788E-02	5.5324E-03	3.0035E-03
C+	1.7449E-01	1.4292E-01	1.0646E-01
C++	1.7492E-05	1.7985E-02	4.7632E-02
C-	-1.0547E-06	2.3617E-07	9.0129E-08
CO	1.6715E-08	2.9121E-09	4.6920E-10
CO+	4.8277E-06	1.1890E-07	3.0071E-08
CO2	6.1016E-12	4.0560E-17	2.3970E-18
C2	4.5933E-08	1.9086E-10	2.7619E-11

P1 = 5.00E+01 N/50-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7222E+03	4.6645E+04	7.0266E+04
T	5.1420E+01	9.2021E+01	1.0585E+02
RWC	1.6347E+01	9.2427E+01	1.0335E+02
H	-1.1851E+01	-2.1346E+01	-2.7787E+01
A	1.4645E+01	2.7551E+01	2.5495E+01
S	3.3957E+00	3.7275E+00	3.7500E+00
Z	4.4945E+00	5.6771E+00	6.2114E+00
GAME	9.7326E+01	1.0152E+02	9.6791E+01
U	5.2036E+01	9.1469E+00	9.6044E+00

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
F-	3.0326E-01	4.8662E-01	5.1717E-01
O	1.8577E-01	2.9027E-02	1.0162E-02
[+]	1.2440E-01	3.0511E-01	2.9834E-01
C++	1.2416E-01	1.5561E-07	1.2467E-07
C-	-1.2776E-01	2.7577E-06	8.7144E-07
O2	4.9772E-07	5.7447E-09	7.4711E-10
O2+	2.0664E-01	5.1413E-07	9.0846E-08
O2-	6.4552E-11	2.3241E-12	2.6120E-13
C	4.8643E-02	7.8044E-03	2.8012E-03
C+	1.7537E-01	1.7777E-01	1.2115E-01
C++	1.0117E-05	4.1117E-07	2.8150E-07
C-	-2.0118E-06	4.1117E-07	1.3603E-07
CO	2.9449E-01	3.8888E-04	9.7009E-10
CO+	4.2114E-02	2.7447E-07	9.3408E-08
CO2	1.2641E-12	2.4444E-16	7.3175E-18
C2	7.7364E-08	3.8888E-10	6.0707E-11

P1 = 5.00E+01 N/50-M, US1 = 1.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2321E+03	5.5853E+04	7.9112E+04
T	5.4912E+01	1.0450E+02	1.1882E+02
RWC	1.5927E+01	8.7095E+01	1.0215E+02
H	-1.3624E+01	-2.6085E+01	-3.1288E+01
A	1.5801E+01	2.7024E+01	2.7222E+01
S	3.4405E+00	3.7764E+00	3.9204E+00
Z	4.8254E+00	4.1323E+00	4.9182E+00
GAME	9.4021E+01	9.7665E+01	9.5666E+01
U	5.5489E+01	1.0160E+01	1.0264E+01

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	3.7960E-01	5.1086E-01	5.3902E-01
O	2.0821E-01	1.1183E-02	6.3576E-03
[+]	2.0520E-01	3.0666E-01	2.7032E-01
O++	2.0818E-07	8.2955E-03	3.0157E-02
C-	-1.1770E-05	9.2533E-07	4.4960E-07
O2	2.9264E-07	8.8065E-10	2.2085E-10
O2+	1.3695E-06	9.8877E-08	4.0544E-08
O2-	4.2855E-11	2.8120E-13	7.0563E-14
C	3.2140E-02	4.1374E-03	2.3979E-03
C+	1.7449E-01	1.3012E-01	2.2725E-02
C++	3.0566E-05	2.8749E-02	5.8190E-02
C-	-1.3367E-06	1.4432E-07	6.2384E-08
CO	9.4744E-07	1.1975E-07	2.6733E-10
CO+	4.6179E-06	6.3425E-08	1.0747E-08
CO2	2.6450E-13	9.4019E-18	9.0017E-19
C2	2.6504E-08	7.6254E-11	1.3625E-11

Table I. - Continued.

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1 = 1.00E+03 M/SEC				P1 = 1.00E+03 N/SQ-M, US1 = 1.60E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5750E+01	6.7533E+01	1.3241E+02	P	4.1027E+01	2.3893E+02	4.4127E+02
T	2.5812E+00	3.4570E+00	4.0726E+00	T	4.6255E+00	5.8923E+00	7.2896E+00
RHC	6.1025E+00	1.9532E+01	2.7600E+01	RHC	8.8037E+00	4.2663E+01	3.5170E+01
H	9.4432E-01	9.0798E-01	8.0129E-01	H	8.5507E-01	7.4460E-01	6.9597E-01
A	1.5478E+00	1.0816E+00	1.9264E+00	A	2.0550E+00	2.4277E+00	2.5377E+00
S	1.6644E+00	1.0816E+00	1.9264E+00	S	1.1586E+00	1.1901E+00	1.2317E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0001E+00	1.0119E+00	1.0262E+00
GAME	9.2819E-01	9.1622E-01	9.1121E-01	GAME	9.0421E-01	8.7032E-01	8.6086E-01
U	3.0950E+00	9.6609E-01	8.7895E-01	U	5.2494E+00	1.0850E+00	9.9414E-01
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.5208E-50	4.5537E-41	1.6029E-32	E-	2.3324E-23	1.6028E-15	3.6864E-14
O	7.2829E-14	4.6565E-11	2.7107E-09	O	8.5246E-08	2.4570E-04	6.1704E-04
O+	4.4918E-37	2.9921E-33	2.0902E-30	O+	2.2299E-28	1.3416E-21	6.5788E-20
C-	2.0916E-57	6.3483E-47	1.3117E-37	C-	0.	1.1765E-90	6.6308E-81
O2	4.3972E-04	4.3994E-04	4.4271E-04	O2	0.	2.2155E-19	9.2491E-17
O2+	1.7597E-18	1.7597E-18	1.7597E-18	O2+	5.3535E-04	1.2038E-02	2.5324E-02
N2-	3.0357E-51	4.9464E-42	2.7486E-34	O2+	1.7595E-18	1.8372E-15	3.7885E-14
C	7.4678E-52	6.5537E-43	6.5278E-35	O2-	5.5277E-26	3.0587E-17	9.3999E-16
C+	4.1170E-62	9.3486E-54	2.4715E-46	C	3.7887E-27	5.8309E-19	2.7737E-17
C++	0.	0.	0.	C+	1.3775E-59	7.0943E-50	2.0708E-27
CD	1.0728E-93	9.7168E-80	6.5253E-64	C+	0.	1.3257E-73	9.5282E-66
CO	5.1097E-11	4.9189E-08	4.9277E-06	CO	8.5279E-48	1.2939E-31	2.4079E-20
CO+	7.4518E-34	1.4329E-31	3.5289E-28	CO+	1.9244E-04	2.2292E-02	5.0409E-02
CC2	9.9956E-01	9.9956E-01	9.9956E-01	CC+	8.1375E-26	8.3445E-20	3.5121E-18
C2	4.5772E-76	3.9769E-63	3.0818E-51	CC2	5.5927E-01	9.6455E-01	9.2365E-01
				C2	6.8440E-40	1.2466E-28	4.5881E-27
P1 = 1.00E+03 N/SQ-M, US1 = 1.20E+03 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 1.80E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2846E+01	1.2170E+02	1.9017E+02	P	5.2194E+01	4.3895E+02	5.6110E+02
T	3.1957E+00	4.5026E+00	5.2430E+00	T	5.4679E+00	7.5153E+00	8.0023E+00
RHC	7.1505E+00	2.7032E+01	3.6240E+01	RHC	4.3254E+00	1.2545E+01	6.5703E+01
H	9.1905E+00	8.6219E-01	8.2796E-01	H	8.1622E-01	4.7292E-01	6.1754E-01
A	1.7137E+00	2.0223E+00	2.1737E+00	A	2.1134E+00	2.3875E+00	2.6893E+00
S	1.0952E+00	1.1180E+00	1.2737E+00	S	1.0747E+00	1.2723E+00	1.2520E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0016E+00	1.0355E+00	1.0574E+00
GAME	9.1904E-01	9.0827E-01	9.0046E-01	GAME	8.9265E-01	8.9764E-01	8.9465E-01
U	3.8201E+00	1.0099E+00	9.3648E-01	U	5.9202E+00	1.0826E+00	9.9814E-01
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.2352E-40	6.3701E-29	4.5924E-21	E-	3.7419E-19	1.2413E-13	9.5809E-13
O	6.7439E-12	1.5293E-08	7.9862E-07	O	4.7538E-36	1.0905E-03	2.3579E-03
O+	1.5448E-33	3.2802E-29	6.4606E-27	O+	4.0241E-25	5.9940E-18	1.2836E-17
C-	0.	0.	0.	C-	0.	1.4106E-81	1.7479E-75
O2	1.1121E-46	2.4557E-29	5.3649E-25	O2	2.9176E-23	4.5263E-16	8.4524E-15
O2+	4.3991E-04	4.6080E-04	4.6286E-04	O2+	2.0591E-03	3.3602E-02	5.2077E-02
O2-	1.7547E-18	1.7596E-18	1.7634E-18	O2-	1.1335E-14	1.2787E-13	9.9837E-13
N2-	4.0022E-42	3.7710E-27	3.6167E-23	C	1.3275E-23	3.3057E-15	3.4137E-14
C	1.6479E-42	3.1970E-28	3.4805E-25	C+	1.0575E-23	2.7809E-16	3.0779E-15
C+	2.1570E-53	2.3215E-40	8.5058E-38	C++	1.2574E-31	4.4380E-66	2.0317E-24
C++	0.	0.	0.	CO	7.3216E-89	6.4745E-02	7.4219E-01
CD	7.8410E-79	4.5076E-50	1.0905E-43	CO+	4.3174E-01	2.3697E-20	2.8842E-27
CO	1.1766E-08	4.1799E-05	1.8479E-03	CO2	3.2276E-05	6.7451E-02	1.0598E-01
CO+	1.0227E-31	1.2938E-26	1.8309E-24	CC+	6.3102E-24	1.9522E-17	2.9890E-16
CC2	9.9956E-01	9.9956E-01	9.9799E-01	CC2	9.9472E-01	8.9785E-01	8.9929E-01
C2	1.7879E-62	2.7780E-41	4.6565E-37	C2	2.3317E-35	2.9821E-25	1.8381E-23
P1 = 1.00E+02 N/SQ-M, US1 = 1.40E+03 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 2.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1276E+01	1.9465E+02	2.9062E+02	P	6.4726E+01	5.4465E+02	7.5002E+02
T	3.0842E+00	5.4698E+00	6.3893E+00	T	6.2040E+00	8.1877E+00	8.4213E+00
RHC	8.0415E+00	3.4407E+01	4.9178E+01	RHC	1.0356E+01	6.4477E+01	7.9175E+01
H	8.8932E-01	6.0780E-01	7.6585E-01	H	7.7274E-01	5.9039E-01	5.2931E-01
A	1.8839E+00	2.2493E+00	2.3761E+00	A	2.2371E+00	2.7552E+00	2.8437E+00
S	1.1251E+00	1.1542E+00	1.1746E+00	S	1.2159E+00	1.2657E+00	1.2705E+00
Z	1.0000E+00	1.0016E+00	1.0070E+00	Z	1.0058E+00	1.0703E+00	1.0988E+00
GAME	9.1251E-01	8.9324E-01	8.7799E-01	GAME	8.7348E-01	8.5373E-01	8.5369E-01
U	4.5382E+00	1.0613E+00	9.7989E-01	U	6.6840E+00	1.0759E+00	1.0043E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.4217E-33	9.1152E-19	7.6322E-17	E-	1.0629E-16	1.9688E-12	9.0419E-12
O	1.6044E-06	4.0473E-06	5.2873E-05	O	7.6171E-05	3.6724E-03	7.8802E-03
O+	6.7415E-31	1.5699E-25	1.8988E-22	O+	8.8147E-23	3.1741E-17	1.5141E-16
C-	5.1266E-39	5.7223E-22	1.3165E-19	C-	1.1823E-92	1.3187E-72	7.3186E-70
O2	4.4112E-04	2.0477E-03	7.2902E-03	O2	1.0873E-20	1.4790E-14	1.0932E-13
O2+	1.7597E-18	8.3397E-19	7.8412E-17	O2+	6.4123E-03	6.2216E-02	8.2988E-02
O2-	1.1892E-35	1.0778E-20	4.6709E-19	O2-	1.0844E-14	2.0544E-12	9.5496E-12
N2-	6.7888E-56	1.0746E-22	6.0862E-20	C	4.1101E-19	7.1306E-14	4.0345E-13
C	3.0008E-47	1.0076E-24	1.9520E-20	C	1.6166E-20	7.3983E-15	6.6307E-14
C+	0.	1.0726E-83	6.1784E-74	C+	6.6674E-31	4.1422E-24	1.9122E-22
C++	0.	0.	0.	C++	5.3362E-75	5.3201E-59	1.0959E-56
CD	7.5805E-66	1.4091E-38	9.7689E-34	CO	1.0870E-34	5.5641E-27	4.0885E-25
CO	2.4074E-06	3.2210E-03	1.3760E-02	CO+	1.6412E-02	1.2748E-01	1.7246E-01
CO+	9.0189E-29	1.3172E-23	6.7707E-21	CC+	1.4556E-21	7.0501E-18	5.6782E-15
CC2	9.9956E-01	9.9473E-01	9.7890E-01	CC2	9.7588E-01	8.0643E-01	7.3726E-01
C2	1.0721E-52	2.6901E-33	3.0521E-29	C2	4.3030E-30	4.4627E-23	1.3203E-21

Table I. - Continued.

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1 = 2.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8821E-01	7.6825E+02	9.3272E+02
T	6.8041E+00	8.7907E+00	9.2013E+00
RHC	1.1335E+01	7.8210E+01	9.3957E+01
H	7.2455E-01	4.9874E-01	4.3061E-01
A	2.4450E+00	2.8924E+00	3.0070E+00
S	1.2445E+00	1.3063E+00	1.3330E+00
Z	1.0221E+00	1.1146E+00	1.1489E+00
GAME	8.5994E-01	8.5381E-01	8.5530E-01
U	7.4225E+00	1.0777E+00	1.0177E+00

SPECIES	MOLE FRACTIONS		
E-	6.3149E-15	1.5342E-11	5.2763E-11
F	4.7688E-04	9.4386E+03	1.5759E-02
O+	2.3704E-21	5.0358E-16	4.9572E-15
O++	6.0154E-85	4.0099E-66	1.3991E-65
D-	3.3200E-18	1.9551E-13	1.0304E-12
O2	2.1545E-02	9.3570E-02	1.1425E-01
O2+	4.2624E-15	1.6727E-11	5.7547E-11
O2-	4.2623E-17	7.0168E-13	2.8181E-12
C	5.5498E-19	1.1192E-13	7.8087E-13
C+	1.3404E-28	4.3224E-21	7.0018E-21
C++	3.0553E-89	1.7807E-53	9.7454E-54
C-	8.7234E-32	1.0800E-24	1.9079E-23
CO	4.2706E-02	1.9599E-01	2.4350E-01
CG+	1.4374E-19	9.7282E-15	6.0275E-14
CG2	4.3527E-31	7.0089E-01	6.2649E-01
C2	1.2342E-27	2.7902E-27	3.9802E-20

P1 = 1.00E+02 N/SQ-M, US1 = 3.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4388E+01	1.0179E+03	1.2957E+03
T	7.2927E+00	9.3597E+00	9.7681E+00
RHC	1.2431E+01	9.3193E+01	1.0949E+02
H	6.7182E-01	3.9760E-01	3.2155E-01
A	2.5464E+00	3.0577E+00	3.1810E+00
S	1.2740E+00	1.3469E+00	1.3775E+00
Z	1.0622E+00	1.1869E+00	1.2072E+00
GAME	8.5265E-01	8.3527E-01	8.5845E-01
U	8.1650E+00	1.0844E+00	1.0355E+00

SPECIES	MOLE FRACTIONS		
E-	9.3900E-14	8.5733E-11	2.4289E-10
F	1.4222E-03	1.9581E-02	7.9466E-02
O+	1.2326E-19	9.2840E-15	6.8819E-14
O++	1.7442E-75	6.9028E-62	5.9066E-61
D-	1.2926E-16	1.7887E-12	6.8104E-12
O2	3.4878E-02	1.2386E-01	1.4253E-01
O2+	4.4813E-14	9.1876E-11	2.6326E-10
O2-	4.4813E-16	4.4825E-12	1.4070E-11
C	5.3572E-17	1.4266E-12	6.4959E-12
C+	2.9849E-26	9.3445E-21	1.6241E-19
C++	2.1098E-84	2.6470E-50	1.2794E-49
C-	1.2502E-29	2.9167E-23	5.6865E-22
CO	8.0502E-02	2.6655E-01	3.1379E-01
CG+	7.4912E-18	1.0837E-13	4.5746E-12
CG2	6.7801E-01	9.9001E-01	5.1422E-01
C2	6.1354E-26	7.5117E-20	7.6210E-19

P1 = 1.00E+02 N/SQ-M, US1 = 2.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1138E+02	1.3202E+03	1.6596E+03
T	7.6748E+00	9.9150E+00	1.0339E+01
RHC	1.2512E+01	1.0850E+02	1.2602E+02
H	6.1445E-01	3.8729E-01	2.0207E-01
A	2.4462E+00	3.2350E+00	3.3698E+00
S	1.3047E+00	1.3021E+00	1.3441E+00
Z	1.0651E+00	1.2266E+00	1.2731E+00
GAME	8.4968E-01	8.7441E-01	8.6275E-01
U	8.9084E+00	1.1107E+00	1.0728E+00

SPECIES	MOLE FRACTIONS		
E-	7.2205E-13	3.5310E-10	9.1718E-10
F	3.9723E-03	3.5018E-02	9.0088E-02
O+	8.5858E-18	7.6992E-14	3.8598E-13
O++	1.5239E-78	4.0918E-58	2.1474E-57
D-	2.0813E-15	1.0509E-11	3.5232E-11
O2	6.1098E-02	1.5007E-01	1.6478E-01
O2+	7.4162E-13	3.8298E-10	1.0043E-09
O2-	7.4733E-15	2.0168E-11	5.5689E-11
C	1.4457E-15	1.0254E-11	4.2827E-11
C+	6.2411E-25	8.0570E-20	2.9677E-18
C++	1.8840E-83	3.8802E-47	1.2235E-46
C-	2.5645E-28	4.9724E-22	1.2067E-20
CO	1.254E-01	3.3445E-01	3.7896E-01
CG+	1.5010E-16	7.2085E-13	2.8106E-12
CG2	8.0959E-01	4.8046E-01	4.0617E-01
C2	2.4608E-24	1.0879E-18	1.0946E-17

P1 = 1.00E+02 N/SQ-M, US1 = 3.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2977E+02	1.0731E+03	2.0816E+03
T	8.0812E+00	1.0472E+01	1.0924E+01
RHC	1.4595E+01	1.2358E+02	1.4186E+02
H	5.2250E-01	1.6753E-01	1.2745E-02
A	2.7472E+00	3.4202E+00	3.5727E+00
S	1.2565E+00	1.4592E+00	1.4723E+00
Z	1.1003E+00	1.2930E+00	1.3461E+00
GAME	8.4890E-01	8.6590E-01	8.6302E-01
U	9.6507E+00	1.1415E+00	1.1104E+00

SPECIES	MOLE FRACTIONS		
E-	3.4270E-12	1.2249E-09	3.0396E-09
F	7.9279E-03	5.7452E-02	7.9269E-02
O+	6.0190E-17	4.9995E-13	2.6121E-12
O++	7.3982E-74	5.7250E-55	3.0171E-54
D-	1.4467E-14	4.8735E-11	1.5067E-10
O2	6.3511E-02	1.6949E-01	1.7814E-01
O2+	3.4803E-12	1.3412E-09	3.3497E-08
O2-	4.4201E-14	1.2024E-11	1.7849E-10
C	1.2454E-14	5.8533E-11	2.4528E-10
C+	1.7625E-23	4.4827E-19	4.5642E-17
C++	1.0268E-59	1.7209E-44	4.5096E-44
C-	8.3514E-27	5.6059E-21	1.9872E-19
CO	1.7423E-01	3.9574E-01	4.3492E-01
CG+	1.7492E-15	3.8857E-12	1.4993E-11
CG2	7.3479E-01	3.7732E-01	3.076E-01
C2	5.2503E-25	1.1159E-17	1.2828E-16

P1 = 1.00E+02 N/SQ-M, US1 = 2.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4577E+02	2.0763E+03	2.5659E+03
T	8.4225E+00	1.1045E+01	1.1537E+01
RHC	1.5537E+01	1.3765E+02	1.5592E+02
H	4.8597E-01	2.9710E-01	-6.6934E-02
A	2.8593E+00	3.0211E+00	3.7930E+00
S	1.2665E+00	1.4866E+00	1.5220E+00
Z	1.1351E+00	1.3658E+00	1.4261E+00
GAME	8.4941E-01	8.6924E-01	8.7423E-01
U	1.0346E+01	1.1620E+00	1.1587E+00

SPECIES	MOLE FRACTIONS		
E-	1.1608E-11	3.8640E-08	9.1773E-09
F	1.7977E-02	6.8401E-02	1.1873E-01
O+	4.7709E-16	3.5460E-12	1.5992E-11
O++	1.3546E-64	1.2859E-62	1.6937E-51
D-	6.4307E-14	1.9550E-10	5.5520E-10
O2	1.2508E-01	1.7574E-01	1.6035E-01
O2+	1.1813E-11	4.2307E-09	1.0126E-08
O2-	1.2517E-13	2.1475E-10	4.8167E-10
C	6.7101E-13	3.2776E-10	1.2530E-09
C+	1.3743E-22	4.5721E-17	6.3547E-16
C++	1.7210E-54	1.4794E-42	5.9085E-42
C-	6.4971E-24	2.4272E-19	2.7099E-18
CO	2.2411E-01	4.4723E-01	4.7884E-01
CG+	5.4771E-15	2.0016E-11	7.2046E-11
CG2	6.5514E-01	2.8462E-01	2.2205E-01
C2	3.7030E-22	1.6763E-16	1.3024E-15

P1 = 1.00E+02 N/SQ-M, US1 = 3.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7076E+02	2.2258E+03	3.1083E+03
T	8.7480E+00	1.1642E+01	1.2194E+01
RHC	1.6607E+01	1.5017E+02	1.6847E+02
H	4.1488E-01	-5.7286E-02	-2.1703E-01
A	2.5584E+00	3.6370E+00	4.0227E+00
S	1.4039E+00	1.5251E+00	1.5730E+00
Z	1.1746E+00	1.4447E+00	1.5130E+00
GAME	8.5004E-01	8.7541E-01	8.8144E-01
U	1.1127E+01	1.2333E+00	1.2162E+00

SPECIES	MOLE FRACTIONS		
E-	1.5862E-11	1.1204E-08	2.5707E-08
F	2.2454E-02	1.2898E-01	1.6927E-01
O+	2.9041E-15	3.2010E-11	9.1212E-11
O++	1.0340E-68	5.4434E-51	2.0897E-49
D-	2.0265E-17	6.7864E-10	1.7936E-09
O2	1.3677E-01	1.7912E-01	1.7008E-01
O2+	7.6571E-11	1.2309E-08	2.8204E-08
O2-	5.0007E-13	5.4288E-10	1.1209E-09
C	2.1016E-13	1.7858E-09	6.0537E-09
C+	1.9665E-21	1.1416E-15	6.5237E-15
C++	2.0538E-55	3.9090E-41	1.6722E-39
C-	1.3942E-24	4.4137E-18	3.1763E-17
CO	2.7524E-01	4.8682E-01	5.0885E-01
CG+	2.5474E-14	9.6010E-11	3.2673E-10
CG2	5.7574E-01	2.0528E-01	1.5108E-01
C2	4.2333E-21	1.0077E-15	1.2084E-14

Table I. - Continued

$$P_1 = 100 \text{ N/m}^2$$

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 3.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9320E+02	3.0166E+03	3.7000E+03
T	9.0643E+00	1.0277E+01	1.2906E+01
RHC	1.7500E+01	1.6004E+02	1.7895E+02
H	3.5921E-01	-1.4300E-01	-5.7779E-01
A	3.0677E+00	4.2657E+00	4.2954E+00
S	1.4394E+00	1.5843E+00	1.6249E+00
Z	1.2176E+00	1.5293E+00	1.6089E+00
GAME	8.5246E-01	8.2749E-01	8.8995E-01
U	1.1862E+01	1.2924E+00	1.2864E+00

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 4.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6876E+02	4.7095E+03	5.8322E+03
T	1.0003E+01	1.4604E+01	1.6038E+01
RHC	1.5642E+01	1.7829E+02	1.9070E+02
H	8.4794E-02	-7.3150E-01	-9.3103E-01
A	2.4314E+00	4.9202E+00	5.3877E+00
S	1.5520E+00	1.7340E+00	1.7834E+00
Z	1.5687E+00	1.8088E+00	1.9070E+00
GAME	8.6004E-01	9.1647E-01	9.4914E-01
U	1.4047E+01	1.5494E+00	1.6104E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	9.9217E-11	2.9520E-08	6.7896E-08
O	7.4006E-02	1.7054E-01	2.3010E-01
C+	1.2457E-14	1.1718E-10	6.9998E-10
O++	1.8091E-05	1.6765E-08	1.2204E-05
C-	8.8057E-13	2.0254E-09	5.1441E-09
O2	1.4588E-01	1.6684E-01	1.4765E-01
O2+	9.7245E-11	3.2209E-08	7.3323E-08
O2-	1.3774E-12	1.1310E-09	2.2311E-09
F	1.2485E-12	4.5105E-09	2.0714E-08
C+	1.7617E-20	1.4206E-14	1.0876E-13
C++	7.2312E-05	5.8455E-09	1.3686E-05
C-	1.3754E-23	4.2474E-17	3.3632E-16
CO	1.2261E-01	5.1262E-01	5.2485E-01
CO+	9.6105E-14	4.8057E-10	1.4486E-09
CO2	4.9653E-01	1.4097E-01	9.7347E-02
C2	3.0236E-20	1.5909E-14	1.0895E-13

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.1047E-09	4.2980E-07	1.4076E-06
O	9.2223E-02	3.7128E-01	4.3869E-01
C+	8.2143E-13	1.5484E-08	1.4201E-07
O++	7.5588E-09	7.0545E-00	7.1160E-06
C-	1.6612E-11	2.9278E-08	7.8192E-08
O2	1.7764E-01	7.6105E-02	3.7142E-02
O2+	1.1322E-09	4.1613E-07	1.0769E-06
O2-	1.4177E-11	4.8249E-09	6.0016E-09
F	4.0977E-11	7.4343E-07	7.4646E-06
C+	2.4566E-18	2.3350E-11	1.0282E-09
C++	1.8712E-07	1.6580E-21	6.6264E-28
C-	3.0112E-21	3.2599E-14	7.7171E-19
CO	4.4577E-01	5.2301E-01	5.1250E-01
CO+	2.7215E-12	3.2273E-08	2.7189E-07
CO2	2.8486E-01	2.9604E-02	1.1658E-02
C2	3.6132E-18	1.0401E-11	2.9235E-10

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 5.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1701E+02	2.5819E+03	4.3633E+03
T	4.3751E+00	1.2553E+01	1.3705E+01
RHC	1.8331E+01	1.6956E+02	1.8669E+02
H	2.5897E-01	-3.4973E-01	-5.4760E-01
A	2.4281E+00	4.2211E+00	4.5896E+00
S	1.4755E+00	1.4202E+00	1.4873E+00
Z	1.2645E+00	1.6191E+00	1.7054E+00
GAME	8.5474E-01	8.9076E-01	9.0077E-01
U	1.2591E+01	1.2627E+00	1.3657E+00

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 4.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9848E+02	5.3147E+03	6.6709E+03
T	2.0161E+01	1.5808E+01	1.8649E+01
RHC	2.0161E+01	1.7895E+02	1.8079E+02
H	-9.1450E-03	-9.1084E-01	-1.1318E-00
A	3.5651E+00	5.3266E+00	6.1241E+00
S	1.5913E+00	1.7828E+00	1.8359E+00
Z	1.4249E+00	1.8999E+00	1.9790E+00
GAME	8.6382E-01	9.4466E-01	1.0126E+00
U	1.4770E+01	1.6848E+00	1.8518E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.2420E-10	7.3405E-08	1.7735E-07
O	4.0122E-02	2.3637E-01	2.4869E-01
C+	4.4620E-14	5.7013E-10	2.8603E-09
O++	8.0571E-02	7.7325E-06	1.7487E-03
C-	2.4771E-13	5.4011E-09	1.3274E-08
O2	1.6018E-01	1.4378E-01	1.0025E-07
O2+	2.2597E-10	7.4854E-08	1.8574E-07
O2-	1.2318E-12	2.2149E-09	3.7797E-09
F	3.9140E-12	3.2175E-09	1.3699E-07
C+	5.4044E-20	1.2355E-13	1.3497E-12
C++	4.7110E-06	2.5885E-09	1.6898E-04
C-	5.2807E-23	3.7322E-16	3.3258E-15
CO	1.8200E-01	5.2588E-01	5.2874E-01
CO+	2.9027E-13	1.6168E-09	4.6925E-09
CO2	4.2178E-01	9.1470E-02	5.7583E-02
C2	1.2019E-19	1.2072E-13	9.6717E-13

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.2609E-05	1.1942E-06	1.0381E-05
O	1.2111E-01	4.3397E-01	4.8631E-01
C+	2.0110E-12	1.0830E-07	2.6824E-06
O++	5.9224E-06	1.2941E-06	3.2079E-03
C-	3.8224E-11	6.5346E-08	3.0347E-07
O2	1.7721E-01	3.9926E-02	8.5887E-03
O2+	1.2220E-09	9.4913E-07	2.4327E-06
O2-	2.6343E-11	5.3560E-09	3.8012E-09
F	1.8869E-10	5.9173E-06	2.7862E-04
C+	1.7871E-17	6.2741E-10	2.9319E-07
C++	2.7574E-05	1.6061E-28	1.2094E-22
C-	1.5316E-20	4.7372E-11	1.0783E-10
CO	4.7310E-01	5.1335E-01	5.0246E-01
CO+	7.5357E-12	2.0681E-07	5.2824E-06
CO2	2.2628E-01	1.2741E-02	2.3046E-03
C2	1.5501E-17	1.8064E-10	5.3657E-08

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 3.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4225E+02	4.1170E+03	5.0696E+03
T	9.2877E+00	1.3707E+01	1.4670E+01
RHC	1.6021E+01	1.7511E+02	1.9116E+02
H	1.7417E-01	-5.6027E-01	-7.3325E-01
A	2.3044E+00	4.0204E+00	4.9314E+00
S	1.5135E+00	1.6842E+00	1.7305E+00
Z	1.2146E+00	1.7131E+00	1.8078E+00
GAME	8.5740E-01	9.0119E-01	9.1696E-01
U	1.2527E+01	1.4471E+00	1.4722E+00

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 4.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2581E+02	5.9081E+03	7.5587E+03
T	1.0660E+01	1.7803E+01	2.2027E+01
RHC	2.0581E+01	1.6857E+02	1.7038E+02
H	-1.0764E-01	-1.0976E+00	-1.3684E+00
A	3.7059E+00	5.9283E+00	6.4786E+00
S	1.6313E+00	1.8292E+00	1.8829E+00
Z	1.4850E+00	1.9687E+00	2.0140E+00
GAME	8.6757E-01	1.0027E+00	9.4609E-01
U	1.5490E+01	1.8932E+00	2.1273E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.2271E-10	1.7674E-07	4.4851E-07
O	1.3544E-02	3.0415E-01	3.7056E-01
C+	1.9548E-11	2.8650E-09	1.6358E-08
O++	3.3247E-01	7.1275E-07	1.0194E-04
C-	4.8762E-13	1.1046E-08	3.1886E-08
O2	1.7123E-01	1.1237E-01	7.6525E-02
O2+	5.3590E-10	1.3.63E-07	4.3498E-07
O2-	7.0954E-12	3.5555E-09	5.3268E-09
F	1.4181E-11	1.4410E-07	7.9305E-07
C+	7.4780E-19	1.5489E-12	2.5895E-11
C++	2.8118E-05	3.8408E-04	2.1903E-03
C-	4.2859E-23	3.3443E-15	3.7999E-14
CO	4.1022E-01	5.2837E-01	5.2312E-01
CO+	9.8295E-13	6.8442E-09	3.4352E-08
CO2	3.5014E-01	5.5114E-02	2.9751E-02
C2	8.7422E-19	1.0259E-12	1.1812E-11

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.5143E-09	5.6345E-06	1.1838E-04
O	1.5546E-01	4.7972E-01	5.0168E-01
C+	6.7679E-12	1.2814E-06	2.4546E-05
O++	4.5338E-05	7.6802E-02	2.6726E-23
C-	8.3274E-11	1.8729E-07	1.6543E-04
O2	1.7146E-01	1.2538E-02	1.8838E-03
O2+	4.6371E-09	2.0249E-06	2.7829E-06
O2-	4.5427E-11	5.0269E-09	8.0507E-09
F	3.4803E-10	1.0295E-04	9.1480E-03
C+	1.1848E-16	6.5734E-08	3.9440E-09
C++	3.5014E-04	4.0588E-24	4.9227E-18
C-	8.7879E-20	2.4273E-11	1.9769E-08
CO	4.6795E-01	5.0416E-01	4.8658E-01
CO+	1.1330E-11	2.4529E-06	5.3009E-05
CO2	1.7529E-01	3.4555E-03	4.6387E-04
C2	7.3370E-17	1.2423E-08	8.9581E-06

Table 1. - Continued.

$$P_1 = 100 \text{ N/m}^2$$

$$P_1 = 1.00E+02 \text{ N/SI-M, } U_1 = 4.50E+02 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.565E+02	6.478E+02	8.410E+02
T	1.800E+01	2.075E+01	2.377E+01
RHC	2.050E+01	1.853E+01	1.710E+01
H	-2.107E-01	-1.250E+00	-1.810E+00
A	2.894E+00	6.408E+00	6.635E+00
S	1.672E+00	1.873E+00	1.975E+00
Z	1.546E+00	1.997E+00	2.064E+00
GAME	8.717E-01	9.283E-01	9.076E-01
U	2.600E+01	2.177E+02	2.250E+02

SPECIES ----- MOLE FRACTIONS -----

F-	8.582E-09	5.295E-09	3.586E-09
C	1.947E-01	4.975E-01	5.145E-01
O+	1.961E-11	1.526E-05	5.001E-05
O++	4.422E-07	7.650E-07	1.462E-06
Cl-	1.451E-10	4.507E-07	3.905E-06
Cl2	1.541E-01	2.778E-03	1.721E-03
O2+	8.271E-09	2.677E-06	2.767E-06
O2-	7.225E-11	5.794E-09	1.190E-08
N	9.241E-10	3.275E-03	2.270E-02
N+	4.561E-14	3.976E-09	2.034E-09
N++	1.320E-07	1.992E-19	1.783E-16
Cl-	1.575E-16	8.802E-09	1.626E-07
ClO	5.137E-01	4.953E-01	4.514E-01
Cl+	5.415E-11	2.763E-05	1.045E-04
Cl2	1.721E-01	3.052E-04	2.480E-04
Cl2	2.76E-07-10	1.510E-05	5.471E-05

$$P_1 = 1.00E+02 \text{ N/SI-M, } U_1 = 4.50E+02 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.130E+02	7.097E+02	9.246E+02
T	1.137E+01	2.295E+01	2.479E+01
RHC	2.213E+00	1.571E+02	1.754E+02
H	-3.187E-01	-1.494E+00	-1.443E+00
A	4.016E+00	6.533E+00	6.861E+00
S	1.731E+00	1.908E+00	1.961E+00
Z	1.614E+00	2.037E+00	2.125E+00
GAME	8.765E-01	9.160E-01	8.933E-01
U	1.692E+01	2.149E+02	2.216E+02

SPECIES ----- MOLE FRACTIONS -----

F-	1.604E-09	2.215E-09	8.891E-09
C	1.241E-01	5.079E-01	5.281E-01
O+	2.57E-11	2.627E-05	7.351E-05
O++	1.7E-10	2.141E-07	1.799E-06
Cl-	3.780E-10	3.430E-06	6.567E-06
Cl2	1.422E-01	1.267E-03	9.914E-04
O2+	1.627E-09	2.575E-06	2.680E-06
O2-	1.049E-10	4.332E-07	1.675E-08
N	1.2E-10	1.095E-03	8.874E-03
N+	1.21E-15	1.072E-05	4.442E-04
N++	3.014E-09	3.576E-17	1.149E-15
Cl-	1.50E-07-10	6.271E-07	4.944E-07
ClO	5.22E-01	4.707E-01	4.107E-01
Cl+	1.410E-10	7.848E-05	1.461E-07
Cl2	5.620E-02	3.013E-04	1.787E-04
Cl2	1.05E-10-10	2.547E-05	1.283E-04

$$P_1 = 1.00E+02 \text{ N/SI-M, } U_1 = 5.00E+02 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.211E+01	7.752E+02	1.007E+04
T	1.177E+01	2.407E+01	2.569E+01
RHC	4.121E+01	1.140E+02	1.792E+02
H	-4.302E-01	-1.717E+00	-2.082E+00
A	4.180E+00	1.717E+00	1.978E+00
S	1.754E+00	1.941E+00	1.959E+00
Z	1.493E+00	2.090E+00	2.191E+00
GAME	8.922E-01	8.964E-01	8.904E-01
U	1.363E+01	2.451E+02	2.372E+02

SPECIES ----- MOLE FRACTIONS -----

F-	2.846E-09	4.782E-09	1.021E-08
C	2.495E-01	3.204E-01	5.421E-01
O+	1.931E-10	5.854E-05	9.883E-05
O++	2.004E-07	3.308E-07	7.574E-07
Cl-	4.10E-10	4.526E-06	9.641E-06
Cl2	1.307E-01	1.341E-03	7.733E-04
O2+	2.802E-09	2.697E-06	2.790E-06
O2-	1.514E-10	1.190E-07	2.074E-08
N	7.50E-09	4.245E-03	8.624E-02
N+	1.745E-14	3.019E-04	7.595E-04
N++	2.548E-07	3.914E-16	4.630E-15
Cl-	8.023E-10	2.97E-07	1.047E-06
ClO	5.26E-01	4.795E-01	3.683E-01
Cl+	4.014E-10	1.180E-04	1.712E-04
Cl2	6.782E-02	1.962E-04	1.116E-04
Cl2	3.293E-15	7.970E-05	2.160E-04

$$P_1 = 1.00E+02 \text{ N/SI-M, } U_1 = 5.20E+02 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.554E+02	3.407E+02	1.087E+04
T	1.221E+01	2.497E+01	2.639E+01
RHC	2.125E+01	1.565E+02	1.821E+02
H	-5.472E-01	-1.929E+00	-2.327E+00
A	4.259E+00	6.917E+00	7.291E+00
S	1.794E+00	1.983E+00	2.039E+00
Z	1.754E+00	2.150E+00	2.261E+00
GAME	8.857E-01	8.909E-01	8.904E-01
U	1.823E+01	2.494E+02	2.427E+02

SPECIES ----- MOLE FRACTIONS -----

F-	5.446E-08	7.074E-04	1.444E-03
Cl	3.347E-01	5.337E-01	5.560E-01
O+	6.318E-10	8.072E-05	1.272E-04
O++	2.686E-07	2.114E-22	2.991E-21
Cl-	1.085E-09	6.954E-06	1.316E-05
Cl2	9.953E-02	7.806E-04	6.986E-04
O2+	1.354E-08	2.510E-04	2.951E-04
O2-	1.922E-10	1.494E-08	2.561E-08
C	2.205E-08	6.955E-02	1.136E-01
N	1.143E-13	5.631E-04	1.133E-03
N+	1.768E-17	1.827E-15	1.363E-14
N++	3.795E-07	6.149E-07	1.851E-06
ClO	5.252E-01	3.940E-01	3.626E-01
Cl+	1.175E-06	1.486E-04	1.957E-04
Cl2	4.441E-02	1.448E-04	1.026E-04
Cl2	2.516E-14	1.527E-04	3.075E-04

$$P_1 = 1.00E+02 \text{ N/SI-M, } U_1 = 5.40E+02 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.508E+02	9.027E+02	1.162E+04
T	1.272E+01	2.572E+01	2.709E+01
RHC	2.111E+01	1.583E+02	1.871E+02
H	-6.685E-01	-2.158E+00	-2.580E+00
A	4.573E+00	7.120E+00	7.513E+00
S	1.837E+00	2.021E+00	2.073E+00
Z	1.82E+00	2.218E+00	2.354E+00
GAME	9.034E-01	8.893E-01	8.917E-01
U	1.903E+01	2.542E+02	2.471E+02

SPECIES ----- MOLE FRACTIONS -----

F-	1.020E-07	1.153E-03	1.941E-03
Cl	3.484E-01	5.472E-01	5.692E-01
O+	2.295E-09	1.049E-04	1.613E-04
O++	4.548E-05	4.352E-22	1.072E-20
U	1.857E-09	9.714E-06	1.713E-05
Cl2	6.822E-02	6.904E-04	6.400E-04
O2+	5.821E-08	2.607E-06	3.138E-06
O2-	2.325E-10	1.893E-08	3.036E-08
C	8.079E-08	9.607E-02	1.404E-01
N	9.244E-12	8.829E-04	1.580E-03
N+	1.737E-15	5.953E-15	3.548E-14
N++	1.05E-07-10	1.166E-06	2.924E-06
ClO	5.204E-01	3.523E-01	2.894E-01
Cl+	3.88E-07-09	1.795E-06	2.163E-06
Cl2	7.864E-02	1.117E-04	8.003E-05
Cl2	1.460E-13	2.338E-04	3.940E-04

$$P_1 = 1.00E+02 \text{ N/SI-M, } U_1 = 5.60E+02 \text{ M/SEC}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.273E+02	9.555E+02	1.224E+04
T	1.340E+01	2.639E+01	2.770E+01
RHC	2.074E+01	1.584E+02	1.829E+02
H	-7.942E-01	-2.393E+00	-2.839E+00
A	4.825E+00	7.325E+00	7.639E+00
S	1.875E+00	2.060E+00	2.119E+00
Z	1.896E+00	2.285E+00	2.411E+00
GAME	9.197E-01	8.871E-01	8.940E-01
U	1.972E+01	2.586E+02	2.521E+02

SPECIES ----- MOLE FRACTIONS -----

F-	2.134E-07	1.577E-03	2.525E-03
O	4.221E-01	5.605E-01	5.826E-01
O+	1.042E-08	1.326E-04	2.029E-04
O++	1.440E-07	2.295E-21	3.413E-20
Cl-	2.531E-09	1.275E-05	2.148E-05
Cl2	6.072E-02	6.250E-04	5.880E-04
O2+	1.84E-07	2.731E-06	3.342E-06
O2-	2.24E-10	2.203E-08	3.519E-08
C	2.278E-07	1.2230E-01	1.663E-01
N	1.174E-11	1.2632E-03	2.112E-03
N+	2.278E-13	1.581E-14	8.377E-14
N++	1.517E-15	1.914E-06	4.268E-06
ClO	5.132E-01	3.127E-01	2.448E-01
Cl+	1.658E-08	1.940E-04	2.330E-04
Cl2	1.277E-02	8.734E-05	6.168E-05
Cl2	1.290E-12	3.140E-04	4.678E-04

Table I. - Continued.

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1 = 5.80E+03 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 6.40E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.645E+02	9.8742E+03	5.926E+04	P	6.7575E+02	9.9659E+03	1.2572E+04
T	1.4455E+01	2.6985E+01	2.8374E+01	T	2.0166E+01	2.8618E+01	3.0329E+01
RHC	1.5962E+01	1.5528E+02	1.7831E+02	RHC	1.6605E+01	1.5498E+02	1.5176E+02
H	-5.245E-01	-2.6362E+00	-3.1049E+00	H	-1.3401E+00	-3.3831E+00	-3.9243E+00
A	5.2102E+00	7.5276E+00	7.9620E+00	A	5.1087E+00	8.1511E+00	8.6925E+00
S	1.5166E+00	2.1002E+00	2.1619E+00	S	1.0211E+00	2.2264E+00	2.2938E+00
Z	1.9561E+00	2.3564E+00	2.4904E+00	Z	2.0301E+00	2.5803E+00	2.7315E+00
GAME	9.6377E-01	8.9108E-01	8.9711E-01	GAME	9.1085E-01	9.9976E-01	9.1750E-01
U	2.0388E+01	2.6254E+00	2.5755E+00	U	2.2255E+01	2.7421E+00	2.7342E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	5.9184E-07	2.0676E-03	3.2211E-03	E-	1.4063E-04	4.1131E-03	6.4805E-03
O	4.7206E-01	5.7237E-01	5.9512E-01	O	5.0707E-01	6.0824E-01	6.2717E-01
O++	7.9006E-08	1.6464E-04	2.5321E-04	O++	2.0549E-05	3.0675E-04	5.2034E-04
C-	2.8715E-39	5.8697E-21	1.0074E-19	O+	5.1394E-27	1.8694E-19	2.6652E-18
G2	1.7087E-09	1.5896E-05	2.5968E-05	C-	2.8476E-07	2.5788E-05	4.0565E-05
O2+	3.9528E-07	5.6785E-04	5.2484E-04	G2	4.1249E-04	4.1500E-04	3.6864E-04
O2-	1.8893E-10	2.8494E-06	3.5317E-06	O2+	6.2000E-07	3.1843E-06	4.0929E-06
H	3.4016E-06	1.4772E-01	3.8667E-08	O2-	2.7357E-10	2.9533E-08	4.1907E-08
C+	4.4632E-10	1.7088E-07	1.9101E-01	C	1.5134E-02	2.1712E-01	7.5541E-01
C-	4.8152E-30	3.6666E-14	2.7511E-03	C+	8.0235E-05	3.6008E-03	5.7546E-03
ED	5.9578E-14	2.8320E-06	5.8322E-06	C+	1.3009E-18	7.2726E-13	1.9515E-12
CO+	1.2368E-01	2.7372E-01	2.0627E-01	CC	5.4041E-05	6.4486E-06	1.1724E-05
CC2	5.0745E-02	6.7777E-05	4.8230E-05	CC	4.7659E-01	1.6541E-01	1.0349E-01
C2	3.0756E-11	3.8416E-04	5.2054E-04	CC+	2.9016E-05	2.3443E-04	2.5375E-04
				CO2	5.9703E-05	1.8130E-05	1.5111E-05
				C2	6.1734E-06	4.9334E-04	5.2429E-04
P1 = 1.00E+02 N/SQ-M, US1 = 6.00E+03 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 6.60E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0151E+02	9.7748E+03	1.2412E+04	P	7.2257E+02	1.0629E+04	1.3403E+04
T	1.6344E+01	2.7493E+01	2.8931E+01	T	2.1014E+01	2.9371E+01	3.1392E+01
RHC	1.8489E+01	1.4629E+02	1.6702E+02	RHC	1.6655E+01	1.3631E+02	1.5154E+02
H	-1.0582E+00	-2.8760E+00	-3.3661E+00	H	-1.4895E+00	-3.6623E+00	-4.2291E+00
A	1.9572E+00	7.7219E+00	8.1920E+00	A	6.2123E+00	8.4123E+00	9.0474E+00
S	1.6904E+00	2.1424E+00	2.2060E+00	S	2.0514E+00	2.2863E+00	2.3364E+00
GAME	1.0349E+00	8.9300E-01	9.2081E-01	GAME	8.8866E-01	9.0562E-01	9.2549E-01
U	2.1001E+01	2.6567E+00	2.6181E+00	U	2.2953E+01	2.8120E+00	2.8279E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	3.7547E-06	2.6247E-03	4.0373E-03	E-	2.9213E-04	5.2010E-03	8.6009E-03
O	4.9403E-01	5.8533E-01	6.0655E-01	O	5.1899E-01	6.1884E-01	6.3601E-01
O++	1.1161E-06	2.0078E-04	3.1376E-04	O+	2.0173E-05	2.9589E-04	7.3212E-04
C-	1.1151E-33	2.5445E-20	2.0628E-19	O++	5.8776E-26	6.4105E-19	1.2041E-17
G2	2.1850E-09	1.8698E-05	2.9880E-05	C-	5.1313E-07	3.1401E-05	4.9915E-05
O2+	7.1677E-07	5.0847E-04	4.7499E-04	G2	2.8955E-04	3.8002E+00	3.1988E-04
O2-	1.5629E-10	2.6134E-08	3.6481E-08	O2+	6.0895E-07	2.4894E-05	4.5881E-06
H	1.0380E-04	1.7182E-01	3.9468E-08	O2-	1.6765E-10	3.2951E-09	4.3648E-08
C+	9.1821E-08	2.2234E-03	3.5068E-03	C	1.2468E-02	2.3843E-01	2.7370E-01
C-	7.1415E-25	7.5823E-14	3.6154E-13	C+	2.0366E-04	4.9999E-03	7.6760E-03
ED	2.7506E-12	3.8120E-06	7.4039E-06	C+	1.1232E-17	7.6897E-13	5.7308E-12
CO+	5.0101E-01	2.3059E-01	1.7043E-01	CC	2.0793E-08	4.5301E-06	1.5348E-05
CC2	1.8920E-04	2.2011E-04	2.5035E-04	CC	4.8097E-01	1.2125E-01	7.2146E-02
C2	1.0345E-03	5.1120E-05	3.1291E-05	CC+	5.6251E-05	2.6164E-04	4.5289E-04
				CO2	6.6720E-05	2.0074E-05	9.0003E-06
				C2	1.8292E-05	5.0671E-04	4.8394E-04
P1 = 1.00E+02 N/SQ-M, US1 = 6.20E+03 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 6.80E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3912E+02	9.6035E+03	1.2142E+04	P	6.7575E+02	1.2148E+04	1.4420E+04
T	1.8707E+01	2.7986E+01	2.9517E+01	T	2.1633E+01	3.0223E+01	3.2796E+01
RHC	1.6948E+01	1.3712E+02	1.5335E+02	RHC	1.6825E+01	1.3758E+02	1.5146E+02
H	-1.1964E+00	-3.1197E+00	-3.6319E+00	H	-1.642E+00	-3.9527E+00	-4.5740E+00
A	6.0721E+00	7.9201E+00	8.4136E+00	A	6.3401E+00	8.7098E+00	9.4807E+00
S	1.9905E+00	2.1852E+00	2.2506E+00	S	2.0814E+00	2.3068E+00	2.3792E+00
Z	2.0040E+00	2.3026E+00	2.6479E+00	Z	3.1057E+00	2.7436E+00	2.9030E+00
GAME	9.8253E-01	8.9564E-01	9.0574E-01	GAME	8.8071E-01	9.1395E-01	9.4410E-01
U	2.1596E+01	2.6891E+00	2.6641E+00	U	2.3866E+01	2.8966E+00	2.9573E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	3.6706E-05	3.2783E-03	5.0530E-03	E-	4.7380E-04	6.6851E-03	1.2045E-02
O	5.0023E-01	5.9705E-01	6.1714E-01	O	5.2549E-01	6.2858E-01	6.4258E-01
O++	8.9673E-06	2.4457E-04	3.9354E-04	O+	3.9112E-05	5.2953E-04	1.1273E-03
C-	3.8236E-29	4.2656E-20	7.2793E-19	O++	2.4865E-25	2.5674E-18	9.4289E-17
G2	1.0344E-07	2.1537E-05	3.5818E-05	C-	7.7409E-07	1.8522E-05	6.2618E-05
O2+	8.4204E-04	4.5433E-04	4.1678E-04	G2	2.4929E-04	3.4217E-04	2.6388E-04
O2-	7.6522E-07	2.9822E-06	3.7735E-06	O2+	5.9035E-07	2.8783E-06	5.2779E-06
H	1.8985E-10	2.6313E-08	3.9388E-08	O2-	6.4705E-10	2.6777E-08	4.8320E-08
C+	3.0141E-03	1.9473E-01	2.2507E-01	C	5.1442E-02	2.5825E-01	2.8811E-01
C-	1.0102E-05	2.8505E-03	4.4471E-03	C+	3.8017E-04	5.9593E-03	1.0750E-02
ED	1.6013E-20	1.5009E-13	7.9360E-13	CC	4.4672E-17	1.9793E-12	2.1317E-11
CO+	3.8619E-10	4.9004E-06	9.1345E-06	CC+	4.9320E-03	1.12226E-05	2.0242E-05
CC2	4.9522E-01	2.0065E-01	1.3662E-01	CC	4.2179E-01	5.8854E-02	4.4379E-02
C2	1.6578E-05	2.2676E-04	2.5172E-04	CC+	6.8760E-05	2.4569E-04	2.4555E-04
				CO2	5.0891E-05	1.3375E-05	4.5067E-06
				C2	2.5231E-05	4.6706E-04	4.0794E-04

Table I. - Continued.

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.1445E+02	1.2274E+04	1.5586E+04
T	2.2140E+01	3.1284E+01	3.4716E+01
RHC	1.7068E+01	1.3893E+02	1.5019E+02
H	-1.8004E+00	-4.2526E+00	-4.9284E+00
A	6.4709E+00	9.0435E+00	1.0019E+01
S	2.1116E+00	2.3460E+00	2.4219E+00
Z	2.1554E+00	2.8241E+00	2.9834E+00
GAME	8.7741E-01	9.2571E-01	9.6921E-01
U	2.4384E+01	2.8992E+00	3.1247E+00

SPECIES	MOLE FRACTIONS		
E-	6.8179E-04	8.7533E-03	1.8177E-02
O	5.3536E-01	6.3667E-01	6.4484E-01
O+	4.8255E-05	7.3651E-04	1.9571E-03
D+	1.0768E-24	1.2109E-17	1.1438E-15
C+	1.0678E-06	4.7282E-05	8.0077E-05
C2	2.2038E-04	3.0039E-04	2.0107E-04
O2+	5.5041E-07	4.3563E-06	6.2463E-06
O2-	5.7201E-10	4.0266E-08	4.9048E-08
C	7.1081E-02	2.7506E-01	2.9524E-01
C+	5.3509E-04	7.8291E-03	1.4609E-02
C++	1.2737E-16	5.6021E-12	1.1220E-10
CO	9.2562E-08	1.4589E-05	2.6664E-05
CO	3.9167E-01	6.9717E-02	2.2844E-02
CO+	7.9019E-05	2.4526E-04	2.2848E-04
CO2	4.0922E-05	8.1779E-06	1.7520E-06
C2	5.4955E-05	4.6021E-04	3.0027E-04

P1 = 1.00E+02 N/SQ-M, US1 = 7.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.6238E+02	1.3172E+04	1.6792E+04
T	2.2587E+01	3.2583E+01	3.7216E+01
RHC	1.7320E+01	1.3977E+02	1.4765E+02
H	-1.8631E+00	-4.5612E+00	-5.2033E+00
A	6.6035E+00	9.4444E+00	1.0591E+01
S	2.1420E+00	2.3854E+00	2.4639E+00
Z	2.2036E+00	2.8028E+00	3.0595E+00
GAME	8.7813E-01	9.4307E-01	9.8636E-01
U	2.5104E+01	3.1270E+00	3.3951E+00

SPECIES	MOLE FRACTIONS		
E-	9.1632E-04	1.1967E-02	2.8980E-02
O	5.4509E-01	6.4266E-01	6.4011E-01
O+	5.8095E-05	1.1000E-03	3.7512E-03
D+	2.2517E-24	7.6852E-17	2.0724E-16
C+	1.3974E-06	5.8531E-05	1.0197E-04
C2	2.0112E-04	2.5144E-04	1.4217E-04
O2+	6.0081E-07	4.9692E-06	7.3504E-06
O2-	6.3531E-10	4.2761E-08	4.6869E-08
C	9.0855E-02	2.8618E-01	2.9331E-01
C+	7.1318E-04	1.0701E-02	2.5158E-02
C++	1.0456E-16	1.9280E-11	7.5256E-10
CO	1.5355E-07	1.6883E-05	3.4004E-05
CO	3.6171E-01	4.4417E-02	1.0010E-02
CO+	8.7792E-05	2.3847E-04	2.0300E-04
CO2	2.3774E-05	4.2990E-06	5.4166E-07
C2	7.6239E-05	3.9232E-04	1.9145E-04

P1 = 1.00E+02 N/SQ-M, US1 = 7.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.1173E+02	1.4094E+04	1.8100E+04
T	2.2995E+01	3.4262E+01	3.9920E+01
RHC	1.7500E+01	1.3825E+02	1.4515E+02
H	-2.1303E+00	-4.8778E+00	-5.6927E+00
A	6.7302E+00	9.9221E+00	1.1080E+01
S	2.1727E+00	2.4239E+00	2.5044E+00
Z	2.2538E+00	2.9755E+00	3.1236E+00
GAME	8.7593E-01	9.6567E-01	9.8450E-01
U	2.5825E+01	3.2896E+00	3.5500E+00

SPECIES	MOLE FRACTIONS		
E-	1.1755E-03	1.7274E-02	4.4545E-02
O	5.5515E-01	6.4502E-01	6.2836E-01
O+	6.9004E-05	1.7969E-03	6.9009E-03
D+	8.6188E-24	7.0388E-16	3.2311E-15
C+	1.7666E-06	7.2973E-05	1.2413E-04
C2	1.6702E-04	1.9754E-04	1.0039E-04
O2+	6.1877E-07	5.7714E-06	9.0340E-06
O2-	8.0563E-10	4.3450E-08	4.3100E-08
C	1.0526E-01	2.9511E-01	2.7759E-01
C+	1.0164E-03	1.5345E-02	3.7543E-02
C++	6.4976E-16	8.3858E-11	4.0018E-09
CO	2.3325E-07	2.4229E-05	4.0622E-05
CO	3.3165E-01	2.4624E-02	4.4167E-03
CO+	9.5464E-05	2.2384E-04	1.7679E-04
CO2	2.8244E-05	1.8575E-06	1.6945E-07
C2	9.8049E-05	2.9978E-04	1.1633E-04

P1 = 1.00E+02 N/SQ-M, US1 = 7.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.6244E+02	1.5029E+04	1.9452E+04
T	2.3390E+01	3.6561E+01	4.2438E+01
RHC	1.7840E+01	1.3596E+02	1.4355E+02
H	-2.1021E+00	-5.2021E+00	-6.0904E+00
A	6.8750E+00	1.0407E+01	1.1502E+01
S	2.2058E+00	2.4613E+00	2.5429E+00
Z	2.3058E+00	3.0401E+00	3.1920E+00
GAME	8.7641E-01	9.8351E-01	9.7614E-01
U	2.6346E+01	3.4885E+00	3.7664E+00

SPECIES	MOLE FRACTIONS		
E-	1.4747E-03	2.5576E-02	6.2795E-02
O	5.6438E-01	6.4204E-01	6.1225E-01
O+	8.1552E-05	3.1624E-03	1.1658E-02
D+	2.1253E-25	8.7437E-15	3.1278E-12
C+	2.7177E-06	9.0451E-05	1.4281E-04
C2	1.7979E-04	1.4631E-04	1.4631E-04
O2+	6.4292E-07	6.7945E-06	1.0489E-05
O2-	4.3274E-10	4.1939E-08	3.9273E-08
C	1.2992E-01	2.9335E-01	2.5944E-01
C+	1.2930E-03	2.2725E-02	5.1159E-02
C++	1.2903E-16	4.4028E-10	1.9443E-08
CO	3.3451E-07	3.0768E-05	4.5058E-05
CO	3.1922E-01	1.2066E-02	2.1966E-03
CO+	1.0225E-04	2.0247E-04	1.5511E-04
CO2	2.2174E-05	6.7235E-07	6.2954E-08
C2	1.1540E-04	2.0472E-04	7.3278E-05

P1 = 1.00E+02 N/SQ-M, US1 = 7.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0145E+03	1.5981E+04	2.0845E+04
T	2.3771E+01	3.8671E+01	4.4755E+01
RHC	1.8089E+01	1.3337E+02	1.4276E+02
H	-2.4734E+00	-5.5343E+00	-6.4948E+00
A	7.0248E+00	1.0871E+01	1.1893E+01
S	2.2352E+00	2.4973E+00	2.5797E+00
Z	2.3594E+00	3.0994E+00	3.2625E+00
GAME	8.7732E-01	9.8595E-01	9.6870E-01
U	2.7266E+01	3.7037E+00	3.9546E+00

SPECIES	MOLE FRACTIONS		
E-	1.6074E-03	3.8446E-02	8.2085E-02
O	5.7442E-01	6.3343E-01	5.9375E-01
O+	9.5991E-05	5.6395E-03	1.7612E-02
D+	5.1107E-25	1.0441E-13	1.9010E-11
C+	2.8420E-06	1.0865E-04	1.5728E-04
C2	1.8648E-04	1.0697E-04	5.7897E-05
O2+	6.7135E-07	7.9920E-06	1.1825E-05
O2-	1.0055E-09	1.9019E-08	3.5796E-08
C	1.4987E-01	2.8336E-01	2.4034E-01
C+	1.0067E-03	2.2803E-02	4.4529E-02
C++	1.0047E-16	2.2244E-09	6.3707E-08
CO	4.5974E-07	3.5882E-05	4.7505E-05
CO	3.7247E-01	5.7931E-03	1.2273E-03
CO+	1.0677E-04	1.7956E-04	1.3720E-04
CO2	1.4888E-07	3.3661E-07	2.7597E-08
C2	1.3971E-04	1.3243E-04	4.4881E-05

P1 = 1.00E+02 N/SQ-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0680E+03	1.6558E+04	2.2204E+04
T	2.4140E+01	4.0926E+01	4.8848E+01
RHC	1.8215E+01	1.3128E+02	1.4249E+02
H	-2.4594E+00	-5.7120E+00	-6.9064E+00
A	7.1591E+00	1.1253E+01	1.2267E+01
S	2.2671E+00	2.5319E+00	2.6155E+00
Z	2.4146E+00	3.1584E+00	3.3353E+00
GAME	8.7874E-01	9.7960E-01	9.6312E-01
U	2.7985E+01	3.9318E+00	4.1267E+00

SPECIES	MOLE FRACTIONS		
E-	2.1055E-03	5.3617E-02	1.0162E-01
O	5.8373E-01	6.2074E-01	5.7380E-01
O+	1.1228E-04	9.0402E-03	2.4692E-02
D+	1.2222E-22	4.0717E-13	8.9262E-11
C+	3.1599E-06	9.0717E-05	1.4796E-04
C2	1.5752E-04	6.0521E-05	1.3016E-05
O2+	7.0430E-07	9.1494E-06	3.2642E-05
O2-	1.2122E-09	3.5813E-08	3.2642E-08
C	1.6786E-01	2.6854E-01	2.2170E-01
C+	1.9627E-03	4.4572E-02	7.7011E-02
C++	4.6153E-15	9.0257E-09	1.6335E-07
CO	6.0995E-07	4.0142E-05	4.8424E-05
CO	2.4400E-01	2.9920E-02	7.4772E-04
CO+	1.1356E-04	1.8913E-04	1.2213E-04
CO2	1.6574E-05	4.2547E-08	1.3648E-08
C2	1.5807E-04	8.6640E-05	3.2369E-05

Table I. - Continued.

$$P_1 = 100 \text{ N/m}^2$$

PI = 1.00E+02 N/SQ-M, US1 = 3.70E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1277E+02	1.7944E+02	2.7209E+02
T	4.4550E+01	4.7001E+01	4.8787E+01
RHC	1.8521E+01	1.2947E+02	1.4252E+02
H	-2.8444E+00	-6.2246E+00	-7.3256E+00
A	7.2327E+00	1.1807E+01	1.2631E+01
S	2.2949E+00	2.3627E+00	2.6501E+00
Z	1.4731E+00	3.2184E+00	3.4700E+00
GAME	8.6827E+01	9.7224E+01	6.5705E+01
U	2.8704E+01	4.1044E+02	4.7264E+02

SPECIES	MOLE FRACTIONS		
E-	2.8172E-03	7.0257E-02	1.2102E-01
O	4.9217E-03	4.0390E-01	5.2287E-01
O+	1.1016E-04	1.5019E-02	3.7770E-02
O++	2.0115E-12	5.4449E-12	3.2168E-13
C-	1.7407E-04	1.7007E-04	1.7539E-04
C2	1.4542E-04	4.2107E-05	1.1767E-05
O2+	7.4215E-07	1.0279E-05	1.4047E-05
O2+	1.4741E-06	3.2757E-08	3.9739E-08
C	1.4812E-01	2.1181E-01	3.0089E-01
C+	4.3719E-02	2.6671E-02	3.8533E-02
C++	3.4151E-11	2.4974E-04	2.6483E-07
C-	7.9149E-07	4.2884E-05	4.8724E-05
CO	2.1600E+01	1.6974E+01	4.9415E+04
CO+	1.1912E+00	1.4744E+00	1.0741E+04
CO2	1.3613E+03	4.1277E+04	7.1450E+07
C2	1.7534E+04	5.8625E+07	2.3657E+02

PI = 1.00E+02 N/SQ-M, US1 = 8.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2946E+03	2.1079E+04	2.8106E+04
T	2.5767E+01	4.8440E+01	5.3933E+01
RHC	1.8708E+01	1.2737E+02	1.4305E+02
H	-3.4288E+00	-7.3246E+00	-8.6323E+00
A	7.7876E+00	1.2592E+01	1.3680E+01
S	7.3575E+00	2.6623E+00	2.7515E+00
Z	2.4477E+00	3.4165E+00	3.6431E+00
GAME	8.8464E+01	9.5809E+01	5.5265E+01
L	2.0844E+01	4.6028E+00	4.7182E+00

SPECIES	MOLE FRACTIONS		
E-	4.4151E-03	1.2265E-01	1.7894E-01
O	6.1791E-01	5.5162E-01	4.8668E-01
O+	2.2371E-04	3.2965E-02	6.1800E-02
O++	2.9522E-12	2.9062E-10	6.2033E-09
C-	5.5777E-06	1.6204E-04	1.8231E-04
C2	1.2471E-04	3.4992E-05	2.2861E-05
O2+	8.3571E-07	1.3045E-05	1.6088E-05
O2+	1.5868E-05	2.5062E-08	2.2010E-08
C	1.3360E-01	2.0215E-01	1.5879E-01
C+	4.0711E-02	8.9775E-02	1.1527E-01
C++	5.3029E-14	3.5224E-07	2.2721E-06
C-	1.5421E-06	4.4251E-05	4.3692E-05
CO	1.3633E-01	4.5428E-04	1.6811E-04
CO+	1.2701E-04	1.0315E-04	7.8263E-05
CO2	6.5221E-06	6.2630E-09	1.5855E-09
C2	1.6960E-04	2.1916E-05	9.4305E-06

PI = 1.00E+02 N/SQ-M, US1 = 8.40E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1277E+02	1.2002E+04	2.5170E+04
T	2.4912E+01	4.4959E+01	5.0592E+01
RHC	1.8704E+01	1.2867E+02	1.4771E+02
H	-2.8355E+00	-6.3501E+00	-7.7599E+00
A	7.4597E+00	1.1942E+01	1.2786E+01
S	2.4321E+00	2.5883E+00	2.8443E+00
Z	1.5207E+00	3.2859E+00	3.4947E+00
GAME	8.6272E+01	9.7174E+01	9.9608E+01
U	2.9420E+01	4.2823E+01	4.4789E+00

SPECIES	MOLE FRACTIONS		
E-	3.1172E-03	8.7570E-02	1.4010E-01
O	4.9172E-03	5.8760E-01	9.3129E-01
O+	1.1000E-04	1.5019E-02	4.1726E-02
O++	2.0115E-12	2.5454E-11	9.7700E-10
C-	1.7407E-04	1.4886E-04	1.8003E-04
C2	1.4542E-04	5.0722E-05	1.1945E-05
O2+	7.4215E-07	1.1314E-05	1.4450E-05
O2+	1.4741E-06	3.0021E-08	2.7097E-08
C	2.0512E-01	2.3673E-01	1.9771E-01
C+	2.8471E-02	6.0452E-02	9.8489E-02
C++	1.5240E-14	7.6152E-07	7.2746E-07
C-	1.0067E-06	4.4204E-05	4.7223E-05
CO	1.1979E+01	1.0367E-03	3.2884E+04
CO+	1.2153E+04	1.2722E+04	7.7890E+01
CO2	1.1136E+00	2.0523E+08	4.4511E+06
C2	1.8649E+04	4.0579E-01	1.7342E-05

PI = 1.00E+02 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2946E+03	2.2117E+04	2.9554E+04
T	2.6237E+01	5.0028E+01	5.5496E+01
RHC	1.9041E+01	1.2682E+02	1.4303E+02
H	-3.6325E+00	-7.0787E+00	-8.0845E+00
A	7.9687E+00	1.2908E+01	1.4022E+01
S	2.4307E+00	2.6939E+00	2.7847E+00
Z	2.7082E+00	3.4859E+00	3.7234E+00
GAME	8.9351E+01	9.5543E+01	9.5148E+01
L	3.1551E+01	4.7497E+00	4.8516E+00

SPECIES	MOLE FRACTIONS		
E-	5.2884E-03	1.3999E-01	1.9463E-01
O	6.2344E-01	5.3206E-01	4.8402E-01
O+	2.2745E-04	4.1017E-02	7.2687E-02
O++	1.0460E-10	7.8866E-10	1.3621E-08
C-	6.9501E-06	1.6527E-04	1.8048E-04
C2	1.1553E-04	2.9603E-05	1.9438E-05
O2+	4.4560E-07	1.3715E-05	1.6398E-05
O2+	1.4777E-04	2.2794E-08	1.9685E-08
C	1.5126E-01	1.8710E-01	1.4613E-01
C+	4.8522E-02	9.5075E-02	1.2378E-01
C++	1.0311E-13	6.5566E-07	3.6773E-06
C-	1.9134E-06	4.3215E-05	4.1459E-05
CO	1.1239E-01	3.1843E-04	1.2193E-04
CO+	1.2882E-04	9.3017E-05	6.9931E-05
CO2	5.1900E-06	3.8268E-09	1.0103E-09
C2	1.9855E-04	1.5996E-05	7.1103E-06

PI = 1.00E+02 N/SQ-M, US1 = 8.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2946E+03	2.0024E+04	2.6549E+04
T	2.5374E+01	4.6756E+01	5.2307E+01
RHC	1.8257E+01	1.2735E+02	1.4291E+02
H	-3.2247E+00	-6.5493E+00	-8.1184E+00
A	7.6188E+00	1.2270E+01	1.3132E+01
S	2.3845E+00	2.6309E+00	2.7188E+00
Z	2.6716E+00	3.3487E+00	3.5640E+00
GAME	8.9557E+01	9.6161E+01	9.5394E+01
U	3.0137E+01	4.4476E+00	4.5903E+00

SPECIES	MOLE FRACTIONS		
E-	2.7062E-03	1.0517E-01	1.6876E-01
O	6.0941E-03	5.7054E-01	5.0913E-01
O+	1.0501E-04	2.5658E-02	5.1441E-02
O++	1.5663E-12	4.2644E-11	2.5815E-09
C-	5.1126E-04	1.5666E-04	1.8224E-04
C2	1.2327E-04	4.1832E-05	7.6965E-05
O2+	8.3160E-07	1.2241E-05	1.8906E-05
O2+	1.6716E+00	7.7649E-08	1.4451E-08
C	1.4910E-01	2.1008E-01	1.7263E-01
C+	3.4011E-02	7.9548E-02	1.0744E-01
C++	2.8106E-14	1.7332E-07	1.3298E-06
C-	1.2041E+00	4.4679E-05	4.5655E-05
CO	1.6222E-01	6.7052E-04	2.3079E-04
CO+	1.2402E+04	1.1444E+04	8.7466E+05
CO2	1.4937E+06	1.1091E-08	2.5512E-09
C2	1.9525E+04	2.9395E-05	1.2634E-05

PI = 1.00E+02 N/SQ-M, US1 = 9.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4154E+03	2.3128E+04	3.0959E+04
T	2.7677E+01	5.1534E+01	5.6989E+01
RHC	1.9096E+01	1.2618E+02	1.4281E+02
H	-3.5407E+00	-8.0988E+00	-9.5449E+00
A	8.1652E+00	1.3220E+01	1.4358E+01
S	2.4644E+00	2.7233E+00	2.8176E+00
Z	2.7617E+00	3.5568E+00	3.8040E+00
GAME	8.9947E+01	9.5343E+01	9.5056E+01
L	3.2264E+01	4.8896E+00	4.9822E+00

SPECIES	MOLE FRACTIONS		
E-	6.4059E-03	1.5705E-01	2.1167E-01
O	6.3277E-01	5.1201E-01	4.6147E-01
O+	2.4112E-04	4.9728E-02	8.3894E-02
O++	3.0151E-10	1.9205E-09	2.7706E-08
C-	6.0862E-06	1.6653E-04	1.7703E-04
C2	1.0548E-04	2.5213E-05	1.6563E-05
O2+	1.3115E-06	1.4239E-05	1.6522E-05
O2+	2.1179E-05	2.0628E-08	1.7498E-08
C	2.4552E-01	1.7521E-01	1.3665E-01
C+	5.9459E-02	1.0743E-01	1.2790E-01
C++	2.1239E-13	1.1375E-06	5.6751E-06
C-	2.3430E-06	4.1723E-05	3.9076E-05
CO	8.9180E-02	2.2917E-04	9.1094E-05
CO+	1.2776E-04	8.3842E-05	6.2430E-05
CO2	3.7205E-06	2.3837E-09	6.5838E-10
C2	1.9167E-04	1.2039E-05	5.4168E-06

Table I. - Continued.

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1 = 9.40E+03 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4779E+03	2.4071E+04	3.2297E+04	P	1.6680E+03	2.6272E+04	3.5293E+04
T	2.7378E+01	5.2963E+01	5.8452E+01	T	3.0175E+01	5.0854E+01	6.2473E+01
RHC	1.9071E+01	1.2532E+02	1.4212E+02	RHC	1.8430E+01	1.1994E+02	1.3846E+02
H	-4.0534E+00	-3.4970E+00	-1.0713E+01	H	-4.7180E+00	-9.7252E+00	-1.1449E+01
A	8.3854E+00	1.2578E+01	1.4698E+01	A	9.2889E+00	1.4424E+01	1.5694E+01
S	2.4473E+00	3.7567E+00	3.9911E+00	S	2.5558E+00	2.8521E+00	2.9521E+00
Z	2.8296E+00	3.0255E+00	3.8872E+00	Z	2.9384E+00	3.8528E+00	4.1399E+00
GAM	9.0757E-01	9.5197E-01	9.5082E-01	GAM	9.5332E-01	9.4987E-01	9.5236E-01
U	3.2966E+02	5.0234E+00	5.1081E+00	U	3.4995E+01	5.3883E+00	5.4672E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
F-	7.6909E-03	1.7379E-01	2.2851E-01	F-	1.8075E-02	2.2162E-01	2.7554E-01
F	8.3811E-01	4.9150E-01	4.1854E-01	F	6.4773E-01	4.2951E-01	3.5150E-01
G+	4.4015E-04	8.9312E-02	9.5611E-02	G+	1.2106E-03	8.9250E-02	1.3126E-01
O++	9.7924E-23	4.2826E-09	5.3691E-08	O++	1.4205E-17	3.1190E-08	2.8653E-07
C-	9.4479E-06	1.6595E-04	1.7186E-04	C-	1.5662E-05	1.5441E-04	1.4843E-04
CO	9.4232E-05	2.1557E-05	1.4044E-05	CO	2.4004E-05	1.3431E-05	8.3737E-06
O2+	1.0576E-06	1.4603E-05	1.0449E-05	O2+	1.4793E-06	1.4684E-05	1.5133E-05
O2-	2.2210E-07	1.0547E-07	1.5362E-08	O2-	2.2154E-09	1.2876E-08	9.6892E-09
C	2.7752E-01	1.6027E-01	1.2374E-01	C	2.9839E-01	1.2670E-01	9.6926E-02
C+	7.3121E-03	1.3494E-02	1.2302E-01	C+	1.0636E-02	1.3247E-01	1.4436E-01
C++	4.2703E-11	1.4645E-04	8.5016E-06	C++	1.2870E-11	6.3180E-06	2.3787E-05
C-	2.6544E-01	3.5887E-01	2.5055E-05	C-	5.1833E-06	3.3011E-05	2.8491E-05
CO	8.7484E-07	1.6470E-04	6.4433E-05	CO	1.7974E-02	7.2122E-05	5.0331E-05
CO+	1.2590E-04	7.3567E-05	5.5418E-05	CO+	1.0657E-04	5.4134E-05	3.8076E-05
CO2	2.4910E-06	1.8239E-05	4.3067E-10	CO2	3.7001E-07	4.3849E-10	1.2559E-10
CO	1.7738E-04	6.1913E-05	4.1230E-06	CO	9.9154E-05	4.1321E-06	1.8576E-06
P1 = 1.00E+02 N/SQ-M, US1 = 2.00E+07 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 1.05E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5400E+03	2.4688E+04	3.3696E+04	P	1.8338E+03	2.7274E+04	3.6653E+04
T	2.8112E+01	5.4233E+01	5.9494E+01	T	4.2320E+01	5.9718E+01	6.5550E+01
RHC	1.8964E+01	1.2400E+02	1.4094E+02	RHC	1.7421E+01	1.1288E+02	1.2836E+02
H	-4.2701E+00	-3.4901E+00	-1.0487E+01	H	-5.2019E+00	-1.0784E+01	-1.2604E+01
A	8.6394E+00	1.2578E+01	1.5023E+01	A	1.0084E+01	1.5152E+01	1.6519E+01
S	2.4507E+00	3.7367E+00	3.9644E+00	S	2.6732E+00	2.9331E+00	3.0380E+00
Z	2.8260E+00	3.0265E+00	3.9708E+00	Z	3.1172E+00	4.0459E+00	4.3564E+00
GAM	9.1924E-01	9.5994E-01	9.5103E-01	GAM	9.6629E-01	9.5016E-01	9.5361E-01
U	3.2650E+02	5.1512E+00	5.2314E+00	U	3.6622E+01	5.6609E+00	5.7534E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
F-	9.9713E-03	1.9017E-01	2.4448E-01	F-	4.1878E-02	2.5872E-01	3.1132E-01
F	8.4352E-01	4.7093E-01	3.9597E-01	F	6.3346E-01	3.7797E-01	2.9792E-01
G+	5.4514E-04	8.8769E-02	1.0742E-01	G+	4.3206E-03	1.1810E-01	1.6097E-01
O++	3.8979E-12	8.8402E-09	9.8113E-08	O++	2.8910E-15	1.1368E-07	9.1492E-07
C-	1.1113E-05	1.0037E-04	1.0933E-04	C-	2.3949E-05	1.3699E-04	1.2348E-04
CO	8.1690E-05	1.9444E-05	1.1990E-05	CO	2.7150E-05	8.8961E-06	5.2073E-06
O2+	1.1947E-06	1.9849E-05	1.6197E-05	O2+	1.9965E-06	1.3744E-05	1.3117E-05
O2-	2.2277E-07	1.0526E-08	1.9340E-08	O2-	1.9685E-09	6.8689E-09	6.0388E-09
C	2.8942E-01	1.4823E-01	1.1421E-01	C	2.7966E-01	1.0422E-01	7.8776E-02
C+	4.2825E-03	1.3148E-02	1.2737E-01	C+	4.1557E-02	1.4271E-01	1.5086E-01
C++	1.1859E-11	2.9110E-05	1.7296E-05	C++	1.7433E-04	1.4424E-05	4.9144E-03
C-	3.4750E-01	2.7780E-05	3.3883E-05	C-	1.8884E-05	1.0884E-05	2.2092E-05
CO	4.7797E-02	1.2564E-04	5.1970E-05	CO	3.6315E-03	3.7452E-05	1.5547E-05
CO+	1.2202E-04	6.7779E-05	4.9144E-05	CO+	7.9490E-02	4.0171E-05	2.0960E-05
CO2	1.3175E-03	9.8774E-10	7.8514E-10	CO2	3.8399E-08	1.6144E-10	4.4549E-11
CO	1.2759E-04	8.9906E-06	3.1609E-06	CO	3.9130E-02	2.1709E-06	9.4999E-07
P1 = 1.00E+02 N/SQ-M, US1 = 9.40E+03 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 1.10E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4094E+03	2.4704E+04	3.4516E+04	P	2.0074E+03	2.8648E+04	3.8534E+04
T	1.8027E+01	5.1523E+01	6.1291E+01	T	3.7062E+01	6.2571E+01	8.0768E+01
RHC	1.3764E+01	1.2232E+02	1.3911E+02	RHC	1.4722E+01	1.0785E+02	1.2240E+02
H	-4.4571E+00	-9.2111E+00	-1.0646E+01	H	-5.9142E+00	-1.1897E+01	-1.3988E+01
A	1.4171E+00	1.4130E+01	1.5365E+01	A	1.0692E+01	1.5903E+01	1.7393E+01
S	2.5137E+00	3.6200E+00	3.7301E+00	S	2.7457E+00	3.0127E+00	3.1226E+00
Z	2.8461E+00	3.0772E+00	4.0540E+00	Z	3.2386E+00	4.2448E+00	4.5700E+00
GAM	9.2449E-01	9.5024E-01	9.5155E-01	GAM	9.5259E-01	9.5221E-01	9.6095E-01
U	3.3324E+02	5.2729E+00	5.3513E+00	U	3.8265E+01	5.9420E+00	6.0550E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
F-	1.2145E-02	2.0607E-01	2.6036E-01	F-	7.4903E-02	2.9343E-01	3.4483E-01
F	8.4490E-01	4.9092E-01	3.7362E-01	F	6.0571E-01	3.2715E-01	2.4641E-01
G+	4.4518E-04	7.0869E-02	1.1913E-01	G+	1.0713E-02	1.4380E-01	1.9031E-01
O++	1.3649E-14	1.7688E-09	1.7123E-07	O++	1.6531E-13	3.7698E-07	2.7107E-06
C-	1.3214E-02	1.5983E-04	1.5747E-04	C-	3.0327E-05	1.1869E-04	9.9400E-05
CO	4.8201E-05	1.5767E-02	1.0012E-05	CO	1.5960E-05	5.8501E-06	3.1315E-06
O2+	1.1873E-06	2.4836E-02	1.9748E-05	O2+	2.5150E-06	1.2432E-05	1.0900E-05
O2-	2.1580E-07	1.4586E-04	1.4664E-08	O2-	1.8099E-05	5.8212E-09	3.6102E-09
C	2.9279E-01	1.3710E-01	1.0525E-01	C	2.4337E-01	8.5709E-02	6.3790E-02
C+	2.2153E-02	1.2732E-01	1.4112E-01	C+	6.4166E-02	1.4967E-01	1.5441E-01
C++	1.2250E-12	4.3446E-06	1.7506E-05	C++	5.5315E-09	2.9341E-05	9.7384E-05
C-	4.2455E-02	3.5467E-05	3.1271E-05	C-	9.9525E-04	2.0028E-05	7.0887E-06
CO	3.0893E-02	9.4761E-05	3.9645E-05	CO	6.0754E-05	2.9561E-05	1.8699E-05
CO+	1.1432E-04	6.0588E-05	4.5365E-05	CO+	6.2409E-05	6.2142E-11	1.5572E-11
CO2	6.1161E-07	6.5457E-10	1.9931E-10	CO2	1.6442E-05	1.1671E-06	4.8516E-07
CO	1.8027E-04	5.2489E-06	2.4242E-06	CO			

Table I. - Continued.

$P_1 = 100 \text{ N/m}^2$

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 1.15E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1902E+03	3.0481E+04	4.1045E+04
T	3.5822E+01	6.5494E+01	7.2303E+01
RHC	1.6318E+01	1.0466E+02	1.1827E+02
H	-6.5525E+00	-1.3075E+01	-1.5278E+01
A	1.1237E+01	1.6688E+01	1.8345E+01
S	2.8154E+00	3.0902E+00	3.2061E+00
Z	2.3702E+00	4.4468E+00	4.8044E+00
GAME	9.4413E-01	9.5996E-01	9.6881E-01
U	3.9945E+01	6.2409E+00	6.3524E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.1049E-01	3.2552E-01	3.7572E-01
O	5.7252E-01	2.7820E-01	1.4734E-01
C+	2.0412E-02	1.7178E-01	2.1878E-01
O++	2.8882E-12	1.1017E-06	7.8059E-06
C-	7.4265E-05	1.0051E-04	7.6666E-05
O2+	1.0214E-05	3.7982E-06	2.0208E-09
O2-	1.3264E-09	1.0867E-05	8.6092E-06
C	2.0611E-01	7.0567E-02	5.1213E-02
C+	9.0027E-02	1.5610E-01	1.5609E-01
C++	3.2805E-08	5.7039E-03	1.9213E-04
C0	9.1356E-06	1.7261E-05	1.2488E-05
C-	3.7151E-04	1.0878E-05	3.4233E-06
CC+	4.7729E-05	2.1533E-05	1.2521E-05
CC-	1.5926E-09	2.4508E-11	5.1064E-12
CC2	7.8844E-06	6.3728E-07	2.4136E-07

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 1.20E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2823E+03	3.2604E+04	4.4094E+04
T	4.2242E+01	6.8598E+01	7.6274E+01
RHC	1.6088E+01	1.0208E+02	1.1484E+02
H	-7.2263E+00	-1.4307E+01	-1.6848E+01
A	1.2834E+01	1.7525E+01	1.9394E+01
S	2.9097E+00	3.1681E+00	3.2888E+00
Z	3.5097E+00	4.6500E+00	5.0331E+00
GAME	9.3952E-01	9.6184E-01	9.7597E-01
U	4.1039E+01	6.5648E+00	6.7707E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.4657E-01	3.5580E-01	4.0405E-01
O	5.3628E-01	2.3062E-01	1.5149E-01
C+	3.3302E-02	1.9880E-01	2.4958E-01
O++	2.0460E-11	3.0725E-06	2.2514E-05
C-	3.6243E-05	8.1974E-05	5.6579E-05
O2+	7.1771E-06	2.3423E-06	9.2357E-07
O2-	3.2137E-06	9.1194E-06	6.3492E-06
C	1.7230E-01	6.7889E-02	4.0846E-02
C+	1.1227E-01	1.5685E-01	1.5770E-01
C++	1.3248E-07	1.0873E-04	3.6044E-04
C0	8.6696E-06	1.3439E-05	8.8589E-06
C-	1.6516E-04	5.7793E-06	1.8170E-06
CC+	3.7969E-05	1.5236E-05	7.9431E-06
CC-	5.2171E-10	9.0688E-12	1.4437E-12
CC2	4.0874E-06	3.4105E-07	1.1342E-07

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 1.25E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5831E+03	3.4850E+04	4.7429E+04
T	4.4422E+01	7.1895E+01	8.0574E+01
RHC	1.5916E+01	9.9924E+01	1.1163E+02
H	-7.5254E+00	-1.5593E+01	-1.8409E+01
A	1.2321E+01	1.8414E+01	2.0569E+01
S	2.9498E+00	3.2442E+00	3.3707E+00
Z	3.4935E+00	4.8649E+00	5.2587E+00
GAME	9.3689E-01	9.6492E-01	9.7448E-01
U	4.2345E+01	6.9140E+00	7.2040E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.7912E-01	3.8345E-01	4.2961E-01
O	4.9822E-01	1.8627E-01	1.1035E-01
C+	4.9023E-02	2.2474E-01	2.6985E-01
O++	1.5813E-10	8.2069E-06	6.7483E-05
C-	3.6758E-05	6.4185E-05	3.6960E-05
O2+	5.2371E-06	1.3759E-06	4.2134E-07
O2-	2.5835E-06	7.2749E-06	4.2678E-06
C	8.9790E-01	1.3829E-09	4.3883E-10
C+	1.4335E-01	4.6894E-02	3.1226E-02
C++	1.3011E-01	1.5936E-01	1.5802E-01
C0	3.9157E-07	2.0441E-04	8.1621E-04
C-	7.8904E-05	1.0190E-05	5.8736E-06
CC+	8.2066E-06	2.9919E-06	7.5661E-07
CC-	3.0377E-05	1.0461E-05	4.6516E-06
CC2	1.9962E-10	3.2176E-12	3.6571E-13
CC	2.2381E-06	1.7861E-07	4.8402E-08

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 1.30E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7924E+03	3.7377E+04	5.1121E+04
T	4.4450E+01	7.5802E+01	8.6489E+01
RHC	1.5786E+01	9.7591E+01	1.0798E+02
H	-8.4531E+00	-1.6932E+01	-2.0063E+01
A	1.2864E+01	1.9372E+01	2.1885E+01
S	3.0174E+00	3.3195E+00	3.4517E+00
Z	3.4052E+00	5.0727E+00	5.4737E+00
GAME	9.3547E-01	9.7980E-01	1.0117E+00
U	4.5057E+01	7.2993E+00	7.7062E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.1177E-01	4.0870E-01	4.5201E-01
O	4.5785E-01	1.4530E-01	7.4812E-02
C+	4.7608E-02	2.4888E-01	2.9032E-01
O++	7.3567E-10	2.1725E-05	2.1720E-04
C-	3.6043E-05	4.7441E-05	2.1874E-05
O2+	3.8528E-06	7.4419E-07	1.6085E-07
O2-	3.7345E-06	5.4532E-06	2.3785E-06
C	7.2438E-10	7.2856E-10	1.6285E-10
C+	1.1805E-01	3.7608E-02	2.3186E-02
C++	1.4641E-01	1.5904E-01	1.5756E-01
C0	6.8122E-06	3.8880E-04	1.8594E-03
C-	4.3049E-05	7.4648E-06	3.5336E-06
CC+	2.4134E-05	1.8617E-05	2.6578E-07
CC-	8.1967E-11	1.0259E-12	2.4331E-06
CC2	1.2525E-06	8.8816E-08	6.3575E-14
CC			1.7860E-08

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 1.35E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0102E+03	3.9933E+04	5.5109E+04
T	4.8415E+01	7.9626E+01	9.3281E+01
RHC	1.5708E+01	9.5093E+01	1.0426E+02
H	-9.4052E+00	-1.8321E+01	-2.1817E+01
A	1.2385E+01	2.0492E+01	2.3251E+01
S	3.0831E+00	3.3941E+00	3.5308E+00
Z	3.5578E+00	5.2765E+00	5.8669E+00
GAME	9.3494E-01	9.9350E-01	1.0227E+00
U	4.6773E+01	7.7315E+00	8.2860E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.4212E-01	4.3153E-01	4.7065E-01
O	4.1732E-01	1.0818E-01	4.7410E-02
C+	8.7991E-02	2.7076E-01	3.0478E-01
O++	2.7154E-09	5.9253E-05	7.4393E-04
C-	3.4413E-04	3.2551E-05	1.4493E-05
O2+	2.8855E-06	2.6194E-07	5.1264E-08
O2-	3.7631E-06	4.0492E-06	1.2290E-06
C	1.7937E-10	3.3543E-10	4.2866E-11
C+	9.3348E-02	2.9509E-02	1.6526E-02
C++	1.5918E-02	1.5915E-01	1.5535E-01
C0	1.5818E-06	7.0976E-04	4.5229E-03
C-	6.0703E-05	5.0723E-06	1.9143E-06
CC+	2.3467E-05	6.5178E-07	8.1869E-08
CC-	1.9193E-05	4.1809E-06	1.1267E-06
CC2	3.6544E-11	2.8106E-11	9.8314E-15
CC	7.2287E-07	4.0630E-08	5.4253E-09

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US_1 = 1.40E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2362E+03	4.2569E+04	5.9285E+04
T	5.0287E+01	8.4350E+01	1.0078E+02
RHC	1.5642E+01	9.2344E+01	1.0086E+02
H	-1.0154E+01	-1.9759E+01	-2.3651E+01
A	1.3911E+01	2.1565E+01	2.4409E+01
S	3.1490E+00	3.4656E+00	3.6071E+00
Z	4.1143E+00	5.4651E+00	5.8323E+00
GAME	9.3532E-01	1.0088E+00	1.0136E+00
U	4.8491E+01	8.2245E+00	8.8085E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.1799E-01	4.5115E-01	4.8570E-01
O	3.0763E-01	7.6780E-02	2.9803E-02
C+	1.0970E-01	2.8899E-01	3.1074E-01
O++	8.6575E-09	1.6600E-04	2.3677E-03
C-	3.2440E-05	2.0586E-05	5.8222E-06
O2+	2.1188E-06	1.5565E-07	1.5654E-08
O2-	3.0897E-06	3.3956E-06	6.6152E-07
C	4.5415E-10	1.3329E-10	1.1346E-11
C+	8.1612E-02	2.2629E-02	1.1600E-02
C++	1.6129E-01	1.5888E-01	1.4933E-01
C0	4.2258E-06	1.5865E-07	1.0449E-02
C-	1.3732E-05	3.2538E-06	9.9235E-07
CC+	1.5155E-05	2.3497E-06	2.9442E-08
CC-	1.6040E-11	6.4642E-14	4.9697E-07
CC2	4.3171E-07	1.6958E-08	1.3372E-15
CC			1.6768E-09

Table I. - Continued.

$$P_1 = 100 \text{ N/m}^2$$

$P_1 = 1.00E+02 \text{ N/SQ-M}$, $US_1 = 1.45E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4702E+03	4.5195E+04	6.2559E+06
T	5.2114E+01	8.9978E+01	1.0784E+02
RHC	1.5501E+01	8.0098E+01	9.8526E+01
H	-1.1006E+01	-2.1241E+01	-2.5533E+01
A	1.4443E+01	2.2762E+01	2.5320E+01
S	3.2145E+00	3.5364E+00	3.6794E+00
Z	4.2743E+00	5.6375E+00	5.9822E+00
GAME	9.3645E-01	1.0214E+00	9.9777E-01
U	5.0210E+01	8.7931E+00	9.4354E+00

SPECIES	MOLE FRACTIONS		
F-	2.9826E-01	4.6793E-01	4.9850E-01
D	3.3561E-01	5.1345E-02	2.0184E-02
C+	1.2274E-01	3.0291E-01	2.0822E-01
D**	2.4810E-08	4.9259E-04	5.9230E-03
C-	2.8909E-02	1.1739E-02	3.2502E-06
C2	1.5449E-06	5.7175E-08	5.6750E-09
D2+	3.5044E-06	1.3631E-06	1.5822E-07
O2-	3.4815E-10	4.3769E-11	3.0517E-12
C	6.7802E-02	1.6735E-02	8.3986E-03
C+	1.6662E-01	1.5709E-01	1.2886E-01
C**	7.7906E-06	3.4775E-03	1.9839E-02
C-	4.4522E-06	1.9059E-06	5.5280E-07
CC	8.0223E-06	9.2259E-08	8.2375E-09
CC+	1.1873E-05	1.2103E-06	2.7751E-07
CC2	7.7551E-12	1.1728E-14	2.4163E-16
C2	1.5928E-07	6.1688E-09	5.6848E-10

$P_1 = 1.00E+02 \text{ N/SQ-M}$, $US_1 = 1.50E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7130E+03	4.7866E+04	6.7832E+04
T	5.2929E+01	9.4179E+01	1.1395E+02
RHC	1.5517E+01	8.0400E+01	9.7150E+01
H	-1.1850E+01	-2.2773E+01	-2.7435E+01
A	1.4986E+01	2.3820E+01	2.6138E+01
S	3.2807E+00	3.6032E+00	3.7480E+00
Z	4.4378E+00	5.7840E+00	6.1284E+00
GAME	9.3849E-01	1.0200E+00	9.7848E-01
U	5.1920E+01	9.3761E+00	9.8882E+00

SPECIES	MOLE FRACTIONS		
E-	5.2359E-01	4.8140E-01	5.1055E-01
O	2.9563E-01	3.3821E-02	1.4908E-02
C+	1.9507E-01	3.1055E-01	2.9985E-01
D**	6.4217E-08	1.4088E-03	1.1585E-02
C-	2.6795E-05	6.4251E-06	2.0620E-04
O2	1.1147E-06	1.9924E-08	2.5517E-09
D2+	3.2405E-06	7.3827E-07	2.1896E-07
O2-	2.5966E-10	1.3417E-11	1.5086E-12
C	6.6327E-02	1.2221E-02	6.3523E-01
C+	1.6852E-01	1.5314E-01	1.2597E-01
C**	1.3746E-05	7.4522E-03	3.0781E-07
C-	3.7499E-06	1.0715E-06	3.4130E-07
CC	4.7122E-06	3.0976E-08	3.4816E-09
CC+	9.2073E-06	5.9071E-07	1.2749E-07
CC2	3.6168E-12	1.9867E-15	6.2036E-17
C2	1.5882E-07	2.1295E-09	2.3087E-10

$P_1 = 1.00E+02 \text{ N/SQ-M}$, $US_1 = 1.55E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9433E+03	5.0585E+04	7.2107E+04
T	5.5766E+01	1.0245E+02	1.1927E+02
RHC	1.5444E+01	8.3458E+01	9.6315E+01
H	-1.2720E+01	-2.4356E+01	-2.9368E+01
A	1.5545E+01	2.4669E+01	2.6936E+01
S	3.2464E+00	3.6683E+00	3.8145E+00
Z	4.4022E+00	5.9139E+00	6.2770E+00
GAME	9.4413E-01	1.0041E+00	9.8914E-01
U	5.3844E+01	9.9279E+00	1.0237E+01

SPECIES	MOLE FRACTIONS		
E-	3.4825E-01	4.9297E-01	5.2213E-01
D	2.5677E-01	2.2974E-02	1.1657E-02
C+	1.7777E-01	3.1156E-01	2.8780E-01
D**	1.5757E-07	3.5319E-03	1.9169E-02
C-	2.3536E-05	3.6261E-06	1.4298E-06
O2+	7.8285E-07	7.3809E-09	1.3284E-09
O2-	2.6052E-06	4.0773E-07	1.4190E-07
C	1.8724E-10	6.3968E-12	7.3943E-13
C+	4.6707E-02	8.9916E-02	4.9528E-01
C**	1.7045E-01	1.4559E-01	1.1256E-01
C-	2.3508E-05	1.4377E-02	4.1713E-02
CC	3.1187E-06	6.1113E-07	2.2706E-07
CC+	2.7854E-06	1.1012E-08	1.6957E-09
CC2	7.0425E-06	2.9316E-07	7.4457E-08
C2	1.6681E-12	3.7382E-16	2.0264E-17
C2	9.447.6E-08	7.4022E-10	1.0658E-10

$P_1 = 1.00E+02 \text{ N/SQ-M}$, $US_1 = 1.60E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2213E+03	5.3388E+04	7.6361E+04
T	5.7644E+01	1.0820E+02	1.2409E+02
RHC	1.5355E+01	8.1638E+01	9.5713E+01
H	-1.3019E+01	-2.5992E+01	-3.1345E+01
A	1.6126E+01	2.5403E+01	2.7729E+01
S	3.4129E+00	3.7316E+00	3.8800E+00
Z	4.7651E+00	6.0640E+00	6.4292E+00
GAME	9.4526E-01	9.8677E-01	9.6374E-01
U	5.5348E+01	1.0424E+01	1.0566E+01

SPECIES	MOLE FRACTIONS		
E-	3.7106E-01	5.0372E-01	5.3345E-01
D	2.1931E-01	1.6671E-02	9.4228E-03
C+	2.0002E-01	3.0693E-01	2.7324E-01
D**	2.7113E-07	7.3011E-03	2.8416E-02
C-	2.0139E-05	2.2451E-06	1.0444E-06
O2+	5.3257E-07	3.2018E-09	7.5517E-10
O2-	2.5224E-06	2.4398E-07	9.6946E-08
C	1.2949E-10	1.7299E-12	4.0182E-13
C+	3.8566E-02	6.8113E-03	3.9349E-03
C**	1.7097E-01	1.3493E-01	9.9702E-02
C-	3.9522E-05	2.3620E-02	5.1834E-02
CC	2.5530E-06	3.7572E-07	1.5844E-07
CC+	1.6149E-06	4.5382E-09	9.0160E-10
CC2	5.2894E-06	1.5733E-07	4.5707E-08
C2	7.4711E-13	9.0880E-17	7.6750E-18
C2	5.6657E-08	3.0639E-10	5.2433E-11

Table I. - Continued.

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SQ-M, US1 = 3.40E+03 M/SEC				P1 = 2.00E+02 N/SQ-M, US1 = 4.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9297E+02	2.9490E+03	3.0422E+03	P	2.0046E+02	4.8854E+03	5.7109E+03
T	9.2259E+00	1.2672E+01	1.3300E+01	T	1.0280E+01	1.5125E+01	1.6640E+01
RHO	1.7107E+01	1.5366E+02	1.7115E+02	RHO	1.9209E+01	1.6947E+02	1.8209E+02
H	3.3493E-01	-2.9117E-01	-3.7959E-01	H	8.4942E-02	-7.2883E-01	-9.3334E-01
A	3.0991E+00	4.1225E+00	4.3049E+00	A	3.4742E+00	4.9669E+00	5.4542E+00
S	1.4443E+00	1.5861E+00	1.6270E+00	S	1.5501E+00	1.7332E+00	1.7820E+00
Z	1.2102E+00	1.5144E+00	1.5921E+00	Z	1.3566E+00	1.7889E+00	1.8892E+00
GAME	8.5443E-01	8.8552E-01	8.9347E-01	GAME	8.6279E-01	9.1912E-01	9.4834E-01
U	1.1846E+01	1.3254E+00	1.3209E+00	U	1.4030E+01	1.5923E+00	1.6502E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.2497E-10	3.9411E-08	4.3370E-08	E-	1.5599E-09	5.7455E-07	1.8371E-06
O	3.1303E-02	1.6931E-01	2.1406E-01	O	6.6024E-02	3.5707E-01	4.2634E-01
O+	1.8143E-14	1.7838E-10	7.9100E-10	O+	1.0000E-12	2.1413E-08	1.7994E-07
O++	7.8405E-05	3.8110E-47	3.3329E-44	O++	5.1612E-58	5.2869E-39	6.6024E-35
D-	1.6930E+02	3.9712E-09	1.0431E-08	D-	3.4021E-11	5.6700E-08	1.5780E-07
O2	1.4298E-01	1.7068E-01	1.5252E-01	O2	1.7745E-01	8.4178E-02	4.4300E-02
O2+	1.2900E-10	4.5169E-08	5.1434E-09	O2+	1.5970E-09	5.7499E-07	1.4620E-06
O2-	2.9947E-12	2.6345E-09	4.9914E-08	O2-	3.2929E-11	1.1656E-08	1.3332E-08
C	1.9944E-12	1.2637E-08	2.4017E-13	C	7.4217E-11	1.1232E-06	1.0070E-05
C+	2.6544E-20	2.6052E-14	1.7134E-35	C+	1.0025E-40	1.4011E-31	1.4011E-31
C++	9.6109E-01	8.3181E-38	1.2798E-15	C++	1.0025E-40	7.5301E-31	2.9200E-27
C-	2.0509E-51	1.5249E-16	5.2433E-05	C-	1.3143E-40	1.0374E-13	2.1939E-14
CO	1.4980E-13	6.6913E-10	3.2907E-09	CO	4.4107E-01	5.2494E-01	5.1481E-01
CO+	5.0919E-01	1.4993E-01	1.0370E-01	CO+	4.7006E-12	4.8479E-08	3.6700E-07
CO2	7.0407E-20	4.7279E-14	3.3908E-13	CO2	2.9466E-01	3.3809E-02	1.4270E-02
C2				C2	1.2342E-17	2.5947E-11	6.2232E-10
P1 = 2.00E+02 N/SQ-M, US1 = 3.60E+03 M/SEC				P1 = 2.00E+02 N/SQ-M, US1 = 4.20E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1800E+02	3.4650E+03	4.2800E+03	P	2.9627E+02	5.1707E+03	6.5100E+03
T	1.7934E+01	1.3398E+02	1.4217E+01	T	1.0011E+01	1.6326E+01	1.8997E+01
RHO	1.2507E-01	-3.9526E-01	-3.5117E-01	RHO	1.9099E+01	1.6840E+02	1.7444E+02
H	3.2177E+00	4.3809E+00	4.6610E+00	H	-9.0340E-03	-9.0788E-01	-1.1521E+00
A	1.4000E+00	1.6351E+00	1.6700E+00	A	2.6000E+00	5.3817E+00	6.1302E+00
S	1.2566E+00	1.6025E+00	1.6892E+00	S	1.5930E+00	1.7322E+00	1.8366E+00
Z	8.5080E-01	8.9404E-01	9.0047E-01	Z	1.4147E+00	1.8799E+00	1.9672E+00
GAME	1.2570E+01	1.3998E+00	1.4017E+00	GAME	8.6634E-01	9.4370E-01	1.0020E+00
U				U	1.4752E+01	1.7269E+00	1.8757E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	3.1125E-10	9.8802E-08	2.3004E-07	E-	3.1074E-09	1.5242E-06	1.0210E-05
O	4.5600E-02	2.2684E-01	2.8090E-01	O	1.1472E-01	4.2016E-01	4.7001E-01
O+	8.1125E-14	8.6455E-10	4.1220E-09	O+	3.3049E-12	1.3189E-07	2.4097E-06
O++	8.0947E-02	9.4305E-45	2.1300E-08	O++	1.2407E-35	1.4079E-35	5.4827E-30
D-	5.1901E-12	1.0699E-08	8.6490E-42	D-	8.0559E-11	1.2914E-07	5.1930E-07
O2	1.5685E-01	1.4943E-01	1.2130E-01	O2	1.3151E-09	4.8113E-02	1.5942E-02
O2+	3.2320E-10	1.1099E-07	2.5929E-07	O2+	6.1073E-11	1.3705E-08	1.5870E-08
O2-	7.3603E-12	5.0390E-09	8.9172E-09	O2-	2.1947E-10	7.1945E-06	2.2069E-04
C	7.5533E-12	5.3687E-08	2.3249E-12	C	1.1121E-17	8.6354E-10	1.9703E-07
C+	2.6099E-19	2.6590E-13	2.9402E-12	C+	4.0599E-35	7.8017E-28	1.1244E-22
C++	3.8040E-50	8.6617E-08	1.1400E-14	C++	7.1647E-20	1.2900E-12	1.5243E-10
C-	3.6040E-22	1.3274E-15	2.5119E-13	C-	4.7104E-01	6.1591E-01	6.0930E-01
CO	3.6260E-01	5.2514E-01	5.2923E-01	CO	1.3463E-11	2.7040E-07	4.9251E-06
CO+	5.3277E-13	2.8851E-09	1.0930E-08	CO+	4.3302E-01	1.5801E-02	3.6214E-03
CO2	4.3295E-01	9.8592E-02	6.2401E-02	CO2	5.6130E-17	3.6762E-10	5.5942E-08
C2	5.3551E-19	3.5564E-13	2.9470E-12	C2			
P1 = 2.00E+02 N/SQ-M, US1 = 3.80E+03 M/SEC				P1 = 2.00E+02 N/SQ-M, US1 = 4.40E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4196E+02	4.0136E+03	4.9711E+03	P	3.2541E+02	5.7498E+03	7.3824E+03
T	9.4495E+00	1.4195E+01	1.5244E+01	T	1.0987E+01	1.8168E+01	2.2423E+01
RHO	1.8024E+01	1.6884E+02	1.8231E+02	RHO	2.0094E+01	1.6199E+02	1.6811E+02
H	1.7427E-01	-5.5787E-01	-7.3577E-01	H	-1.1753E-01	-1.0944E+00	-1.1893E+00
A	3.3419E+00	4.6647E+00	5.0091E+00	A	3.7542E+00	5.9307E+00	6.5792E+00
S	1.5179E+00	1.6843E+00	1.7309E+00	S	1.6546E+00	1.8272E+00	1.8818E+00
Z	1.3050E+00	1.6948E+00	1.7935E+00	Z	1.4740E+00	1.9530E+00	2.0002E+00
GAME	8.5400E-01	9.0435E-01	9.1020E-01	GAME	8.7024E-01	9.9098E-01	9.6221E-01
U	1.3306E+01	1.4872E+00	1.5132E+00	U	1.5671E+01	1.9211E+00	2.1500E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	7.0001E-10	2.3829E-07	6.1003E-07	E-	6.3042E-09	5.8712E-06	1.0194E-04
O	0.3932E-02	2.9074E-01	3.5011E-01	O	1.4789E-01	4.6905E-01	4.9066E-01
O+	2.6901E-13	4.1751E-09	2.4000E-08	O+	1.0000E-11	1.1813E-06	2.3092E-05
O++	0.1968E-59	5.9594E-43	1.7947E-38	O++	3.1437E-53	2.0287E-31	4.2820E-25
D-	1.3625E-11	2.6069E-08	6.5507E-08	D-	1.7470E-10	3.6112E-07	2.5237E-07
O2	1.7000E-01	1.1946E-01	8.3619E-02	O2	1.7394E-01	1.8539E-02	3.0700E-03
O2+	7.2804E-10	2.5756E-07	6.1062E-07	O2+	6.5419E-09	2.6200E-06	4.0000E-06
O2-	1.6184E-11	8.2990E-09	1.3070E-08	O2-	1.0624E-10	1.3727E-08	2.0581E-06
C	4.9033E-11	2.3283E-07	4.7121E-06	C	5.9761E-10	8.9990E-05	6.8070E-03
C+	1.1623E-18	2.9290E-12	4.9481E-11	C+	2.1169E-16	4.9138E-08	2.5990E-05
C++	1.0792E-47	1.1222E-13	1.8094E-30	C++	5.2119E-44	3.9000E-18	2.2714E-18
C-	1.8327E-21	1.1283E-34	1.3209E-13	C-	3.0823E-19	3.8856E-11	2.2714E-10
CO	4.0447E-01	5.2915E-01	5.2400E-01	CO	4.9524E-01	5.0630E-01	4.9571E-01
CO+	1.5600E-12	1.0917E-08	5.4930E-08	CO+	3.4507E-11	2.6566E-06	5.1420E-05
CO2	3.8100E-01	6.0649E-02	3.3404E-02	CO2	1.0290E-01	5.2173E-03	7.6172E-04
C2	2.2000E-18	2.7888E-12	3.2001E-11	C2	2.1334E-16	1.4076E-08	7.9420E-06

Table I. - Continued,

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SQ-M, US1 = 4.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.594E+02	6.3032E+03	8.2122E+03
T	1.158E+01	4.1008E+01	2.4339E+01
RHO	2.0391E+01	1.5060E+02	2.6400E+02
H	-2.1039E-01	-1.2875E+00	-1.6194E+00
A	3.9069E+00	6.4753E+03	6.7506E+00
S	1.6748E+00	1.8691E+00	1.9241E+00
Z	1.5304E+00	1.9923E+00	2.0540E+00
GAME	8.7445E-01	1.0018E+00	9.1107E-01
U	1.6186E+01	2.1941E+00	2.2974E+00

P1 = 2.00E+02 N/SQ-M, US1 = 5.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5474E+02	8.1378E+03	1.0604E+04
T	1.2634E+01	2.5737E+01	2.7340E+01
RHO	2.0608E+01	1.4807E+02	1.7202E+02
H	-5.4710E-01	-1.9238E+00	-2.3330E+00
A	4.4301E+00	7.0175E+00	7.0175E+00
S	1.7475E+00	1.9811E+00	2.0372E+00
Z	1.7400E+00	2.1354E+00	2.2470E+00
GAME	8.9477E-01	9.9603E-01	8.9473E-01
U	1.6311E+01	2.5630E+00	2.4932E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.2200E-08	4.2877E-05	3.3170E-04
O	1.0611E-01	4.9343E-01	5.1122E-01
U+	3.1762E-11	1.1149E-05	5.2673E-05
O+	3.9065E-51	7.9054E-27	4.1009E-23
O-	3.6156E-10	1.2588E-06	6.2042E-06
U2	1.6331E-01	4.8023E-03	1.7142E-03
U2+	1.2617E-06	3.7756E-06	4.0002E-08
U2-	1.7622E-10	1.5095E-08	2.4907E-08
C	1.6623E-09	2.1294E-03	2.7450E-02
C+	5.1515E-15	1.0251E-06	1.6039E-04
C+	2.4469E-41	1.0583E-19	2.4979E-16
C-	1.8031E-18	3.4968E-09	2.2702E-07
CO	5.4217E-01	4.9831E-01	4.5799E-01
CO+	9.5309E-11	2.4005E-05	1.1513E-04
CO2	7.3841E-01	1.2381E-03	3.8649E-06
C2	9.0636E-16	1.3892E-06	6.8942E-05

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	7.7966E-08	7.5103E-04	1.4275E-03
O	3.62418E-01	5.3008E-01	5.5292E-01
U+	9.7109E-14	8.7591E-05	1.4237E-04
O+	3.9270E-46	6.7377E-22	1.1411E-20
U-	2.3701E-05	1.1022E-05	2.1305E-05
U2	1.0137E-01	1.1639E-03	1.0203E-01
U2+	7.7895E-08	3.7806E-06	4.4752E-06
U2-	4.8615E-10	3.6593E-08	6.3264E-08
C	3.4534E-06	6.3380E-02	1.0622E-01
C+	2.4979E-13	5.0083E-04	1.0143E-05
C+	1.2723E-36	1.4948E-17	2.5205E-14
C-	1.4740E-16	9.0121E-07	2.9042E-14
CO	5.2640E-01	4.0344E-01	2.9042E-01
CO+	1.9575E-04	1.7079E-04	3.2937E-01
CO2	4.6072E-02	2.2211E-04	1.5206E-04
C2	7.5227E-14	1.8262E-04	3.9202E-04

P1 = 2.00E+02 N/SQ-M, US1 = 4.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8756E+02	6.8872E+03	9.0252E+03
T	1.1750E+01	2.3344E+01	2.5504E+01
RHO	2.0591E+01	1.4557E+02	1.6408E+02
H	-3.1821E-01	-1.4901E+00	-1.8505E+00
A	4.0682E+00	6.6303E+00	6.9703E+00
S	1.7554E+00	1.9073E+00	1.9603E+00
Z	1.6018E+00	2.0268E+00	2.1129E+00
GAME	8.7960E-01	9.2917E-01	8.9876E-01
U	1.6899E+01	2.3941E+00	2.3742E+00

P1 = 2.00E+02 N/SQ-M, US1 = 5.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9819E+02	8.7956E+03	1.1332E+04
T	1.3173E+01	2.6585E+01	2.8032E+01
RHO	2.0048E+01	1.4953E+02	1.7391E+02
H	-6.6034E-01	-2.1529E+00	-2.5823E+00
A	4.6818E+00	7.2222E+00	7.6642E+00
S	1.8388E+00	2.0184E+00	2.0746E+00
Z	1.8111E+00	2.1992E+00	2.3197E+00
GAME	9.0302E-01	8.9381E-01	8.9594E-01
U	1.6909E+01	2.6168E+00	2.5466E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.3600E-08	1.9530E-04	6.3629E-04
O	2.2288E-01	5.0457E-01	5.2502E-01
U+	1.0104E-10	3.6494E-05	8.0267E-05
O+	6.5294E-50	4.4927E-24	4.7282E-22
O-	7.0928E-10	3.7268E-06	1.0504E-06
U2	1.4711E-01	2.0429E-03	1.3208E-03
U2+	2.3675E-08	3.7703E-06	4.0548E-06
U2-	2.7672E-10	1.0729E-08	2.0293E-08
C	4.7935E-09	1.5458E-02	5.3620E-02
C+	7.3973E-15	7.7877E-05	4.0243E-04
C+	6.6155E-40	3.7714E-17	1.2970E-15
C-	7.3554E-18	7.6036E-08	7.4121E-07
CO	5.2225E-01	4.7707E-01	4.1868E-01
CO+	2.5473E-10	8.0984E-05	1.6209E-04
CO2	1.0146E-01	4.8766E-04	2.6509E-04
C2	4.0132E-15	2.4715E-05	1.5409E-04

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.4613E-07	1.1151E-03	1.9252E-03
O	3.7511E-01	5.4391E-01	5.6632E-01
U+	3.3892E-09	1.1536E-04	1.8131E-04
O+	7.2994E-44	3.1530E-21	4.9027E-20
O-	4.1308E-09	1.5490E-05	2.7844E-05
U2	7.4971E-02	1.0203E-01	9.3888E-04
U2+	1.4123E-07	3.9334E-06	4.7122E-06
U2-	3.7119E-10	4.5334E-08	7.3753E-08
C	3.1211E-07	8.9560E-02	1.3492E-01
C+	1.7835E-16	8.1000E-04	6.6509E-14
C+	1.2908E-34	1.0080E-14	1.5126E-03
C-	1.0979E-16	1.7589E-06	4.6340E-06
CO	5.2207E-01	3.6319E-01	2.9306E-01
CO+	6.2166E-09	2.0311E-04	2.5959E-04
CO2	4.9699E-02	1.7058E-04	1.0210E-04
C2	4.1580E-13	2.8938E-04	5.1074E-04

P1 = 2.00E+02 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2052E+02	7.5112E+03	9.8267E+03
T	1.2170E+01	2.4734E+01	2.6522E+01
RHO	2.0694E+01	1.4622E+02	1.7011E+02
H	-4.3902E-01	-1.7023E+00	-2.0862E+00
A	1.2819E+00	6.8134E+00	7.1908E+00
S	1.7564E+00	1.9442E+00	1.9902E+00
Z	1.6698E+00	2.0768E+00	2.1778E+00
GAME	8.8542E-01	9.0370E-01	8.9507E-01
U	1.7607E+01	2.4962E+00	2.4383E+00

P1 = 2.00E+02 N/SQ-M, US1 = 5.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2000E+02	9.2595E+03	1.1956E+04
T	1.3632E+01	2.7294E+01	2.8805E+01
RHO	2.0242E+01	1.4972E+02	1.7344E+02
H	-7.4407E-01	-2.3890E+00	-2.8476E+00
A	4.6771E+00	7.4366E+00	7.8725E+00
S	1.8739E+00	2.0565E+00	2.1162E+00
Z	1.8861E+00	2.2667E+00	2.3921E+00
GAME	9.2048E-01	8.9391E-01	8.9832E-01
U	1.9697E+01	2.6648E+00	2.6002E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.2511E-08	4.4255E-04	1.0617E-03
O	2.7535E-01	5.1687E-01	5.3902E-01
U+	3.0813E-10	6.2053E-05	1.0938E-04
O+	5.8752E-48	9.4145E-23	2.7413E-21
O-	1.3233E-09	7.0860E-06	1.5637E-06
U2	1.2505E-01	1.8133E-03	1.1421E-03
U2+	4.3204E-08	3.7052E-06	4.6273E-06
U2-	3.7467E-10	2.8275E-08	5.1004E-08
C	1.3433E-09	3.7944E-02	4.6102E-02
C+	4.0031E-14	2.5290E-04	7.0400E-04
C+	3.1031E-38	5.5589E-16	8.2000E-15
C-	3.2494E-17	3.5206E-07	1.6100E-06
CO	5.2509E-01	4.4247E-01	3.7822E-01
CO+	6.9713E-10	1.1335E-04	2.0009E-04
CO2	7.1667E-02	3.0498E-04	1.9942E-04
C2	1.6603E-14	8.9390E-05	2.7021E-04

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.4686E-07	1.5380E-03	2.5117E-03
O	4.2155E-01	5.5679E-01	5.7980E-01
U+	1.4305E-08	1.4688E-04	2.2847E-04
O+	2.5242E-41	1.1509E-20	1.3057E-19
O-	7.1903E-09	2.0421E-05	3.4934E-05
U2	4.7179E-02	9.2045E-04	8.6247E-04
U2+	2.0230E-07	4.1290E-06	5.0972E-06
U2-	8.0246E-10	5.3979E-08	8.7331E-08
C	5.6180E-07	1.1560E-01	1.6808E-01
C+	2.0300E-11	1.1804E-03	2.0382E-03
C+	2.5913E-32	2.7756E-14	1.5872E-13
C-	5.1917E-15	2.9406E-06	6.8308E-06
CO	5.1224E-01	3.2303E-01	2.5287E-01
CO+	2.4372E-08	2.2496E-04	2.8142E-04
CO2	1.8226E-02	1.7341E-04	9.3802E-05
C2	3.2739E-12	3.8752E-04	6.1352E-04

Table I. - Continued.

$$P_1 = 200 \text{ N/m}^2$$

$$P_1 = 2.00E+02 \text{ N/Sq-M, US1} = 5.80E+03 \text{ M/SEC}$$

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6388E+02	9.6157E+01	1.2309E+04
T	1.4682E+01	2.7949E+01	2.9608E+02
RMU	1.9330E+01	1.4722E+02	1.0908E+02
H	-5.2410E-01	-2.8301E+00	-3.1104E+00
A	5.2302E+00	7.6465E+03	8.1802E+00
S	1.9189E+00	2.3989E+00	2.1504E+00
Z	1.9430E+00	2.0958E+00	2.4734E+00
GAME	9.5577E-01	8.3519E-01	9.0147E-01
U	2.0504E+01	2.7088E+00	2.6607E+00

SPECIES	MOLE FRACTIONS
E-	7.4014E-07
O	4.0302E-01
O+	6.7797E-08
O*	1.3554E-08
U2	2.2540E-02
U*	5.6128E-10
Uc	3.0677E-08
L+	1.1414E-10
L*	2.7527E-29
CU	4.3335E-14
CU*	3.0784E-01
CU2	1.4300E-07
CU*	8.1885E-03
CU2	5.2400E-11

$$P_1 = 2.00E+02 \text{ N/Sq-M, US1} = 6.40E+03 \text{ M/SEC}$$

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7901E+02	9.7355E+03	1.2378E+04
T	2.0579E+01	2.9699E+01	3.1501E+01
RMU	1.2510E+01	1.2016E+02	1.4461E+02
H	-1.3402E+00	-3.3759E+00	-3.9357E+00
A	6.2620E+00	8.2858E+00	8.8681E+00
S	2.0212E+00	2.2194E+00	2.2876E+00
Z	2.0249E+00	2.5578E+00	2.7140E+00
GAME	9.2413E-01	9.0378E-01	9.1774E-01
U	2.2229E+01	2.8333E+00	2.8260E+00

SPECIES	MOLE FRACTIONS
E-	1.2233E-04
O	5.0508E-01
O*	2.0912E-05
O*	1.2430E-26
O*	4.4177E-07
U2	6.0517E-04
U*	1.0211E-06
U*	7.0212E-10
L+	1.1973E-02
L*	3.4544E-03
L*	1.2001E-18
CU	1.0206E-05
CU*	6.8107E-01
CU*	4.1740E-05
CU2	1.0242E-04
CU2	6.0502E-26

$$P_1 = 2.00E+02 \text{ N/Sq-M, US1} = 6.00E+03 \text{ M/SEC}$$

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	0.0120E+02	9.6389E+03	1.2309E+04
T	1.0538E+01	2.8514E+01	3.0112E+01
RMU	1.0225E+01	1.4031E+02	1.0602E+02
H	-1.0588E+00	-2.8720E+00	-3.3759E+00
A	5.7868E+00	7.8505E+00	8.3404E+00
S	1.9508E+00	2.1388E+00	2.2012E+00
Z	1.9638E+00	2.4087E+00	2.5513E+00
GAME	1.0197E+00	8.9715E-01	9.0394E-01
U	2.0090E+01	2.7458E+00	2.7002E+00

SPECIES	MOLE FRACTIONS
E-	3.4535E-06
O	4.0302E-01
O*	9.1027E-07
O*	9.6082E-24
U2	2.0721E-08
U*	6.4602E-03
U*	8.5510E-01
Uc	4.8003E-10
L+	7.3111E-05
L*	4.8214E-05
L*	3.2142E-25
L*	3.0042E-12
CU	5.7868E-01
CU*	1.5788E-04
CU2	1.7602E-03
CU2	3.0342E-04

$$P_1 = 2.00E+02 \text{ N/Sq-M, US1} = 6.80E+03 \text{ M/SEC}$$

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2192E+02	1.0334E+04	1.2378E+04
T	2.1508E+01	3.0478E+01	3.2646E+01
RMU	1.0270E+01	1.2898E+02	1.4381E+02
H	-1.4887E+00	-3.6533E+00	-4.2492E+00
A	6.3048E+00	8.5497E+00	9.2107E+00
S	2.0512E+00	2.2589E+00	2.3295E+00
Z	2.0508E+00	2.6371E+00	2.7970E+00
GAME	9.0948E-01	9.0948E-01	9.2909E-01
U	2.2420E+01	2.9045E+00	2.9198E+00

SPECIES	MOLE FRACTIONS
E-	2.0997E-04
O	5.1355E-01
O*	3.2574E-05
O*	1.8641E-25
U2	6.4402E-07
U*	4.0032E-04
U*	9.4302E-07
U*	9.4196E-10
U*	2.3202E-01
L+	1.1701E-06
L*	1.0715E-17
L*	3.4953E-08
CU	4.5705E-01
CU*	6.3297E-05
CU2	1.0485E-04
CU2	2.0030E-05

$$P_1 = 2.00E+02 \text{ N/Sq-M, US1} = 6.20E+03 \text{ M/SEC}$$

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3878E+02	9.4785E+03	1.2079E+04
T	1.0009E+01	2.9050E+01	3.0132E+01
RMU	1.0787E+01	1.3145E+02	1.0490E+02
H	-1.1900E+00	-3.1155E+00	-3.6402E+00
A	6.1589E+00	8.0540E+00	8.5770E+00
S	1.9942E+00	2.1788E+00	2.2447E+00
Z	2.0001E+00	2.4816E+00	2.6294E+00
GAME	1.0000E+00	8.9979E-01	9.1020E-01
U	2.1388E+01	2.7808E+00	2.7502E+00

SPECIES	MOLE FRACTIONS
E-	2.8708E-05
O	4.9371E-01
O*	4.0649E-29
O*	1.0342E-07
U2	1.5012E-03
U*	1.1370E-06
U*	3.0772E-10
L+	1.9118E-03
L*	5.2579E-00
L*	4.1879E-11
L*	3.0594E-10
CU	4.9743E-01
CU*	1.4784E-05
CU*	3.0831E-04
CU2	4.2190E-07

$$P_1 = 2.00E+02 \text{ N/Sq-M, US1} = 6.80E+03 \text{ M/SEC}$$

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.0672E+02	1.1079E+04	1.4092E+04
T	2.2242E+01	3.1370E+01	3.4059E+01
RMU	1.0410E+01	1.2987E+02	1.4381E+02
H	-1.0420E+00	-3.9629E+00	-4.3884E+00
A	6.0432E+00	8.0468E+00	8.6374E+00
S	2.0809E+00	2.2981E+00	2.3718E+00
Z	2.0941E+00	2.7170E+00	2.8820E+00
GAME	8.8838E-01	9.1729E-01	9.4622E-01
U	2.3628E+01	2.9908E+00	3.0501E+00

SPECIES	MOLE FRACTIONS
E-	4.5090E-04
O	5.2294E-01
O*	9.3231E-05
O*	1.0550E-26
U2	1.2058E-06
U*	3.1004E-04
U*	9.1401E-07
U*	1.1406E-09
L+	4.8852E-02
L*	3.2847E-06
L*	7.5021E-17
L*	1.4959E-08
CU	4.2276E-01
CU*	7.5649E-05
CU*	1.0018E-05
CU2	4.2504E-05

TEST

Table I. - Continued.

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SQ-M, US1 = 8.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.201E+03	1.731E+04	2.305E+04
T	2.504E+01	4.430E+01	5.084E+01
RHD	1.797E+01	1.224E+02	1.344E+02
H	-2.044E+00	-6.2081E+00	-7.342E+00
A	7.425E+00	1.177E+01	1.285E+01
S	2.257E+00	2.553E+00	2.630E+00
Z	2.455E+00	3.189E+00	3.374E+00
GAME	8.842E+01	9.793E+01	9.837E+01
U	2.805E+01	4.212E+03	4.410E+03

SPECIES	MOLE FRACTIONS		
E-	2.597E-03	6.251E-02	1.120E-01
O	5.490E-01	6.112E-01	5.597E-01
O*	1.501E-04	1.266E-02	3.177E-02
U**	1.141E-21	8.463E-12	5.722E-10
OH	6.239E+06	2.119E-04	2.733E-04
OZ	2.212E-04	1.062E-04	6.507E-05
OC+	1.147E-06	1.533E-05	2.130E-05
OZ-	3.496E-09	8.557E-08	7.777E-08
C	1.880E-01	2.605E-01	2.148E-01
C*	2.579E-03	4.992E-02	8.046E-02
C**	1.660E-14	3.137E-08	4.432E-07
C-	1.030E-06	6.740E-05	7.762E-05
CO	2.234E-01	2.478E-03	7.002E-04
CO*	1.439E-04	1.931E-04	1.459E-04
COZ	2.106E-05	9.970E-08	1.700E-08
CZ	2.327E-04	9.974E-05	4.010E-05

P1 = 2.00E+02 N/SQ-M, US1 = 8.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.176E+03	1.830E+04	2.446E+04
T	2.501E+01	4.647E+01	5.217E+01
RHD	1.813E+01	1.212E+02	1.345E+02
H	-3.034E+00	-6.565E+00	-7.772E+00
A	7.504E+00	1.212E+01	1.348E+01
S	2.257E+00	2.587E+00	2.672E+00
Z	2.511E+00	3.249E+00	3.440E+00
GAME	8.842E+01	9.731E+01	9.842E+01
U	2.939E+01	4.401E+03	4.570E+03

SPECIES	MOLE FRACTIONS		
E-	3.098E-03	7.876E-02	1.309E-01
O	5.990E-01	6.958E-01	5.380E-01
O*	1.718E-04	1.798E-02	4.045E-02
U**	2.709E-21	3.976E-11	1.734E-09
OH	7.320E+06	2.290E-04	2.812E-04
OZ	2.213E-04	8.851E-05	9.736E-05
OZ-	3.892E-09	1.694E-05	2.273E-05
C	1.880E-01	2.648E-01	2.191E-01
C*	2.779E-03	6.028E-02	9.013E-02
C**	3.050E-14	8.456E-08	8.805E-07
C-	1.030E-06	7.030E-05	7.880E-05
CO	2.234E-01	1.519E-03	4.804E-04
CO*	1.439E-04	1.741E-04	1.349E-04
COZ	1.707E-05	4.940E-08	9.866E-08
CZ	2.512E-04	7.018E-05	2.934E-05

P1 = 2.00E+02 N/SQ-M, US1 = 8.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.233E+03	1.930E+04	2.589E+04
T	2.624E+01	4.843E+01	5.173E+01
RHD	1.828E+01	1.203E+02	1.340E+02
H	-3.284E+00	-6.930E+00	-8.209E+00
A	7.746E+00	1.245E+01	1.357E+01
S	2.259E+00	2.617E+00	2.705E+00
Z	2.571E+00	3.311E+00	3.520E+00
GAME	8.842E+01	9.678E+01	9.572E+01
U	3.004E+01	4.571E+03	4.720E+03

SPECIES	MOLE FRACTIONS		
E-	3.016E-03	9.540E-02	1.484E-01
O	6.074E-01	5.782E-01	5.173E-01
O*	2.104E-04	2.420E-02	4.991E-02
U**	3.502E-21	1.497E-10	4.594E-09
OH	7.320E+06	2.421E-04	2.853E-04
OZ	1.982E-04	7.046E-05	4.514E-05
OZ-	1.280E-09	1.040E-05	2.362E-05
C	2.151E-01	1.926E-01	6.437E-01
C*	3.321E-03	2.292E-02	1.040E-01
C**	3.050E-14	7.134E-08	4.971E-07
C-	2.071E-06	1.958E-07	1.624E-06
CO	1.030E-06	9.902E-04	3.411E-04
CO*	1.439E-04	1.579E-04	1.219E-04
COZ	1.707E-05	2.664E-08	5.970E-08
CZ	2.649E-04	5.070E-05	2.180E-05

P1 = 2.00E+02 N/SQ-M, US1 = 8.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.292E+03	2.030E+04	2.731E+04
T	2.670E+01	5.026E+01	5.601E+01
RHD	1.846E+01	1.196E+02	1.341E+02
H	-3.428E+00	-7.304E+00	-8.654E+00
A	7.915E+00	1.278E+01	1.392E+01
S	2.292E+00	2.648E+00	2.737E+00
Z	2.630E+00	3.374E+00	3.595E+00
GAME	8.927E+01	9.634E+01	9.557E+01
U	3.079E+01	4.791E+03	4.871E+03

SPECIES	MOLE FRACTIONS		
E-	4.369E-03	1.121E-01	1.660E-01
O	6.154E-01	5.601E-01	4.955E-01
O*	2.526E-04	3.124E-02	5.992E-02
U**	1.5730E-20	4.6830E-10	1.002E-08
OH	9.423E-06	2.513E-04	2.860E-04
OZ	1.8630E-04	5.901E-05	3.899E-05
OZ-	1.3689E-09	1.9677E-05	2.463E-05
C	6.6970E-01	6.579E-01	5.811E-01
C*	3.9714E-03	2.191E-01	1.712E-01
C**	1.0309E-13	4.0329E-07	1.0030E-01
C-	2.2730E-06	7.130E-05	2.717E-05
CO	1.4403E-01	6.756E-04	2.440E-04
CO*	1.5045E-04	1.426E-04	1.092E-04
COZ	1.0888E-05	1.5322E-08	3.749E-08
CZ	2.7213E-04	3.7390E-05	1.643E-05

P1 = 2.00E+02 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.352E+03	2.129E+04	2.871E+04
T	2.716E+01	5.198E+01	5.809E+01
RHD	1.847E+01	1.190E+02	1.340E+02
H	-3.631E+00	-7.606E+00	-9.107E+00
A	8.102E+00	1.310E+01	1.427E+01
S	2.442E+00	2.679E+00	2.770E+00
Z	2.694E+00	3.403E+00	3.613E+00
GAME	8.971E+01	9.602E+01	9.543E+01
U	3.150E+01	4.896E+03	5.010E+03

SPECIES	MOLE FRACTIONS		
E-	5.213E-03	1.280E-01	1.834E-01
O	6.210E-01	5.613E-01	4.755E-01
O*	3.070E-04	3.907E-02	7.002E-02
U**	4.038E-20	1.279E-09	2.361E-08
OH	1.150E-05	2.571E-04	2.837E-04
OZ	1.729E-04	4.948E-05	3.275E-05
OZ-	2.462E-09	2.679E-05	2.510E-05
C	5.089E-01	5.992E-01	5.219E-01
C*	2.465E-01	1.990E-01	1.505E-01
C**	4.763E-03	8.998E-02	1.129E-01
C-	1.981E-06	7.577E-07	4.511E-06
CO	1.131E-01	7.020E-05	6.047E-05
CO*	1.563E-04	4.776E-04	1.484E-04
COZ	1.088E-05	1.593E-08	9.810E-08
CZ	3.740E-04	2.802E-05	1.250E-05

P1 = 2.00E+02 N/SQ-M, US1 = 9.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.412E+03	2.226E+04	3.004E+04
T	2.774E+01	5.362E+01	5.974E+01
RHD	1.851E+01	1.183E+02	1.343E+02
H	-3.839E+00	-8.076E+00	-9.571E+00
A	8.301E+00	1.342E+01	1.461E+01
S	2.457E+00	2.710E+00	2.802E+00
Z	2.750E+00	3.507E+00	3.740E+00
GAME	9.028E+01	9.577E+01	9.540E+01
U	3.220E+01	5.043E+03	5.150E+03

SPECIES	MOLE FRACTIONS		
E-	6.281E-03	1.453E-01	2.001E-01
O	6.300E-01	5.219E-01	4.513E-01
O*	3.005E-04	4.740E-02	8.159E-02
U**	1.120E-19	3.128E-09	4.821E-08
OH	1.333E-05	2.599E-04	2.789E-04
OZ	1.588E-04	4.262E-05	2.791E-05
OZ-	1.588E-09	2.159E-05	2.537E-05
C	5.458E-01	5.446E-01	4.691E-01
C*	2.809E-01	1.883E-01	1.473E-01
C**	3.757E-03	6.000E-02	1.187E-01
C-	3.172E-06	1.324E-06	6.997E-06
CO	3.884E-06	6.824E-05	6.404E-05
CO*	9.607E-02	3.469E-04	1.392E-04
CO*	1.588E-04	1.172E-04	8.730E-05
COZ	6.040E-06	5.791E-08	1.370E-08
CZ	2.659E-04	2.126E-05	9.270E-06

Table 1. - CONTINUED

P1 = 200 N/m²

P1 = 2.00E+02 N/50-M, US1 = 9.40E+03 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RHD, H, A, S, Z, GAME, U).

Table with 4 columns: SPECIES, MOLE FRACTIONS, and species labels (E, O, O+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, CZ).

P1 = 2.00E+02 N/50-M, US1 = 1.00E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RHD, H, A, S, Z, GAME, U).

Table with 4 columns: SPECIES, MOLE FRACTIONS, and species labels (E, O, O+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, CZ).

P1 = 2.00E+02 N/50-M, US1 = 9.60E+03 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RHD, H, A, S, Z, GAME, U).

Table with 4 columns: SPECIES, MOLE FRACTIONS, and species labels (E, O, O+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, CZ).

P1 = 2.00E+02 N/50-M, US1 = 1.05E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RHD, H, A, S, Z, GAME, U).

Table with 4 columns: SPECIES, MOLE FRACTIONS, and species labels (E, O, O+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, CZ).

P1 = 2.00E+02 N/50-M, US1 = 9.80E+03 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RHD, H, A, S, Z, GAME, U).

Table with 4 columns: SPECIES, MOLE FRACTIONS, and species labels (E, O, O+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, CZ).

P1 = 2.00E+02 N/50-M, US1 = 1.10E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RHD, H, A, S, Z, GAME, U).

Table with 4 columns: SPECIES, MOLE FRACTIONS, and species labels (E, O, O+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, CZ).

P1 = 200 N/m^2

P1 = 2.00E+02 N/Sq-M, US1 = 1.15E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RNU, M, A, S, Z, LANE, U).

SPECIES MOLE FRACTIONS

Table with 4 columns: Species, E, U, U+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, C2.

P1 = 2.00E+02 N/Sq-M, US1 = 1.30E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RNU, M, A, S, Z, LANE, U).

SPECIES MOLE FRACTIONS

Table with 4 columns: Species, E, U, U+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, C2.

P1 = 2.00E+02 N/Sq-M, US1 = 1.20E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RNU, M, A, S, Z, LANE, U).

SPECIES MOLE FRACTIONS

Table with 4 columns: Species, E, U, U+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, C2.

P1 = 2.00E+02 N/Sq-M, US1 = 1.35E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RNU, M, A, S, Z, LANE, U).

SPECIES MOLE FRACTIONS

Table with 4 columns: Species, E, U, U+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, C2.

P1 = 2.00E+02 N/Sq-M, US1 = 1.25E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RNU, M, A, S, Z, LANE, U).

SPECIES MOLE FRACTIONS

Table with 4 columns: Species, E, U, U+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, C2.

P1 = 2.00E+02 N/Sq-M, US1 = 1.40E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and species labels (P, T, RNU, M, A, S, Z, LANE, U).

SPECIES MOLE FRACTIONS

Table with 4 columns: Species, E, U, U+, O-, O2, O2+, O2-, C, C+, C-, CO, CO+, CO2, C2.

Table I. - Continued.

$$P_1 = 200 \text{ N/m}^2$$

$P_1 = 2.00E+02 \text{ N/Sq-M}$, $US_1 = 1.45E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.461E+03	4.3263E+04	6.133E+04
I	5.4654E+01	9.3723E+01	1.122E+02
KHU	1.5023E+01	8.3710E+01	9.2912E+01
H	-1.1004E+01	-2.1108E+01	-2.5530E+01
A	1.4753E+01	2.2953E+01	2.5719E+01
S	3.1925E+00	3.4948E+00	3.0382E+00
Z	4.2102E+00	5.3143E+00	5.8613E+00
GAME	9.4100E+11	1.0194E+00	1.0010E+00
U	5.0002E+01	9.0035E+00	9.6917E+00

SPECIES	MOLE FRACTIONS		
E-	4.0860E-01	4.5805E-01	4.8944E-01
O	3.4037E-01	6.7235E-02	2.9938E-02
O+	1.2090E-01	2.9491E-01	3.0200E-01
OH+	4.0178E-08	5.1177E-04	5.5159E-03
O-	4.9433E-05	2.4727E-05	7.4930E-06
O2	2.0650E-06	1.5872E-07	1.0700E-06
O2+	5.4742E-06	2.8074E-06	8.7010E-07
O2-	9.9372E-10	1.9888E-10	2.0200E-11
C	6.7317E-02	2.4252E-02	1.3102E-02
L+	1.0571E+01	1.5387E-01	1.4008E-01
C++	1.0224E-05	3.1324E-03	1.6040E-02
C-	6.1037E-06	4.1698E-06	1.3301E-06
CO	1.7022E-05	2.5972E-07	2.7727E-06
CO+	1.7407E-05	2.4271E-06	5.4942E-07
CO2	1.9002E-11	6.7615E-14	1.8000E-15
C2	5.0973E-07	1.8368E-08	2.0702E-09

$P_1 = 2.00E+02 \text{ N/Sq-M}$, $US_1 = 1.50E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7034E+03	4.5819E+04	6.5474E+04
I	5.6607E+01	9.9827E+01	1.1878E+02
KHU	1.4957E+01	8.0939E+01	9.1434E+01
H	-1.1040E+01	-2.2695E+01	-2.7450E+01
A	1.5285E+01	2.4071E+01	2.6560E+01
S	3.2552E+00	3.5611E+00	3.7020E+00
Z	4.3762E+00	5.6707E+00	6.0294E+00
GAME	9.4354E+11	1.0218E+00	9.8600E-01
U	5.1742E+01	9.5747E+00	1.0120E+01

SPECIES	MOLE FRACTIONS		
E-	3.1429E-01	4.7105E-01	5.0252E-01
O	3.4010E-01	4.6940E-02	2.1747E-02
O+	1.5090E-01	3.0439E-01	2.9410E-01
OH+	1.1703E-07	1.3332E-03	1.0762E-02
O-	4.4242E-05	1.4309E-05	4.7692E-06
O2	1.4578E-06	6.2591E-08	8.5739E-09
O2+	5.1006E-06	1.6451E-06	5.0910E-07
O2-	7.0133E-10	7.0109E-11	6.4542E-12
C	6.5189E-02	1.8543E-02	1.0130E-02
L+	1.0330E+01	1.5144E-01	1.2741E-01
C++	1.7037E-05	6.2828E-03	2.6000E-02
C-	6.9047E-06	2.5032E-06	8.3287E-07
CO	1.7037E-05	9.8912E-08	1.2049E-08
CO+	1.3751E-05	1.2873E-06	2.9070E-07
CO2	9.5555E-12	1.4061E-14	4.9771E-16
C2	3.1509E-07	7.1116E-09	8.3471E-10

$P_1 = 2.00E+02 \text{ N/Sq-M}$, $US_1 = 1.58E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9924E+03	4.8395E+04	6.9608E+04
I	5.5573E+01	1.0611E+02	1.2454E+02
KHU	1.4683E+01	7.8499E+01	9.0483E+01
H	-1.2710E+01	-2.4270E+01	-2.9421E+01
A	1.5820E+01	2.4972E+01	2.7409E+01
S	3.3190E+00	3.6248E+00	3.7711E+00
Z	4.5346E+00	5.8098E+00	6.1772E+00
GAME	9.4626E-01	1.0110E+00	9.7890E-01
U	5.3500E+01	1.0137E+01	1.0531E+01

SPECIES	MOLE FRACTIONS		
E-	3.3023E-01	4.8371E-01	5.1442E-01
O	3.4001E-01	3.5264E-02	1.7137E-02
O+	1.7298E-01	3.0702E-01	2.8873E-01
OH+	2.8022E-07	3.1571E-03	1.7894E-02
O-	3.4008E-05	8.4836E-06	3.2852E-06
O2	1.3944E-06	2.5272E-06	4.4729E-09
O2+	4.0109E-06	9.6102E-07	3.3930E-07
O2-	5.5102E-10	2.5282E-11	4.1379E-12
C	3.4000E-02	1.4163E-02	8.0204E-03
L+	1.0552E-01	1.4618E-01	1.1787E-01
C++	3.0329E-05	1.1704E-02	3.6113E-02
C-	5.0107E-06	1.5002E-06	5.9773E-07
CO	4.6759E-06	3.8564E-08	5.9656E-09
CO+	1.0669E-05	6.8135E-07	1.7340E-07
CO2	4.5055E-12	3.0659E-15	1.6002E-16
C2	1.9547E-07	2.7769E-09	3.9514E-10

$P_1 = 2.00E+02 \text{ N/Sq-M}$, $US_1 = 1.60E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2102E+03	5.1949E+04	7.3096E+04
I	6.0500E+01	1.1212E+02	1.2972E+02
KHU	1.4776E+01	7.8641E+01	8.9796E+01
H	-1.3014E+01	-2.5899E+01	-3.1390E+01
A	1.6444E+01	2.5702E+01	2.8223E+01
S	3.3033E+00	3.6868E+00	3.8347E+00
Z	4.6606E+00	5.9407E+00	6.3259E+00
GAME	9.5014E-01	9.9827E-01	9.7057E-01
U	5.3202E+01	1.0670E+01	1.0850E+01

SPECIES	MOLE FRACTIONS		
E-	3.0237E-01	4.9308E-01	5.2583E-01
O	2.3118E-01	2.4805E-02	1.3962E-02
O+	1.9459E-01	3.0399E-01	2.7804E-01
OH+	6.4709E-07	6.4872E-03	2.4508E-02
O-	3.4423E-05	5.3107E-06	2.4420E-06
O2	9.7166E-07	1.1290E-07	2.5805E-09
O2+	4.0620E-06	5.8852E-08	2.2940E-07
O2-	4.8920E-10	1.0246E-11	2.2538E-12
C	4.6030E-02	1.0978E-02	6.4680E-03
L+	1.0671E-01	1.3797E-01	1.0062E-01
C++	5.0359E-05	1.9308E-02	4.5521E-02
C-	4.0102E-06	9.3715E-07	3.4024E-07
CO	4.6727E-06	1.6520E-06	3.2114E-09
CO+	6.1722E-06	3.7763E-07	1.0935E-07
CO2	2.1207E-12	7.8801E-16	6.3998E-17
C2	1.2004E-07	1.1683E-09	2.0278E-10

Table I. - Continued.

$P_1 = 500 \text{ N/m}^2$

$P_1 = 5.00E+02 \text{ N/SQ-M, } US1 = 2.20E+03 \text{ M/SEC}$

Table with columns P, MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK. Rows include P, T, RHC, H, A, S, Z, GAME, U.

SPECIES MOLE FRACTIONS table with columns SPECIES and MOLE FRACTIONS. Rows include E, O, O+, O-, O2+, O2-, C+, C++, C-, CO, CO+, CO2, C2.

$P_1 = 5.00E+02 \text{ N/SQ-M, } US1 = 2.80E+03 \text{ M/SEC}$

Table with columns P, MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK. Rows include P, T, RHC, H, A, S, Z, GAME, U.

SPECIES MOLE FRACTIONS table with columns SPECIES and MOLE FRACTIONS. Rows include E, C, O+, O-, O2+, O2-, C+, C++, C-, CO, CO+, CO2, C2.

$P_1 = 5.00E+02 \text{ N/SQ-M, } US1 = 2.40E+03 \text{ M/SEC}$

Table with columns P, MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK. Rows include P, T, RHO, H, A, S, Z, GAME, U.

SPECIES MOLE FRACTIONS table with columns SPECIES and MOLE FRACTIONS. Rows include E, O, C+, O+, O-, O2+, O2-, C+, C++, C-, CO, CO+, CO2, C2.

$P_1 = 5.00E+02 \text{ N/SQ-M, } US1 = 3.00E+03 \text{ M/SEC}$

Table with columns P, MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK. Rows include P, T, RHC, H, A, S, Z, GAME, U.

SPECIES MOLE FRACTIONS table with columns SPECIES and MOLE FRACTIONS. Rows include E, O, C+, O+, O-, O2+, O2-, C+, C++, C-, CO, CO+, CO2, C2.

$P_1 = 5.00E+02 \text{ N/SQ-M, } US1 = 2.80E+03 \text{ M/SEC}$

Table with columns P, MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK. Rows include P, T, RHC, H, A, S, Z, GAME, U.

SPECIES MOLE FRACTIONS table with columns SPECIES and MOLE FRACTIONS. Rows include E, O, O+, O-, O2+, O2-, C+, C++, C-, CO, CO+, CO2, C2.

$P_1 = 5.00E+02 \text{ N/SQ-M, } US1 = 3.20E+03 \text{ M/SEC}$

Table with columns P, MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK. Rows include P, T, RHO, H, A, S, Z, GAME, U.

SPECIES MOLE FRACTIONS table with columns SPECIES and MOLE FRACTIONS. Rows include E, O, C+, O+, O-, O2+, O2-, C+, C++, C-, CO, CO+, CO2, C2.

Table I. - Continued.

$$P_1 = 500 \text{ N/m}^2$$

$P_1 = 5.00E+02 \text{ N/50-M}$, $U_1 = 4.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.952E+02	6.3079E+03	7.9508E+03
T	1.1893E+01	2.1154E+01	2.5225E+01
RMC	2.5724E+01	1.4279E+02	1.5452E+02
H	-2.1025E-01	-1.2231E+00	-1.6037E+00
A	2.9784E+00	8.9740E+00	6.8971E+00
S	1.4757E+00	1.8570E+00	1.9214E+00
Z	1.5167E+00	1.6788E+00	2.0391E+00
GAME	9.7847E-01	1.0072E+00	9.2782E-01
U	1.4156E+01	2.7189E+00	2.3641E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.4907E-02	3.4472E-05	3.0201E-04
I	1.7403E-01	4.8527E-01	9.0647E-01
C+	5.5487E-11	8.8438E-06	4.4874E-05
O++	7.4611E-50	9.5333E-77	1.4869E-22
C-	5.6274E-10	2.2018E-06	1.1343E-05
O2	1.6604E-01	9.5366E-02	3.0328E-02
O2+	3.0233E-08	5.7543E-06	6.7814E-06
O2-	9.5316E-09	5.4241E-08	1.2003E-07
C	3.6462E-09	1.2765E-03	2.2248E-07
C+	2.9727E-15	2.3512E-06	1.2747E-04
C++	3.7803E-40	5.2644E-10	3.4813E-16
C-	5.8420E-19	3.7430E-09	3.4136E-07
CC	5.0574E-01	5.0154E-01	4.6667E-01
CC+	1.4844E-19	1.9775E-05	1.2728E-04
CC2	1.4704E-02	3.5102E-07	7.0146E-04
CC2	4.4354E-10	9.6102E-07	6.7314E-05

$P_1 = 5.00E+02 \text{ N/50-M}$, $U_1 = 4.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8697E+02	6.1901E+03	6.7421E+03
T	1.2276E+01	2.3948E+01	2.8679E+01
RMC	2.9492E+01	1.3774E+02	1.5633E+02
H	-3.1751E-01	-1.4443E+00	-1.8580E+00
A	4.1459E+00	8.7810E+00	7.1702E+00
S	1.7152E+00	2.0125E+00	1.9691E+00
Z	1.5832E+00	1.6125E+00	2.0561E+00
GAME	6.7344E-01	9.4847E-01	9.0650E-01
U	1.6888E+01	2.4471E+00	2.4660E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.6246E-08	1.6077E-04	6.0870E-04
O	2.1569E-01	9.9229E-01	5.7025E-01
C+	1.4480E-10	2.4369E-05	8.4997E-05
O++	4.3914E-49	5.8201E-74	2.2302E-21
C-	1.9102E-09	6.4216E-06	1.9844E-05
O2	1.5301E-01	3.8404E-01	4.9347E-02
O2+	3.8537E-04	6.2183E-06	1.3504E-07
O2-	8.3029E-10	6.9600E-09	1.5041E-07
C	1.0176E-04	1.0746E-02	4.7417E-02
C+	2.1634E-14	4.6528E-05	3.4032E+04
C++	1.6127E-39	3.3496E-17	3.6478E-15
C-	4.5715E-17	5.3879E-03	1.2475E-06
CC	5.1116E-01	4.9443E-01	4.2807E+01
CC+	5.3275E-19	8.9213E-05	1.9365E-04
CC2	1.0914E-01	5.3961E-04	4.6559E-04
CC2	1.8585E-14	2.1252E-05	1.9407E-04

$P_1 = 5.00E+02 \text{ N/50-M}$, $U_1 = 5.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1574E+02	7.2040E+03	9.5065E+03
T	1.2735E+01	2.7014E+01	2.7742E+01
RMC	1.9977E+01	1.2627E+02	1.5878E+02
H	-4.2001E-01	-1.6793E+00	-2.0956E+00
A	4.2244E+00	6.4427E+00	7.3474E+00
S	1.7592E+00	1.9421E+00	1.9973E+00
Z	1.6501E+00	2.0583E+00	2.1583E+00
GAME	8.8747E-01	9.1434E-01	9.0164E-01
U	1.7571E+01	2.5745E+00	2.5284E+00

SPECIES ----- MOLE FRACTIONS -----

F-	6.7477E-08	3.9920E-04	9.6960E-04
O	2.6174E-01	5.1153E-01	5.2417E-01
C+	5.6321E-10	6.5030E-05	1.2389E-04
O++	4.0479E-46	3.3250E-72	1.7838E-20
C-	3.5692E-09	1.2689E-06	2.7373E-05
O2	1.5237E-01	2.4811E-01	1.9232E-03
O2+	7.0249E-04	4.2047E-06	7.2923E-06
O2-	1.2177E-09	4.9056E-08	1.7158E-07
C	2.4725E-08	3.0647E-03	7.3648E-02
C+	1.1677E-12	1.8945E-04	6.2472E-04
C++	7.6726E-37	7.9035E-16	1.6474E-14
C-	2.0225E-16	5.1924E-07	1.9232E-03
CC	5.2705E-01	4.6538E-01	2.4201E-06
CC+	1.4230E-05	1.4719E-04	7.3755E-01
CC2	7.8345E-02	5.3427E-04	2.4507E-04
CC2	7.7292E-14	9.9255E-05	3.5709E-04

$P_1 = 5.00E+02 \text{ N/50-M}$, $U_1 = 5.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5353E+02	7.1887E+03	1.0252E+04
T	1.3224E+01	2.6785E+01	2.8664E+01
RMC	1.9945E+01	1.3756E+02	1.6069E+02
H	-3.4682E-01	-1.9162E+00	-2.3467E+00
A	4.3182E+00	7.1525E+00	7.5807E+00
S	1.7955E+00	1.9784E+00	2.0352E+00
Z	1.7154E+00	2.1138E+00	2.2257E+00
GAME	8.5725E-01	9.0393E-01	9.0077E-01
U	1.8277E+01	2.6591E+00	2.5902E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.2399E-07	6.9790E-04	1.3971E-03
O	3.0901E-01	5.2455E-01	5.4812E-01
C+	1.7521E-09	9.5849E-05	1.6354E-04
O++	3.6692E-44	2.9136E-71	6.1445E-20
C-	6.4566E-09	2.0058E-05	4.0274E-05
O2	1.0963E-01	1.9860E-03	1.7135E-03
O2+	1.6170E-09	6.4416E-06	7.7510E-04
O2-	8.1943E-08	1.1935E-07	2.1050E-07
C	6.7479E-13	5.4904E-02	1.6048E-01
C+	2.8822E-35	4.1515E-04	9.6069E-04
C-	9.1038E-14	5.0599E-15	5.3862E-14
CC	5.2777E-01	4.1630E-01	3.1781E-06
CC+	3.9290E-09	2.0205E-04	3.4599E-01
CC2	5.3888E-02	3.9634E-04	2.9079E-04
CC2	3.4024E-13	2.2440E-04	2.6961E-04
CC2			2.3597E-04

$P_1 = 5.00E+02 \text{ N/50-M}$, $U_1 = 5.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8924E+02	8.3564E+03	1.0934E+04
T	1.3804E+01	2.7731E+01	2.9366E+01
RMC	1.9808E+01	1.3853E+02	1.6144E+02
H	-6.4804E-01	-2.1445E+00	-2.5965E+00
A	4.7535E+00	7.3688E+00	7.8178E+00
S	1.8993E+00	2.0150E+00	2.0737E+00
Z	1.7893E+00	2.1752E+00	2.2768E+00
GAME	9.0717E-01	9.0016E-01	9.0183E-01
U	1.8973E+01	2.7177E+00	2.6495E+00

SPECIES ----- MOLE FRACTIONS -----

F-	2.3051E-07	1.0780E-03	1.8965E-03
O	3.5800E-01	5.3701E-01	5.6179E-01
C+	5.8046E-09	1.2898E-04	2.1002E-04
O++	4.2977E-42	1.4755E-70	2.2613E-19
C-	1.1356E-08	2.8428E-05	5.2498E-05
O2	8.3373E-02	1.7184E-03	1.5620E-03
O2+	2.8248E-07	6.7463E-06	8.2975E-06
O2-	1.9692E-09	1.4734E-07	2.5026E-07
C	2.5896E-07	8.0433E-02	1.2699E-01
C+	4.5761E-12	7.0632E-04	1.2619E-01
C++	2.6397E-33	1.9156E-14	1.6493E-13
C-	4.4396E-15	2.9592E-06	8.3674E-05
CC	5.2423E-01	3.7708E-01	3.0482E-01
CC+	1.1781E-08	2.4743E-04	3.2911E-04
CC2	3.4376E-02	3.0079E-04	2.1094E-04
CC2	1.7143E-12	3.7571E-04	7.1204E-04

$P_1 = 9.00E+02 \text{ N/50-M}$, $U_1 = 5.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2567E+02	8.8674E+03	1.1575E+04
T	1.4497E+01	2.8556E+01	3.0303E+01
RMC	1.9511E+01	1.3858E+02	1.6111E+02
H	-7.9374E-01	-2.5801E+00	-2.8582E+00
A	4.9046E+00	7.5875E+00	8.0997E+00
S	1.8752E+00	2.0323E+00	2.1129E+00
Z	1.8585E+00	2.2407E+00	2.3709E+00
GAME	9.2231E-01	8.9975E-01	9.0413E-01
U	1.9660E+01	2.7727E+00	2.7087E+00

SPECIES ----- MOLE FRACTIONS -----

F-	4.4911E-07	1.4767E-03	2.4819E-03
O	4.0587E-01	5.5120E-01	5.7502E-01
C+	2.1452E-08	1.6630E-04	2.6592E-04
O++	4.8211E-40	5.7060E-70	7.4166E-19
C-	1.9601E-08	3.7672E-05	6.5831E-05
O2	5.6276E-02	1.5802E-03	1.4331E-03
O2+	4.0914E-07	7.1074E-06	8.8988E-06
O2-	2.1666E-05	1.7544E-07	2.8857E-07
C	9.4716E-07	1.0611E-01	1.8277E-01
C+	3.7452E-11	1.0605E-03	1.9241E-03
C++	4.5242E-32	5.5931E-14	3.3928E-13
C-	2.4894E-14	9.0816E-06	1.2410E-05
CC	5.1736E-01	3.3734E-01	2.6451E-01
CC+	4.0245E-08	2.8374E-04	3.6153E-04
CC2	1.9890E-02	3.9634E-04	1.6413E-04
CC2	1.0506E-11	5.3426E-04	6.6922E-04

Table 1. - Continued.

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SQ-M, US1 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.1123E+02	1.3588E+04	1.4687E+04
T	2.3745E+01	3.4408E+01	3.7742E+01
RHC	-1.0507E+01	-1.7102E+02	1.374E+02
H	-1.7922E+00	-4.2229E+00	-4.5491E+00
A	6.6589E+00	9.3662E+00	1.0360E+01
S	2.1100E+00	2.5255E+00	2.4023E+00
Z	2.1276E+00	2.7613E+00	2.9316E+00
GAME	8.8816E-01	9.3205E-01	9.7003E-01
U	2.4286E-01	3.2278E-01	3.3411E-01

SPECIES	MOLE FRACTIONS		
E-	6.2654E-04	7.8987E-02	1.5317E-02
O	5.2902E-01	6.2930E-01	6.4100E-01
O+	6.1843E-05	8.8416E-04	2.0559E-03
O**	2.2509E-23	1.4710E-16	8.4363E-15
C-	3.3903E-06	1.3650E-04	2.2281E-04
C2	5.6891E-04	7.8436E-04	5.7706E-04
O2+	1.6184E-06	1.1406E-05	1.6372E-05
O2-	5.0960E-09	3.2460E-07	4.1895E-07
C	5.9512E-02	2.6082E-01	2.8911E-01
C+	4.5263E+04	6.7881E-03	1.3130E-02
C*	4.8055E-16	1.7167E-11	2.5062E-10
C-	2.5921E-07	6.0419E-05	7.3901E-05
CO	4.0944E-01	9.1737E-02	7.8733E-02
CO+	1.1405E-04	4.1032E-04	4.1048E-04
CO2	1.1101E-04	2.8241E-05	8.0302E-06
C2	9.0141E-05	9.8362E-04	7.4810E-04

P1 = 5.00E+02 N/SQ-M, US1 = 7.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.5892E+02	1.2195E+04	1.5806E+04
T	2.4299E+01	3.6375E+01	4.0156E+01
RHC	-1.6242E+01	-1.2142E+02	1.3097E+02
H	-1.9617E+00	-4.5326E+00	-5.3214E+00
A	6.8602E+00	9.7685E+00	1.0932E+01
S	2.1359E+00	2.6361E+00	2.4427E+00
Z	2.1737E+00	2.8393E+00	3.0054E+00
GAME	8.8585E-01	9.4574E-01	9.9020E-01
U	2.5003E+01	3.3533E+00	3.5419E+00

SPECIES	MOLE FRACTIONS		
E-	6.6264E-04	1.0329E-02	2.2728E-02
O	5.3883E-01	6.3645E-01	6.4058E-01
O+	7.5852E-05	1.2078E-03	3.5087E-03
O**	7.3645E-23	6.8407E-16	9.0166E-14
C-	4.4920E-06	1.6249E-04	2.7539E-04
C2	5.1159E-04	6.8570E-04	4.4209E-04
O2+	1.6473E-06	1.2876E-05	1.9426E-05
O2-	6.1012E-09	3.4891E-07	4.1440E-07
C	7.8861E-02	2.7612E-01	2.9245E-01
C+	6.5959E-04	8.9123E-03	1.9183E-02
C**	1.2563E-19	4.8849E-11	1.2039E-09
C*	4.4275E-07	5.1420E-05	9.1332E-05
C-	3.7966E-01	6.4748E-01	1.7398E-01
CO+	1.3013E-04	4.1055E-04	3.8354E-04
CO2	9.0824E-05	1.7122E-05	3.2059E-06
C2	1.3214E-04	3.9681E-04	5.4227E-04

P1 = 5.00E+02 N/SQ-M, US1 = 7.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.0802E+02	1.3030E+04	1.7001E+04
T	2.4801E+01	3.6959E+01	4.2493E+01
RHC	-1.6476E+01	-1.2101E+02	1.2876E+02
H	-2.1249E+00	-4.8475E+00	-5.7113E+00
A	6.9842E+00	1.0187E+01	1.1474E+01
S	2.1693E+00	2.4001E+00	2.4819E+00
Z	2.2221E+00	2.9134E+00	3.0712E+00
GAME	8.8511E-01	9.6372E-01	9.9701E-01
U	2.5719E+01	3.5063E+00	3.7712E+00

SPECIES	MOLE FRACTIONS		
E-	1.1282E-03	1.3970E-02	3.4012E-02
O	5.4866E-01	6.4112E-01	6.3404E-01
O+	9.1175E-05	1.7869E-03	6.1591E-03
O**	2.0934E-22	4.0267E-15	1.0705E-12
C-	5.7192E-06	1.9886E-04	3.3289E-04
C2	4.7177E-04	5.7572E-04	3.2769E-04
O2+	1.6981E-06	1.4713E-05	2.3141E-05
O2-	7.1754E-09	3.6362E-07	3.9207E-07
C	9.8305E-02	2.8729E-01	2.8673E-01
C+	8.9794E-04	1.2029E-02	7.7927E-02
C**	2.8573E-15	1.5845E-10	6.1072E-09
C*	6.9406E-07	6.4682E-05	1.1216E-04
C-	3.5005E-01	4.1781E-02	9.4338E-03
CO+	1.4419E-04	4.0110E-04	3.4828E-04
CO2	7.5647E-05	9.1520E-06	1.1666E-06
C2	1.7647E-04	7.5850E-04	3.6128E-04

P1 = 5.00E+02 N/SQ-M, US1 = 7.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.5850E+02	1.3882E+04	1.8232E+04
T	2.5272E+01	3.8897E+01	4.5886E+01
RHC	-1.6689E+01	-1.1976E+02	1.2696E+02
H	-2.2020E+00	-5.1702E+00	-6.1131E+00
A	7.3307E+00	1.0207E+01	1.1938E+01
S	2.1594E+00	2.4558E+00	2.5193E+00
Z	2.2725E+00	2.9801E+00	3.1330E+00
GAME	8.8522E-01	9.8277E-01	9.9142E-01
U	2.6436E+01	3.6902E+00	4.0008E+00

SPECIES	MOLE FRACTIONS		
E-	1.4260E-03	1.9524E-02	4.8431E-02
O	5.5828E-01	6.4214E-01	6.2188E-01
O+	1.0823E-04	2.7889E-03	1.0221E-02
O**	5.4571E-22	2.9700E-14	9.8359E-12
C-	7.0867E-06	2.3718E-04	3.8968E-04
C2	4.4101E-04	4.8248E-04	2.4626E-04
O2+	1.7674E-06	1.7901E-05	2.7060E-05
O2-	8.3189E-09	2.6473E-07	2.8281E-07
C	1.1780E-01	7.9253E-01	2.7472E-01
C+	1.1673E-03	1.6644E-02	2.8384E-02
C**	9.9485E-15	5.9720E-10	2.5891E-09
C*	1.0128E-06	7.9818E-05	1.2717E-04
C-	3.2042E-01	2.8497E-02	9.0271E-03
CO	1.8670E-04	3.8120E-04	3.1285E-04
CO+	6.3512E-05	4.2798E-06	4.5482E-07
CO2	2.2157E-06	5.8733E-06	2.3810E-04

P1 = 5.00E+02 N/SQ-M, US1 = 7.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0310E+03	1.4743E+04	1.9540E+04
T	2.5727E+01	4.1241E+01	4.8625E+01
RHC	-1.8554E+01	-1.1756E+02	1.2586E+02
H	-2.4757E+00	-5.3008E+00	-6.5237E+00
A	7.2800E+00	1.1172E+01	1.2360E+01
S	2.2297E+00	2.4713E+00	2.5594E+00
Z	2.3246E+00	3.0409E+00	3.1756E+00
GAME	8.8610E-01	9.9527E-01	9.8268E-01
U	2.7157E+01	3.9068E+00	4.2140E+00

SPECIES	MOLE FRACTIONS		
E-	1.7804E-03	2.8034E-02	6.4859E-02
O	5.6756E-01	6.3841E-01	6.0617E-01
O+	1.2787E-04	4.6078E-03	1.5687E-02
O**	1.3401E-21	2.6688E-13	6.4367E-11
C-	8.6078E-06	2.8218E-04	4.2910E-04
C2	4.1556E-04	3.5578E-04	1.9204E-04
O2+	1.8420E-06	1.9809E-05	3.0883E-05
O2-	5.5300E-09	3.4036E-07	3.0883E-07
C	1.3661E-01	2.9068E-01	3.3220E-01
C+	1.4737E-03	2.3434E-02	4.9427E-02
C**	1.1669E-14	2.5394E-09	8.7135E-08
C*	1.4155E-06	9.5796E-05	1.3700E-04
C-	2.9154E-01	1.3306E-02	2.8569E-03
CO	1.6789E-04	3.5194E-04	2.8085E-04
CO+	5.3437E-05	1.7841E-06	1.9929E-07
CO2	2.6425E-06	4.1986E-06	1.6046E-04

P1 = 5.00E+02 N/SQ-M, US1 = 8.10E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0635E+03	1.5619E+04	2.0855E+04
T	2.6174E+01	4.3723E+01	5.1184E+01
RHC	-1.7885E+01	-1.1539E+02	1.2503E+02
H	-2.6578E+00	-5.8888E+00	-6.9393E+00
A	7.4288E+00	1.1687E+01	1.2752E+01
S	2.2604E+00	2.5056E+00	2.5802E+00
Z	2.3783E+00	3.0958E+00	3.2588E+00
GAME	8.8734E-01	9.9533E-01	9.7504E-01
U	2.7869E+01	4.1316E+00	4.4087E+00

SPECIES	MOLE FRACTIONS		
E-	3.1375E-03	3.9260E-02	8.1891E-02
O	5.7732E-01	6.3011E-01	5.9860E-01
O+	1.5051E-04	7.4143E-03	2.2244E-02
O**	3.1677E-21	2.1387E-12	3.0064E-10
C-	1.0100E-05	3.2804E-04	4.6198E-04
C2	3.9400E-04	2.7357E-04	1.5470E-04
O2+	1.9284E-06	2.2867E-05	3.4246E-05
O2-	1.0804E-09	3.2789E-07	3.0440E-07
C	1.5525E-01	2.8265E-01	2.4436E-01
C+	1.8194E-03	3.1941E-02	5.9963E-02
C**	2.1946E-14	9.9217E-09	2.3397E-07
C*	1.9016E-06	1.0972E-04	1.4217E-04
C-	2.8241E-01	7.2720E-03	1.7768E-03
CO	1.7736E-04	3.2051E-04	2.5334E-04
CO+	4.4845E-05	7.1558E-07	9.9165E-08
CO2	3.0447E-06	2.9024E-04	1.1243E-04

Table I. - Continued.

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/50-M, US1 = 1.15E+04 M/SEC				P1 = 5.00E+02 N/50-M, US1 = 1.30F+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1745E+03	2.7848E+04	3.8626E+04	P	2.776E+03	3.3848E+04	4.7367E+04
T	4.3478E+01	7.3568E+01	8.2051E+01	T	5.1540E+01	8.4861E+01	9.7620E+01
RHD	1.5182E+01	8.9917E+01	1.0276E+02	RHD	1.4570E+01	-1.6794E+01	9.3682E+01
M	-6.551E+00	-1.2979E+01	-1.5462E+01	M	8.6463E+00	8.2284E+01	-2.0145E+01
A	1.1745E+01	1.7252E+01	1.7088E+01	A	1.2439E+01	1.9981E+01	2.2811E+01
S	2.7804E+00	5.0220E+00	3.1450E+00	S	2.5788E+00	3.2432E+00	3.3717E+00
Z	2.3019E+00	4.2213E+00	4.5572E+00	Z	3.6976E+00	4.7834E+00	5.1794E+00
GAME	9.6092E-01	9.6106E-01	9.7441E-01	GAME	9.4775E-01	9.8353E-01	1.0112E+00
U	3.9750E+01	6.7216E+00	6.8893E+00	U	4.4801E+01	7.8392E+00	8.2433E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	5.2524E-02	2.8956E-01	3.4189E-01	E-	1.8957E-01	3.7297E-01	4.2088E-01
O	5.8536E-01	3.1749E-01	2.3547E-01	O	4.7642E-01	1.8934E-01	1.1421E-01
C+	1.9271E-02	1.5580E-01	2.0301E-01	C+	6.4156E-02	2.2849E-01	2.7145E-01
O++	1.4000E-11	2.8802E-06	2.0521E-05	O++	3.4478E-09	4.4538E-05	3.6156E-06
C-	1.0245E-04	3.0489E-04	2.6047E-04	C-	1.1187E-04	1.6296E-04	8.8258E-05
O2	3.3869E-05	1.4769E-05	7.3539E-06	O2	1.3098E-05	3.6756E-06	1.0550E-06
O2+	7.9819E-06	3.1395E-05	2.6136E-05	O2+	1.0255E-05	1.8110E-05	1.0133E-05
O2-	1.3604E-08	4.1796E-08	2.3557E-08	O2-	7.7369E-09	1.0145E-08	2.9308E-09
C	7.3278E-02	1.3388E-01	8.0452E-02	C	1.4525E-01	6.4834E-02	4.6139E-02
C+	6.0399E-04	7.9295E-05	1.3851E-01	C+	1.2488E-01	1.4360E-01	1.4486E-01
E-	2.9819E+05	6.1086E-05	4.5636E-05	E+	1.8349E-06	4.7565E-06	1.9680E-03
CO	8.0752E-04	3.9025E-05	1.5404E-05	CO	2.5259E-05	2.9721E-05	1.6183E-05
CO+	9.9403E-05	5.4186E-05	3.2829E-05	CO+	7.1191E-06	7.0408E-05	1.7803E-06
CO2	1.0912E-08	3.5822E-10	5.9992E-11	CO2	6.2261E-10	1.6643E-11	8.6643E-06
C2	2.7405E-05	2.9859E-06	1.1773E-06	C2	5.0783E-06	5.3006E-07	1.3444E-07
P1 = 5.00E+02 N/50-M, US1 = 1.20F+04 M/SEC				P1 = 5.00E+02 N/50-M, US1 = 1.35E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3698E+03	2.7559E+04	4.1061E+04	P	2.4928E+03	3.6126E+04	5.0924E+04
T	4.6423E+01	7.6934E+01	8.0628E+01	T	5.3806E+01	8.9293E+01	1.0429E+02
RHD	1.4891E+01	6.7431E+01	9.9496E+01	RHD	1.2255E-08	8.1385E+01	9.0859E+01
M	-7.2210E+00	-1.4197E+01	-1.6935E+01	M	-5.4015E+00	-1.8272E+01	-2.1889E+01
A	1.2322E+01	1.8108E+01	2.0165E+01	A	1.3952E+01	2.1014E+01	3.4448E+00
S	2.8530E+00	3.1035E+00	3.2216E+00	S	3.0408E+00	3.3112E+00	5.3740E+00
Z	3.4281E+00	4.4064E+00	4.7654E+00	Z	3.8387E+00	4.9471E+00	1.0206E+00
GAME	9.5405E-01	9.6881E-01	9.8499E-01	GAME	9.4673E-01	9.9479E-01	8.7995E+00
U	4.1421E+01	7.0849E+00	7.2906E+00	U	4.6502E+01	8.2739E+00	
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.2551E-01	3.1937E-01	3.7061E-01	E-	2.1874E-01	3.9643E-01	4.4186E-01
O	5.5104E-01	2.7234E-01	1.9107E-01	O	4.3762E-01	1.3256E-01	8.4132E-02
C+	3.1740E-02	1.8115E-01	2.2830E-01	C+	8.3110E-02	2.4849E-01	2.8701E-01
O++	1.3120E-10	7.5032E-06	5.3375E-05	O++	1.2255E-08	1.0522E-04	9.4452E-04
C-	1.0986E-04	2.5608E-04	1.8279E-04	C-	1.0840E-04	1.2183E-04	5.5542E-05
O2	2.3841E-05	9.6703E-06	4.1872E-06	O2	9.8917E-06	2.0806E-06	4.6008E-07
O2+	9.0220E-06	2.7189E-05	2.0333E-05	O2+	1.0426E-05	1.3782E-05	6.4214E-06
O2-	1.1327E-08	2.7476E-08	1.3033E-08	O2-	6.2935E-09	5.5303E-09	1.1685E-09
C	1.5725E-01	8.8423E-02	6.7825E-02	C	1.2457E-01	5.4842E-02	3.6905E-02
C+	9.3818E-02	1.8181E-01	1.4134E-01	C+	1.3568E-01	1.4534E-01	1.4514E-01
C++	2.4590E-07	1.4669E-04	5.1004E-04	C++	3.9673E-06	8.5663E-04	3.9358E-03
C-	2.9350E-05	4.9186E-05	3.3758E-05	C-	2.2815E-05	2.2008E-05	1.0299E-05
CO	3.7100E-04	2.2589E-05	9.0137E-06	CO	6.1017E-05	3.7680E-06	7.4529E-07
CO+	8.1046E-05	4.0115E-05	2.2211E-05	CO+	4.445E-05	1.3810E-05	4.8209E-06
CO2	3.6342E-09	1.0757E-10	2.0731E-11	CO2	2.8979E-10	9.9006E-12	4.2806E-12
C2	1.4852E-05	1.7079E-06	6.0667E-07	C2	3.1123E-06	2.7999E-07	5.6450E-08
P1 = 5.00E+02 N/50-M, US1 = 1.25E+04 M/SEC				P1 = 5.00E+02 N/50-M, US1 = 1.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5686E+03	3.1883E+04	4.4069E+04	P	3.2172E+03	3.8437E+04	5.4673E+04
T	4.9074E+01	8.0790E+01	9.1744E+01	T	5.6104E+01	9.4237E+01	1.1138E+02
RHD	1.4703E+01	8.5359E+01	9.6546E+01	RHD	1.4345E+01	7.9146E+01	8.2535E+01
M	-7.9153E+00	-1.5669E+01	-1.8495E+01	M	-1.0218E+01	-1.4593E+01	-2.3703E+01
A	1.2883E+01	1.9015E+01	2.1341E+01	A	1.4546E+01	2.2121E+01	2.5134E+01
S	2.1627E+00	3.1738E+00	3.2971E+00	S	2.1023E+00	3.3789E+00	3.8158E+00
Z	3.5601E+00	4.5982E+00	4.9743E+00	Z	3.9835E+00	5.1562E+00	5.5524E+00
GAME	9.5002E-01	9.7408E-01	9.9778E-01	GAME	9.4677E-01	1.0071E+00	1.0197E+00
U	4.3106E+01	7.4358E+00	7.7398E+00	U	4.8204E+01	8.7698E+00	9.3765E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.5776E-01	3.4718E-01	3.9702E-01	E-	2.4709E-01	4.1828E-01	4.5978E-01
O	5.1493E-01	2.2946E-01	1.5052E-01	O	3.9859E-01	1.1938E-01	6.1300E-02
C+	4.6822E-02	2.0546E-01	2.5143E-01	C+	1.0327E-01	2.6818E-01	2.9631E-01
O++	7.7856E-10	1.8569E-05	1.3821E-04	O++	3.7350E-08	2.4982E-04	3.3706E-03
C-	1.1264E-04	2.0830E-04	1.3135E-04	C-	1.0222E-04	8.6078E-05	3.3741E-05
O2	1.7502E-05	8.1098E-06	2.2050E-06	O2	7.4702E-06	1.0868E-06	1.9201E-07
O2+	6.7869E-06	2.2679E-05	1.4881E-05	O2+	1.0313E-05	9.8447E-06	3.8900E-06
O2-	9.4050E-09	1.7231E-09	6.5548E-09	O2-	5.0420E-09	2.7273E-09	4.4001E-10
C	1.6946E-01	7.5545E-02	5.6461E-02	C	1.0694E-01	4.5079E-02	2.9047E-02
C+	1.1100E-01	1.4127E-01	1.4344E-01	C+	1.4326E-01	1.4659E-01	1.4333E-01
C++	3.7927E-07	2.6519E-04	9.9791E-04	C++	7.7671E-06	1.5717E-06	1.6336E-03
C-	2.7621E-05	3.8775E-05	2.4024E-05	C-	2.0061E-05	1.5557E-05	6.3274E-06
CO	1.9228E-04	1.2877E-05	3.9290E-06	CO	3.8307E-05	1.8633E-06	3.0045E-07
CO+	6.6434E-05	2.9046E-05	1.4310E-05	CO+	3.6113E-05	8.8775E-06	2.6844E-06
CO2	1.8319E-09	4.3489E-11	6.4777E-12	CO2	1.4051E-10	1.8652E-12	9.7969E-14
C2	8.5256E-06	9.6441E-07	2.9625E-07	C2	1.9451E-06	1.3906E-07	2.2707E-08

Table i. - Continued.

$P_1 = 500 \text{ N/m}^2$

$P_1 = 5.00E+02 \text{ N/SQ-M}, \quad US1 = 1.45E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4498E+03	4.0836E+04	5.8561E+04
T	1.8288E+01	9.5019E+01	1.1895E+02
RHO	1.4326E+01	7.6944E+01	8.6140E+01
H	-1.0995E+01	-2.1067E+01	-2.5988E+01
A	1.5107E+01	2.3238E+01	2.6188E+01
S	3.1635E+00	3.4432E+00	3.5843E+00
Z	4.1313E+00	9.3270E+00	5.7152E+00
GAME	9.4733E-02	1.0174E+00	1.0088E+00
U	4.9908E+01	9.2035E+00	9.9472E+00

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	2.7402E-01	4.3701E-01	4.7514E-01
O	3.4992E-01	9.1858E-02	4.5522E-02
O+	1.2411E-01	2.8308E-01	2.9919E-01
O++	1.0130E-07	5.8020E-04	5.2037E-03
D-	9.5642E-05	5.8272E-05	2.0866E-05
C2	5.6063E-06	5.3668E-07	8.3333E-08
O2+	9.9398E-06	6.7157E-06	2.3664E-06
O2-	3.9590E-09	1.2511E-09	1.7289E-10
C	5.1900E-02	3.7644E-02	2.2815E-02
C+	1.4996E-01	1.4708E-01	1.3857E-01
C++	1.4186E-05	2.8754E-07	1.3505E-02
C-	1.7540E-05	1.0623E-05	3.9194E-06
CO	2.9798E-05	8.8536E-07	1.2592E-07
CC+	2.9174E-05	5.4979E-06	1.4740E-06
CO2	6.9752E-11	5.5150E-13	2.4151E-14
C2	1.2316E-06	6.6352E-08	9.3629E-09

$P_1 = 5.00E+02 \text{ N/SQ-M}, \quad US1 = 1.55E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9389E+03	4.5674E+04	6.6455E+04
T	6.2620E+01	1.1179E+02	1.3219E+02
RHO	1.4182E+01	7.2505E+01	8.3562E+01
H	-1.2710E+01	-2.4154E+01	-2.9475E+01
A	1.6223E+01	2.5314E+01	2.7996E+01
S	3.2854E+00	3.5579E+00	3.7136E+00
Z	4.4252E+00	5.6353E+00	6.0158E+00
GAME	9.5231E-01	1.0172E+00	9.8557E-01
U	5.3310E+01	1.0445E+01	1.0896E+01

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	3.2373E-01	4.6772E-01	5.0139E-01
O	2.6449E-01	5.2051E-02	2.8191E-02
O+	1.6622E-01	2.9945E-01	2.8795E-01
O++	5.8550E-07	2.8740E-03	1.6301E-02
D-	7.8057E-05	2.4147E-05	9.5611E-06
C2	3.0324E-06	1.1463E-07	2.1349E-08
O2+	8.5650E-06	2.7689E-06	1.0033E-06
O2-	2.2527E-09	2.2192E-10	9.8171E-11
C	6.7899E-02	2.4514E-02	1.4647E-02
C+	1.5739E-01	1.4366E-01	1.2211E-01
C++	4.1240E-05	9.1966E-07	2.9307E-02
C-	1.2951E-05	6.4931E-06	1.7384E-06
CO	9.4339E-06	1.7786E-07	2.9683E-08
CC+	1.8506E-05	1.8899E-06	5.1762E-07
CO2	1.7523E-11	4.0752E-14	2.4681E-15
C2	5.0122E-07	1.3323E-08	2.0619E-09

$P_1 = 5.00E+02 \text{ N/SQ-M}, \quad US1 = 1.50E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6902E+03	4.3240E+04	6.2499E+04
T	6.0447E+01	1.0556E+02	1.2583E+02
RHO	1.4258E+01	7.4630E+01	8.4669E+01
H	-1.1840E+01	-2.2586E+01	-2.7511E+01
A	1.5677E+01	2.4333E+01	2.7112E+01
S	3.2245E+00	3.5085E+00	3.6495E+00
Z	4.2818E+00	5.4887E+00	5.8663E+00
GAME	9.4958E-01	1.0219E+00	9.9481E-01
U	5.1609E+01	9.8713E+00	1.0452E+01

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	2.9952E-01	4.5351E-01	4.8868E-01
O	3.2173E-01	6.8996E-02	3.5237E-02
O+	1.4521E-01	2.9401E-01	2.9585E-01
O++	2.5133E-07	1.3322E-03	9.8227E-03
D-	8.7283E-05	3.7688E-05	1.3742E-05
C2	4.1604E-06	2.4871E-07	4.0305E-08
O2+	6.3447E-06	4.3510E-06	1.5110E-06
O2-	3.0504E-09	5.2976E-10	7.6990E-11
C	7.9031E-02	3.0691E-02	1.8187E-02
C+	1.5433E-01	1.4635E-01	1.3120E-01
C++	2.4606E-05	5.2602E-03	2.0946E-02
C-	1.5167E-05	6.9540E-06	2.5525E-06
CC	1.4971E-05	3.9744E-07	5.8919E-08
CO	2.3370E-05	3.2477E-06	8.5156E-07
CC+	2.4978E-11	1.5003E-13	7.1514E-15
CO2	7.8592E-07	2.9890E-08	4.2271E-09

$P_1 = 5.00E+02 \text{ N/SQ-M}, \quad US1 = 1.60E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1951E+03	4.8149E+04	7.0396E+04
T	6.4803E+01	1.1801E+02	1.3799E+02
RHO	1.4097E+01	7.0873E+01	8.2705E+01
H	-1.3667E+01	-2.9772E+01	-3.1479E+01
A	1.6887E+01	2.6180E+01	2.8855E+01
S	3.3461E+00	3.4283E+00	3.7758E+00
Z	4.5592E+00	5.7731E+00	6.1637E+00
GAME	9.5595E-01	1.0060E+00	9.7898E-01
U	5.5004E+01	1.0988E+01	1.1291E+01

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	3.4656E-01	4.8043E-01	5.1335E-01
O	2.4854E-01	3.9971E-02	2.3206E-02
O+	1.8706E-01	3.0079E-01	2.7699E-01
O++	1.2957E-06	3.6504E-03	2.4273E-02
D-	6.8931E-05	1.9785E-05	6.9973E-06
C2	2.1617E-06	5.4923E-08	1.2247E-08
O2+	7.8451E-06	1.7781E-06	6.9532E-07
O2-	1.6550E-09	9.7096E-11	2.0872E-11
C	5.8243E-02	1.9696E-02	1.2028E-02
C+	1.5942E-01	1.3853E-01	1.1245E-01
C++	6.7319E-05	1.4907E-02	3.7686E-02
C-	1.0911E-05	2.9327E-06	1.2389E-06
CO	5.9177E-06	8.7470E-08	1.6329E-08
CC+	1.4416E-05	1.1101E-06	3.2864E-07
CO2	8.5549E-12	1.1855E-14	9.7633E-16
C2	3.1808E-07	6.0813E-09	1.0882E-09

Table I. - Continued.

$$P_1 = 1 \text{ kN/m}^2$$

$P_1 = 1.00E+03 \text{ N/SD-M}$, $U_{S1} = 1.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5750E+01	6.753E+01	1.1241E+02
T	2.5812E+00	3.4570E+00	4.0727E+00
RHD	6.1029E+00	1.9522E+01	2.7600E+01
H	9.4419E-01	9.0778E-01	8.6129E-01
A	1.5478E+00	1.7797E+00	1.9245E+00
S	1.0747E+00	1.0878E+00	1.1070E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.2819E-01	9.1622E-01	9.1125E-01
U	3.0552E+00	9.6695E-01	6.7896E-01

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	1.5208E-51	4.5372E-42	1.5558E-33
O	2.3021E-14	1.4725E-11	8.3539E-10
O+	1.4210E-37	9.4627E-34	4.6332E-31
O++	0.	0.	0.
O-	6.6138E-58	2.0109E-47	4.1151E-38
O2	4.3992E-04	4.3992E-04	4.40E4E-04
O2+	1.7947E+18	1.7597E-18	1.7597E-18
O2-	3.0358E-91	4.9639E-42	3.7006E-24
C	1.4678E-83	6.5442E-44	6.5787E-38
C+	4.1170E-63	9.3500E-59	2.5079E-47
C++	0.	0.	0.
C-	1.0728E-07	9.7169E-81	6.312E-45
CR	1.6198E-11	1.5555E-08	1.4548E-08
CO+	2.3571E-36	3.1642E-32	1.1270E-26
CO2	9.9598E-01	9.9598E-01	9.956E-01
C2	4.5772E-77	3.9775E-64	3.1154E-52

$P_1 = 1.00E+03 \text{ N/SD-M}$, $U_{S1} = 1.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1025E+01	2.8720E+02	4.1437E+03
T	4.6611E+00	6.8460E+00	7.5748E+00
RHD	8.8018E+00	4.1673E+01	5.3737E+01
H	8.3508E-01	7.4483E-01	6.9459E-01
A	2.0566E+00	2.4635E+00	2.5901E+00
S	1.1707E+00	1.2041E+00	1.2289E+00
Z	1.0000E+00	1.0070E+00	1.0178E+00
GAME	9.0740E-01	8.8031E-01	8.6996E-01
U	4.2491E+00	1.1100E+00	1.0258E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	1.5844E-24	9.1749E-16	3.3488E-14
O	2.0669E-08	5.0804E-05	2.7674E-04
O+	6.1290E-29	4.4892E-22	8.2096E-20
O++	0.	3.4281E-21	2.7518E-20
O-	1.3476E-28	2.9035E-18	2.8077E-16
O2	4.7171E-04	7.3694E-03	1.7669E-02
O2+	1.7596E-18	1.8001E-15	3.8435E-14
O2-	2.3819E-26	7.8025E-17	4.4706E-19
C	6.4449E-28	3.7403E-19	5.0453E-17
C+	3.8416E+00	2.9646E+00	2.5649E-17
C++	8.0553E-96	3.3629E-74	1.6696E-69
C-	9.5595E-49	6.2694E-33	8.7689E-30
CO	6.3632E-05	1.3916E-02	3.4742E-02
CO+	1.0621E-26	9.3284E-20	5.9248E-18
CO2	9.9946E-01	9.7866E-01	9.4732E-01
C2	1.0098E-60	2.1564E-28	1.6196E-25

$P_1 = 1.00E+03 \text{ N/SD-M}$, $U_{S1} = 1.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2846E+01	1.2170E+02	1.9023E+02
T	3.1957E+00	4.2031E+00	5.2556E+00
RHD	7.1505E+00	2.7028E+01	3.6186E+01
H	9.1903E-01	8.6219E-01	8.2789E-01
A	1.7137E+00	2.0228E+00	2.1791E+00
S	1.1067E+00	1.1270E+00	1.1479E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.9598E-01	9.0883E-01	9.0329E-01
U	3.8201E+00	1.0100E+00	9.3842E-01

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	1.2350E-41	4.9500E-26	3.2986E-22
O	2.1321E-14	5.4969E-09	2.1995E-07
O+	4.8856E-32	1.7967E-29	2.6999E-27
O++	0.	0.	0.
O-	3.9159E-47	5.2592E-30	9.4044E-24
O2	4.3991E-04	4.4584E-04	6.8229E-04
O2+	1.7597E-18	1.7597E-18	1.7596E-18
O2-	4.0007E-42	2.2251E-27	1.5449E-23
C	1.6481E-83	4.2693E-44	6.8929E-26
C+	2.1577E-54	4.1192E-41	2.4457E-38
C++	0.	0.	9.1982E-62
C-	7.8411E-80	4.5802E-51	1.2944E-44
CO	3.7219E-09	1.1882E-05	4.2506E-04
CO+	3.2355E-32	1.2227E-24	1.1578E-24
CO2	9.9954E-01	9.9954E-01	9.9892E-01
C2	1.7885E-63	4.8417E-42	1.5771E-37

$P_1 = 1.00E+03 \text{ N/SD-M}$, $U_{S1} = 1.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2116E+01	4.0381E+02	5.6135E+02
T	9.4931E+00	7.8301E+00	8.4555E+00
RHD	9.4798E+00	5.0332E+01	6.3593E+01
H	8.1625E-01	6.7289E-01	6.1559E-01
A	2.2226E+00	2.5365E+00	2.7389E+00
S	1.2015E+00	1.2421E+00	1.2685E+00
Z	1.0007E+00	1.0266E+00	1.0440E+00
GAME	9.9863E-01	8.6642E-01	8.6226E-01
U	9.9508E+00	1.1242E+00	1.0413E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	9.3432E-20	1.1657E-13	1.2419E-12
O	1.2632E-06	9.0706E-04	1.4836E-03
O+	1.4001E-26	9.8136E-19	1.9244E-17
O++	0.	2.9755E-78	2.7872E-73
O-	1.3122E-23	1.3129E-15	2.7108E-14
O2	1.1866E-03	2.3994E-02	4.1083E-02
O2+	1.9127E-18	1.1917E-13	1.8935E-12
O2-	9.2245E-22	1.6115E-14	2.3516E-13
C	2.9740E-24	2.8880E-16	7.6027E-15
C+	5.0658E-37	5.7618E-26	6.9700E-24
C++	1.2020E-41	7.4190E-64	1.4884E-59
C-	1.2436E-41	2.8893E-28	9.2159E-26
CO	1.6980E-03	4.7556E-02	8.2773E-02
CO+	6.2453E-20	3.1825E-17	7.2103E-16
CO2	9.9732E-01	9.2798E-01	8.7475E-01
C2	1.2903E-35	2.2635E-25	2.1743E-22

$P_1 = 1.00E+03 \text{ N/SD-M}$, $U_{S1} = 1.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1278E+01	1.9642E+02	2.9130E+02
T	3.8892E+00	5.6764E+00	6.4900E+00
RHD	9.0418E+00	3.4227E+01	4.4659E+01
H	8.8932E-01	8.0785E-01	7.6528E-01
A	1.8839E+00	2.2594E+00	2.4051E+00
S	1.1389E+00	1.1658E+00	1.1879E+00
Z	1.0000E+00	1.0007E+00	1.0039E+00
GAME	9.1274E-01	8.9843E-01	8.8492E-01
U	4.5382E+00	1.0648E+00	9.9449E-01

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	1.6128E-24	1.7392E-19	9.7184E-17
O	9.0665E-10	1.0520E-05	1.7142E-05
O+	2.1321E-31	4.4851E-27	1.2407E-23
O++	0.	0.	1.9405E-92
O-	1.6098E-39	1.9246E-22	1.4960E-19
O2	4.3930E-06	1.1789E-09	4.2609E-03
O2+	1.7597E-18	1.7515E-18	1.0637E-16
O2-	1.1775E-35	9.1727E-21	7.3033E-18
C	8.8079E-37	1.1286E-23	1.6740E-20
C+	3.0471E-40	5.5213E-36	1.7769E-32
C++	0.	3.9242E-85	1.2962E-75
C-	7.9875E-87	5.1637E-39	6.4767E-35
CO	7.6202E-07	1.4779E-03	7.6625E-03
CO+	1.8764E-29	3.3679E-24	2.5472E-21
CO2	9.9956E-01	9.9734E-01	9.8806E-01
C2	1.0843E-53	7.0230E-34	7.7010E-33

$P_1 = 1.00E+03 \text{ N/SD-M}$, $U_{S1} = 2.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4609E+01	5.4998E+02	7.4150E+02
T	6.3132E+00	6.8501E+00	9.2183E+00
RHD	1.0188E+01	6.0307E+01	7.4436E+01
H	7.7282E-01	9.9160E-01	9.2723E-01
A	2.3679E+00	2.8018E+00	2.9279E+00
S	1.2317E+00	1.2813E+00	1.3074E+00
Z	1.0094E+00	1.0940E+00	1.0806E+00
GAME	8.0366E-01	8.6100E-01	8.6096E-01
U	6.4736E+00	1.1303E+00	1.0570E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	4.7398E-17	2.7097E-12	1.5158E-11
O	2.4379E-05	2.1863E-03	4.6181E-03
O+	1.7468E-23	6.1906E-17	8.9886E-16
O++	1.3577E-99	2.1990E-71	2.0060E-66
O-	4.3928E-21	6.9173E-14	6.3667E-13
O2	4.9716E-03	6.9643E-02	7.9396E-02
O2+	5.0061E-17	3.2005E-12	1.9375E-11
O2-	6.5988E-19	9.1370E-13	3.6001E-12
C	6.6074E-21	2.1710E-14	2.4508E-13
C+	1.4907E-31	3.3642E-23	1.3745E-21
C++	3.7090E-78	9.3112E-58	9.1006E-54
C-	1.1597E-30	2.6864E-25	1.4994E-23
CO	9.0914E-03	1.0026E-01	1.4448E-01
CO+	9.3921E-22	1.4747E-19	2.0503E-14
CO2	9.8591E-01	8.4813E-01	7.8057E-01
C2	6.3526E-30	8.9397E-22	2.9022E-20

Table I. - Continued.

P1 = 1 KN/m^2

Table with 3 columns: MOVING SMOCK, STANDING SMOCK, REFLECTED SMOCK. Rows include P, T, RHO, H, A, S, Z, GAME, U. Two sets of data are shown side-by-side for different input conditions.

Table with 3 columns: SPECIES, MOLE FRACTIONS. Rows include E-, O, O+, O-, O2, O2+, O-, C, C+, C-, CO, CO2, C2. Data points are listed in scientific notation.

Table with 3 columns: SPECIES, MOLE FRACTIONS. Rows include E-, O, O+, O-, O2, O2+, O-, C, C+, C-, CO, CO2, C2. Data points are listed in scientific notation.

Table with 3 columns: MOVING SMOCK, STANDING SMOCK, REFLECTED SMOCK. Rows include P, T, RHO, H, A, S, Z, GAME, U.

Table with 3 columns: MOVING SMOCK, STANDING SMOCK, REFLECTED SMOCK. Rows include P, T, RHO, H, A, S, Z, GAME, U.

Table with 3 columns: SPECIES, MOLE FRACTIONS. Rows include E-, O, O+, O-, O2, O2+, O-, C, C+, C-, CO, CO2, C2.

Table with 3 columns: SPECIES, MOLE FRACTIONS. Rows include E-, O, O+, O-, O2, O2+, O-, C, C+, C-, CO, CO2, C2.

Table with 3 columns: MOVING SMOCK, STANDING SMOCK, REFLECTED SMOCK. Rows include P, T, RHO, H, A, S, Z, GAME, U.

Table with 3 columns: MOVING SMOCK, STANDING SMOCK, REFLECTED SMOCK. Rows include P, T, RHO, H, A, S, Z, GAME, U.

Table with 3 columns: SPECIES, MOLE FRACTIONS. Rows include E-, O, O+, O-, O2, O2+, O-, C, C+, C-, CO, CO2, C2.

Table with 3 columns: SPECIES, MOLE FRACTIONS. Rows include E-, O, O+, O-, O2, O2+, O-, C, C+, C-, CO, CO2, C2.

Table 1. - Continued.

$$P_I = 1 \text{ KN/m}^2$$

P1 = 1.00E+03 N/SC-M, US1 = 1.15E+04 M/SEC				P1 = 1.00E+03 N/SC-M, US1 = 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1749E+02	2.6830E+04	3.7235E+04	P	2.7696E+02	3.2473E+04	4.5855E+04
T	4.9127E+01	7.7051E+01	8.6725E+01	T	7.3915E+01	8.9405E+01	1.0327E+02
RHO	1.4726E+01	9.4710E+01	9.7730E+01	RHO	1.4085E+01	7.8275E+01	8.8352E+01
M	-0.9495E+00	-1.2938E+01	-1.5491E+01	M	-0.6431E+00	-1.6735E+01	-2.0174E+01
A	2.7770E+00	1.7450E+01	1.9260E+01	A	1.3687E+01	2.0206E+01	2.2911E+01
S	3.2706E+00	4.1106E+00	3.1201E+00	S	2.7630E+00	3.2126E+00	3.3396E+00
Z	9.6815E-01	9.4341E-01	9.7534E-01	Z	3.6462E+00	4.6401E+00	5.0268E+00
GAME	3.9665E+01	8.4905E+00	7.0837E+00	GAME	9.5232E-01	9.8414E-01	1.0112E+00
U				U	4.4689E+01	8.0543E+00	6.4635E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	8.4297E-02	2.7052E-01	3.2716E-01	E-	1.7766E-01	3.5365E-01	4.0332E-01
O	5.9149E-01	3.2789E-01	2.5609E-01	O	4.8590E-01	2.1201E-01	1.3533E-01
O+	1.0454E-02	1.4786E-01	1.9468E-01	O+	6.2108E-02	2.1856E-01	2.6187E-01
O++	2.5075E-11	4.0649E-04	7.9262E-05	O++	6.2435E-09	5.8768E-05	4.8176E-04
N	1.6247E-04	4.8531E-04	3.8704E-04	N	1.8030E-04	2.7004E-04	1.5320E-04
N2	5.1782E-04	4.6583E-05	1.3627E-05	N2	2.4687E-05	2.9964E-05	2.2414E-06
O2+	1.2749E-08	4.6530E-05	4.2094E-05	O2+	1.5524E-05	3.0490E-04	9.6578E-09
O2-	3.7115E-08	1.1886E-07	6.7865E-08	O2-	2.1442E-08	6.0591E-02	6.0185E-02
C	2.3827E-01	1.1988E-01	9.7534E-01	C	1.5817E-01	1.3422E-01	2.0031E-03
C+	8.5904E-07	1.2294E-01	1.2810E-01	C+	1.1564E-01	5.0203E-04	2.9057E-05
C++	7.2822E-08	8.7301E-05	3.0073E-04	C++	2.2891E-06	1.3718E-05	3.7408E-06
C-	4.8847E-07	1.0176E-04	7.6131E-05	C-	4.3112E-05	5.1505E-05	2.9057E-05
CO	1.1645E-02	6.8341E-05	2.7742E-04	CO	1.6323E-04	3.1667E-05	1.4119E-05
CO+	1.3717E-04	7.8786E-05	4.8859E-07	CO+	7.7419E-05	5.3375E-11	6.3286E-12
CO2	2.6079E-08	7.2764E-10	1.7408E-10	CO2	1.1595E-09	1.0770E-06	2.9029E-07
C2	4.7286E-05	5.6485E-06	1.2373E-06	C2	9.2379E-06		
P1 = 1.00E+03 N/SC-M, US1 = 1.20E+04 M/SEC				P1 = 1.00E+03 N/SC-M, US1 = 1.35E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3643E+02	2.8517E+04	3.9842E+04	P	2.9851E+02	3.4870E+04	4.9270E+04
T	4.8341E+01	8.0000E+01	9.1646E+01	T	5.6445E+01	9.4081E+01	1.1004E+02
RHO	1.4427E+01	8.2216E+01	9.3708E+01	RHO	1.3987E+01	7.6382E+01	8.5841E+01
M	-1.2186E+00	-1.4149E+01	-1.4902E+01	M	-0.3984E+00	-1.8104E+01	-2.1910E+01
A	2.8402E+00	1.8815E+01	2.0651E+01	A	2.1240E+01	2.2149E+01	2.4192E+01
S	3.3901E+00	3.0777E+00	3.1941E+00	S	3.2322E+00	3.2399E+00	3.4095E+00
Z	9.6007E-01	9.6711E-01	9.7609E-01	Z	3.7808E+00	4.6191E+00	5.2182E+00
GAME	4.1307E+01	7.2619E+00	7.4891E+00	GAME	9.5095E-01	9.4504E-01	1.0187E+00
U				U	4.6382E+01	8.5048E+00	9.0180E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.1595E-01	3.0002E-01	3.5154E-01	E-	2.0684E-01	3.7763E-01	4.2498E-01
O	5.5829E-01	2.9278E-01	2.1234E-01	O	4.4811E-01	1.7540E-01	1.0477E-01
O+	3.0511E-02	1.7241E-01	2.1931E-01	O+	8.0470E-02	2.3919E-01	2.7743E-01
O++	2.3937E-10	1.0418E-05	7.3655E-05	O++	2.1966E-08	1.1338E-04	1.0820E-03
N	1.7202E-04	4.1150E-04	2.9856E-04	N	1.7592E-04	2.0704E-04	1.0210E-04
N2	4.0594E-02	1.7831E-05	7.9922E-06	N2	1.7028E-05	4.2549E-06	1.0791E-06
O2+	1.3913E-05	4.3461E-05	3.3323E-05	O2+	1.6245E-05	2.2399E-05	1.1901E-05
O2-	3.1021E-08	7.7923E-08	3.8267E-04	O2-	1.7570E-08	1.7453E-08	4.3043E-09
C	2.0865E-01	1.0530E-01	9.1364E-02	C	1.3787E-01	6.9058E-02	4.9872E-02
C+	8.5474E-02	1.2766E-01	1.3161E-01	C+	1.2649E-01	1.3661E-01	1.3796E-01
C++	9.0209E-07	1.5886E-04	5.6175E-04	C++	4.9472E-06	8.8174E-04	3.7651E-03
C-	4.2070E-05	8.2772E-05	5.7444E-05	C-	3.9139E-05	3.9021E-05	1.9483E-05
CO	5.4238E-04	4.6075E-05	1.4991E-05	CO	9.8147E-05	1.6271E-06	7.7344E-06
CO+	1.1258E-04	5.9844E-05	3.2752E-04	CO+	6.3925E-05	2.2075E-05	8.5544E-05
CO2	8.7159E-09	3.1280E-10	6.2920E-11	CO2	7.2857E-10	2.0428E-11	1.8579E-12
C2	2.6072E-05	3.2889E-06	1.1877E-06	C2	5.7735E-06	5.9298E-07	1.3376E-07
P1 = 1.00E+03 N/SC-M, US1 = 1.25E+04 M/SEC				P1 = 1.00E+03 N/SC-M, US1 = 1.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5527E+02	3.0420E+04	4.2706E+04	P	3.2058E+02	3.8837E+04	5.2829E+04
T	5.1237E+01	8.5057E+01	9.7117E+01	T	5.8598E+01	9.9199E+01	1.1738E+02
RHO	1.4224E+01	8.0167E+01	9.1089E+01	RHO	1.3997E+01	7.4788E+01	8.3437E+01
M	-7.9165E+00	-1.4416E+01	-1.8525E+01	M	-1.0182E+01	-1.9523E+01	-2.3724E+01
A	1.3117E+01	1.5222E+01	2.1638E+01	A	1.4816E+01	2.2327E+01	2.5413E+01
S	2.9027E+00	3.1457E+00	3.2672E+00	S	3.0835E+00	3.3426E+00	3.4782E+00
Z	3.5159E+00	4.4612E+00	4.8276E+00	Z	3.9203E+00	4.9999E+00	5.3933E+00
GAME	9.5911E-01	9.7471E-01	9.9861E-01	GAME	9.5076E-01	1.0084E+00	1.0200E+00
U	4.3002E+01	7.6415E+00	7.9544E+00	U	4.8078E+01	8.9548E+00	9.5904E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.4727E-01	3.2775E-01	3.7872E-01	E-	2.3502E-01	3.9959E-01	4.4406E-01
O	4.3299E-01	2.5104E-01	1.7179E-01	O	4.0970E-01	1.4215E-01	8.0318E-02
O+	4.5224E-02	1.9614E-01	2.4200E-01	O+	1.0012E-01	2.3730E-01	2.8782E-01
O++	1.4277E-09	2.9235E-05	1.8289E-04	O++	6.6579E-08	2.5747E-04	2.4711E-03
N	1.8065E-04	3.3900E-04	2.2007E-04	N	1.6713E-04	1.8221E-04	6.3959E-05
N2	7.9870E-05	1.1565E-05	4.4008E-06	N2	1.2981E-05	2.3828E-06	5.0004E-07
O2+	1.5150E-05	3.6782E-05	2.6039E-05	O2+	1.6153E-05	1.7483E-05	7.4843E-06
O2-	2.3886E-08	5.0042E-08	2.6167E-08	O2-	1.4153E-08	9.2997E-09	1.8246E-09
C	1.8179E-01	4.2321E-02	7.1485E-02	C	1.1979E-01	5.4931E-02	4.0756E-02
C+	1.0706E-01	1.3131E-01	1.3447E-01	C+	1.1707E-01	1.3954E-01	1.5762E-01
C++	9.2054E-07	2.8448E-04	1.0547E-03	C++	9.7348E-06	1.5900E-05	6.9755E-05
C-	4.6572E-05	6.6071E-05	4.1790E-05	C-	3.4990E-05	2.8600E-05	1.2681E-05
CO	2.8626E-04	2.3969E-04	7.7245E-04	CO	6.0810E-05	0.0648E-04	7.7980E-07
CO+	9.3516E-05	4.4077E-05	7.2991E-05	CO+	5.2429E-05	1.4893E-06	5.0081E-06
CO2	3.4479E-09	1.3180E-10	2.1424E-11	CO2	3.9840E-10	7.2921E-12	5.0672E-13
C2	1.5159E-05	1.9001E-06	6.0432E-07	C2	3.6622E-06	3.1427E-07	5.9522E-08

Table I. - Continued.

$$P_1 = 1 \text{ kN/m}^2$$

$P_1 = 1.00F+03 \text{ N/SC-M}_x$ $U_{S1} = 1.40F+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4425E+03	3.8133F+04	5.4584F+04
T	6.1247E+01	1.0470E+02	1.2480E+02
PHO	3.3837E+01	7.2258E+01	8.1544E+01
H	-1.0957E+01	-7.0906E+01	-2.5701E+01
A	1.7532E+01	2.3443E+01	2.4499E+01
S	3.1422E+00	2.4095E+00	3.2442E+00
Z	4.0603E+00	5.1677E+00	5.5604E+00
GAME	9.5177E-01	1.0127E+00	1.0119E+00
U	4.9775E+01	9.4285E+00	1.0149E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.6175E-01	4.1938E-01	4.6056E-01
H	2.7722E-01	1.1753E-01	6.2940E-02
O+	1.2006E-01	2.7284E-01	2.9218E-01
O++	1.7606E-07	6.5271E-04	5.1108E-03
O-	1.5644E-04	1.0754E-04	4.3381E-05
O2	5.8701E-06	1.2674E-06	2.3810E-07
O2+	1.8677E-05	1.2487E-05	4.9573E-06
O2-	1.1275E-08	4.6310E-09	7.4636E-10
C	1.0247E-01	5.0866E-02	3.7181E-02
C+	1.4179E-02	1.3980E-01	1.2495E-01
C++	1.7622E-07	2.7231E-03	1.1626E-02
C-	3.0923E-06	2.0288E-06	8.2978E-06
C0	3.8977E-05	2.0795E-06	3.5991E-07
C0+	4.2526E-05	9.6436E-06	2.9422E-06
C02	1.8354E-10	2.4289E-17	1.4428E-13
C2	2.3758E-06	1.4031E-07	2.7037E-08

$P_1 = 1.00E+03 \text{ N/SC-M}_x$ $U_{S1} = 1.55E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9282E+03	4.3760E+04	6.4210E+04
T	6.5940E+01	1.1694E+02	1.3866E+02
PHO	1.3691E+01	6.8306E+01	7.8938E+01
H	-1.2705E+01	-2.4064E+01	-2.9504E+01
A	1.6525E+01	2.5588E+01	2.8396E+01
S	3.2401E+00	3.5270E+00	3.6705E+00
Z	4.3512E+00	5.4784E+00	5.8616E+00
GAME	9.5600E-01	1.0188E+00	9.9125E-01
U	5.3164F+01	1.0670E+01	1.1147E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.1071E-01	4.5248E-01	4.8866E-01
O	2.9854E-01	7.0292E-02	4.0407E-02
O+	1.6089E-01	2.9189E-01	2.8525E-01
O++	9.8113E-07	2.8291E-03	1.5254E-02
O-	1.2926E-04	4.9499E-05	2.0680E-05
O2	3.2279E-07	3.2279E-07	4.8231E-08
O2+	1.3710E-05	5.7382E-04	2.2272E-04
O2-	5.6618E-09	1.0051E-09	1.9250E-10
C	1.9774E-02	3.5376E-02	2.2361E-02
C+	1.4982E-01	1.3914E-01	1.2314E-01
C++	9.0665E-05	7.9233E-03	2.4892E-02
C-	2.3300E-05	9.4656E-06	3.9003E-06
C0	1.8239E-05	5.0113E-07	9.3609E-08
C0+	2.7927E-05	3.7399E-06	1.1128E-06
C02	4.8510E-11	2.4027E-13	1.7396E-14
C2	1.0064E-06	3.8122E-08	6.6328E-09

$P_1 = 1.00E+03 \text{ N/SC-M}_x$ $U_{S1} = 1.50E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6907E+03	4.1444E+04	6.0404E+04
T	6.3952E+01	1.1667E+02	1.3192E+02
PHO	1.3787E+01	7.0301F+01	8.0130E+01
H	-1.1878E+01	-2.2507E+01	-2.7738E+01
A	1.5865E+01	2.4536E+01	2.7469E+01
S	3.2013E+00	3.4689E+00	3.6076E+00
Z	4.2046E+00	5.3371E+00	5.7145E+00
GAME	9.5333E-01	1.0211E+00	1.0009E+00
U	5.1477E+01	1.0091F+01	1.0685E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.8668E-01	4.3644E-01	4.7510E-01
H	3.3492E-01	8.9438E-02	4.9655E-02
O+	1.4049E-01	2.8451E-01	2.9098E-01
O++	4.2584E-07	1.2933E-03	9.3182E-03
O-	1.4361F-04	7.3511E-05	2.9297E-05
O2	7.4087E-06	6.4357E-07	1.2171F-07
O2+	1.4830E-05	8.5910E-04	3.2834E-05
O2-	8.7730E-09	2.1814E-09	3.7790E-10
C	5.1367E-02	4.2678E-02	2.7173E-02
C+	1.4624E-01	1.4024E-01	1.2996E-01
C++	3.0445E-05	4.7260E-03	1.7775E-02
C-	2.7002E-05	1.3972E-05	5.6047E-06
C0	2.9077E-05	1.0270E-06	1.7811E-07
C0+	3.4794E-05	6.0674E-06	1.7847E-06
C02	9.4354E-11	7.6911E-13	4.7819E-14
C2	1.5451E-06	7.2172E-08	1.3038E-08

$P_1 = 1.00E+03 \text{ N/SC-M}_x$ $U_{S1} = 1.60E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1835E+03	4.6133E+04	6.8045E+04
T	8.3242E+01	1.2219E+02	1.4482E+02
PHO	1.3607E+01	6.6454E+01	7.8154E+01
H	-1.3602E+01	-2.5676E+01	-3.1529E+01
A	1.7177E+01	2.6448E+01	2.9279E+01
S	3.3187E+00	3.5850E+00	3.7304E+00
Z	4.4959E+00	5.6184E+00	6.0120E+00
GAME	9.5763E-01	1.0107E+00	9.8485E-01
U	5.4853E+01	1.1210E+01	1.1586E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.3947E-01	4.6612E-01	5.0107E-01
O	2.8327E-01	5.6022E-02	3.3739E-02
O+	1.8049E-01	2.9463E-01	2.7641E-01
O++	2.1311E-06	5.2768E-03	2.2497E-02
O-	1.1423E-04	3.3885E-05	1.5821E-05
O2	3.9757E-04	1.6726E-07	3.9049E-06
O2+	1.2372E-05	3.8772E-06	1.5094E-06
O2-	4.9158E-09	4.8065E-10	1.0790E-10
C	6.9581E-02	2.9351E-02	1.8671E-02
C+	1.5241E-01	1.3612E-01	1.1549E-01
C++	8.2208E-05	1.2420E-02	3.2094E-02
C-	1.9847E-05	6.827E-04	2.8378E-04
C0	1.0489E-05	2.3275E-07	5.1285E-08
C0+	2.2143E-05	2.3310E-06	7.2486E-07
C02	2.4640E-11	7.9929E-14	7.2457E-15
C2	6.5297E-07	1.8934E-08	3.6468E-09

Table I. - Continued.

$$P_1 = 2 \text{ kN/m}^2$$

$P_1 = 2.00E+03 \text{ N/30-M}$, $U_1 = 1.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.753E+01	1.124E+02	4.67E+01
T	3.4570E+00	2.760E+01	1.953E+01
RHU	1.953E+01	6.81E+01	1.920E+01
M	9.075E-01	1.089E+00	1.000E+00
A	1.779E+00	1.000E+00	1.000E+00
S	1.089E+00	1.000E+00	1.000E+00
Z	1.000E+00	1.000E+00	1.000E+00
GAME	9.482E-01	8.112E-01	8.112E-01
U	9.482E-01	8.112E-01	8.112E-01

SPECIES	MOL FRACTIONS	MOL FRACTIONS	MOL FRACTIONS
E-	7.6040E-02	2.2686E-02	7.972E-04
O	1.6203E-14	1.0417E-11	6.0400E-10
U+	1.0040E-17	1.4890E-04	4.67E-01
U-	0.	0.	0.
U+	4.4763E-00	1.4219E-07	2.900E-00
U2	4.3942E-04	4.3942E-04	6.4043E-04
O2+	1.7097E-10	1.7097E-10	1.7097E-10
O2-	3.0000E-21	4.9838E-02	3.091E-04
C	3.2514E-00	3.2772E-04	3.2500E-00
C+	2.0000E-03	4.6751E-05	1.2000E-07
C+	0.	0.	0.
C0	3.0000E-00	4.6751E-05	3.0000E-00
CO	1.1400E-11	1.7999E-08	1.6000E-00
LO+	1.8000E-00	7.6517E-02	7.9000E-00
LO2	9.9950E-01	9.9950E-01	9.9950E-01
L2	4.0000E-17	1.9488E-04	1.5000E-02

$P_1 = 4.00E+03 \text{ N/30-M}$, $U_1 = 1.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4040E+01	1.2170E+02	1.9020E+02
T	3.392E+00	4.503E+00	3.2570E+00
RHU	7.250E+00	7.792E+01	3.617E+01
M	9.190E+01	8.6219E-01	8.2700E+01
A	1.713E+00	2.3228E+03	2.180E+01
S	1.109E+00	1.1299E+00	1.151E+00
Z	1.000E+00	1.000E+00	1.000E+00
GAME	9.190E+01	9.082E-01	9.082E-01
U	9.190E+01	1.7100E+00	9.082E-01

SPECIES	MOL FRACTIONS	MOL FRACTIONS	MOL FRACTIONS
E-	6.1749E-02	1.1609E-02	1.4970E-02
O	1.5078E-12	1.9743E-09	1.4970E-02
O+	3.4947E-04	1.3800E-05	2.0000E-07
O-	0.	0.	0.
U+	2.4000E-07	1.4600E-03	5.0000E-00
U2	4.3942E-04	4.3942E-04	5.7000E-04
O2+	1.7097E-10	1.7097E-10	1.7097E-10
O2-	4.0000E-02	2.0185E-07	1.2000E-03
C	3.2514E-00	3.2504E-02	3.9700E-00
C+	1.0000E-03	7.7845E-04	1.7270E-00
C-	0.	4.375E-08	6.0000E-00
C0	3.0000E-00	2.7902E-01	3.1100E-00
CO	2.0000E-00	4.1459E-06	1.1000E-00
LO+	1.8000E-00	1.0111E-06	4.5000E-02
LO2	9.9950E-01	9.9950E-01	9.9950E-01
L2	4.0000E-17	2.6799E-02	1.0000E-07

$P_1 = 2.00E+03 \text{ N/30-M}$, $U_1 = 1.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1670E+01	1.942E+02	2.910E+02
T	3.800E+00	5.810E+00	6.520E+00
RHU	6.0410E+00	3.417E+01	4.291E+01
M	6.093E+00	8.078E-01	7.650E+01
A	1.803E+00	2.261E+00	2.411E+00
S	1.142E+00	1.169E+00	1.142E+00
Z	1.000E+00	1.000E+00	1.000E+00
GAME	9.190E+01	8.977E-01	8.977E-01
U	9.190E+01	1.705E+00	9.190E+01

SPECIES	MOL FRACTIONS	MOL FRACTIONS	MOL FRACTIONS
E-	7.0079E-05	1.0236E-19	7.074E-17
O	1.5019E-10	7.5173E-07	1.1071E-05
O+	1.5145E-01	7.9058E-07	1.4000E-03
O-	0.	0.	4.4000E-00
U+	1.1130E-04	1.1699E-02	2.0000E-00
U2	4.4019E-04	1.0134E-03	3.5000E-00
O2+	1.7097E-10	1.6475E-10	4.0010E-17
O2-	1.1753E-05	8.5102E-01	9.9000E-10
C	3.2500E-00	5.7420E-04	1.0000E-00
C+	1.0000E-03	2.183E-00	4.3942E-00
C-	0.	1.8000E-05	1.2000E-00
C0	3.0000E-00	3.3507E-04	3.5000E-00
CO	2.0000E-00	1.1481E+03	6.3000E-00
LO+	1.8000E-00	4.1373E-04	2.7000E-01
LO2	9.9950E-01	9.9784E-01	9.9950E-01
L2	3.453E-04	4.6418E-04	5.9000E-00

$P_1 = 2.00E+03 \text{ N/30-M}$, $U_1 = 1.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.100E+01	2.870E+02	4.140E+02
T	4.0014E+00	1.8739E+00	7.650E+00
RHU	8.8012E+00	4.1515E+01	5.337E+01
M	6.5000E-01	7.4689E-01	6.943E-01
A	2.0500E+00	2.4711E+00	2.604E+00
S	1.1147E+00	1.208E+00	1.230E+00
Z	1.0000E+00	1.0000E+00	1.0100E+00
GAME	9.4750E-01	8.822E-01	8.727E-01
U	9.4750E-01	1.1142E+00	1.030E+00

SPECIES	MOL FRACTIONS	MOL FRACTIONS	MOL FRACTIONS
E-	7.0334E-05	1.0270E-10	3.0000E-14
O	1.4900E-00	3.4823E-05	2.1043E-04
O+	3.4942E-04	1.2131E-22	8.3947E-00
O-	0.	3.7075E-07	2.2944E-01
U+	0.2790E-04	2.0929E+01	3.6000E-10
U2	4.0230E-04	6.1835E-03	1.5000E-00
O2+	1.7097E-10	6.8726E-16	3.7500E-14
O2-	1.9022E-00	8.0848E-17	8.6000E-10
C	2.0140E-00	1.7548E-14	5.7000E-00
C+	0.0000E-00	7.7171E-00	4.0014E-01
C-	0.0000E-00	3.5163E-01	8.5000E-00
C0	3.0000E+00	2.0039E-02	3.1900E-01
CO	4.0000E-00	1.1527E-02	3.0000E-00
LO+	1.8000E-00	2.8008E-02	6.7000E-10
LO2	9.9950E-01	9.8225E-01	9.5000E-01
L2	1.1197E-00	1.8763E-00	3.5740E-05

$P_1 = 2.00E+03 \text{ N/30-M}$, $U_1 = 1.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0211E+01	4.325E+02	5.617E+02
T	3.8900E+00	7.9127E+00	6.5000E+00
RHU	9.9715E+00	4.9770E+01	6.190E+01
M	6.1000E-01	5.7299E-01	6.190E+01
A	2.0000E+00	2.6515E+00	2.1700E+00
S	1.0000E+00	1.2077E+00	1.270E+00
Z	1.0000E+00	1.0017E+00	1.0000E+00
GAME	9.9950E-01	9.5919E-01	8.0000E-01
U	9.9950E-01	1.1158E+00	1.0500E+00

SPECIES	MOL FRACTIONS	MOL FRACTIONS	MOL FRACTIONS
E-	2.0000E-00	1.0788E-13	1.2100E-10
O	8.0000E-07	1.9119E-04	1.2100E-00
O+	1.0100E-00	7.0005E-00	1.8140E-17
O-	0.	8.481E-00	8.0000E-10
U+	0.0000E-00	1.7137E-15	3.0000E-14
U2	1.0000E-00	2.1272E-02	3.0000E-00
O2+	1.7097E-10	1.3401E-03	1.0000E-10
O2-	1.9022E-00	2.4444E-14	3.7000E-10
C	2.0140E-00	3.2043E-10	6.5000E-10
C+	0.0000E-00	7.6397E-05	3.0000E-00
C-	0.0000E-00	2.1487E-00	3.0000E-00
C0	3.0000E-00	7.8000E-00	3.0000E-00
CO	4.0000E-00	4.2073E-02	7.5700E-00
LO+	1.8000E-00	3.516E-07	8.4300E-10
LO2	9.9950E-01	9.3026E-01	8.0000E-01
L2	9.0000E-00	4.1815E-04	2.7000E-00

$P_1 = 2.00E+03 \text{ N/30-M}$, $U_1 = 2.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.050E+01	5.667E+02	7.400E+02
T	6.000E+00	6.796E+00	6.500E+00
RHU	1.0153E+01	6.792E+01	7.321E+01
M	7.700E+00	5.9195E-01	5.200E+00
A	2.000E+00	2.870E+00	4.953E+00
S	1.000E+00	1.208E+00	1.310E+00
Z	1.0000E+00	1.0492E+00	1.0700E+00
GAME	8.000E-01	8.633E-01	8.627E-01
U	8.000E-01	1.1498E+00	1.0700E+00

SPECIES	MOL FRACTIONS	MOL FRACTIONS	MOL FRACTIONS
E-	4.1000E-17	2.5000E-12	1.0000E-11
O	1.0000E-00	1.7918E-03	3.9000E-00
O+	3.4000E-04	4.5779E-17	1.0000E-15
O-	0.0000E-00	1.1403E-07	1.5000E-00
U+	1.4900E-00	8.5817E-14	9.0000E-13
U2	4.0000E-00	4.5546E-02	6.0000E-00
O2+	1.7097E-10	3.4405E-12	2.3700E-10
O2-	1.9000E-00	7.9655E-13	6.4000E-10
C	1.7000E-00	2.1254E-14	3.7000E-00
C+	0.0000E-00	3.9100E-03	3.7000E-00
C-	1.3000E-00	3.1903E-05	2.2000E-00
C0	0.2000E-00	2.9340E-05	3.7000E-00
CO	7.0000E-00	9.2045E-02	1.3500E-01
LO+	1.8000E-00	2.7615E-15	2.4440E-14
LO2	9.0000E-00	8.0000E-01	7.9000E-01
L2	2.9500E-00	7.7211E-22	6.0000E-00

Table 1. - Continued.

$$P_1 = 2 \text{ KN/m}^2$$

P1 = 2.00E+03 N/30-M, US1 = 2.20E+03 M/SEC				P1 = 2.00E+03 N/30-M, US1 = 2.80E+03 M/SEC			
	MUVMG SHUCK	STANDING SHOCK	REFLECTED SHUCK		MUVMG SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	7.0547E+01	7.2817E+02	9.6294E+02	P	1.0242E+02	1.5390E+03	1.9202E+03
T	7.0932E+00	9.5831E+00	1.0190E+01	T	8.7846E+00	1.1772E+01	1.2420E+01
RMU	7.0932E+01	9.5831E+01	0.8004E+01	RMU	1.3655E+01	1.0493E+02	1.2121E+02
M	2.6247E+01	5.0128E-01	4.2717E-01	M	5.5020E-01	1.7328E-01	6.8701E-02
A	2.5245E+00	2.9973E+00	3.1320E+00	A	2.9977E+00	3.5900E-00	1.4424E+00
S	1.2673E+00	1.3278E+00	1.3550E+00	S	1.3049E+00	1.6576E+00	1.4424E+00
Z	1.0120E+00	1.0867E+00	1.1192E+00	Z	1.0771E+00	1.2459E+00	1.2500E+00
GAME	8.7231E-01	8.6255E-01	8.6492E-01	GAME	8.5722E-01	8.7383E-01	8.7914E-01
U	7.3465E+00	1.1988E+00	1.0929E+00	U	9.6017E+00	1.2916E+00	1.2104E+00
SPECIES ----- MOLF FRACTIONS -----				SPECIES ----- MOLF FRACTIONS -----			
E-	6.0025E-15	7.8891E-11	1.1692E-10	E-	8.0036E-14	3.1196E-09	8.5242E-09
O	1.5242E-04	5.2716E-03	9.4093E-03	O	4.3922E-03	3.8778E-02	5.1422E-02
U+	7.0791E-21	2.5571E-15	2.1195E-14	U+	2.1215E-10	3.5713E-12	1.7020E-11
U0+	1.7461E-00	5.8962E-09	2.1902E+00	U0+	1.5003E-07	1.4123E-01	8.3041E-00
U1	2.2933E-17	1.9312E-12	1.1213E-11	U1	1.4232E-13	6.3470E-10	2.1002E-09
U2	6.4901E-02	4.1882E-11	1.8102E-10	U2	1.7536E-02	1.4927E-01	1.7394E-01
U2+	5.7077E-16	1.1124E-11	5.3270E-11	U2+	7.0214E-13	1.5303E-09	1.4041E-00
C	4.4746E-10	7.3023E-15	5.2930E-14	C	5.0027E-14	5.3470E-10	2.2200E-09
C+	1.2340E-02	7.5506E-21	1.4014E-19	C+	8.4245E-03	1.7470E-16	1.0410E-11
C0+	2.5091E-10	4.6393E-02	4.4133E-09	C0+	4.7302E-05	4.0228E-04	9.3532E+00
C-	2.4030E-01	1.2739E-22	3.0297E-21	C-	4.0000E-20	4.5860E-18	4.0302E-11
CU	2.4783E-02	1.6743E-01	2.0030E-01	CU	1.3004E-01	3.4527E-01	4.0302E-01
CU+	3.0074E-19	6.1427E-14	4.1922E-13	CU+	3.0081E-01	3.6812E-11	1.5470E-10
CU2	9.0024E-01	7.3052E-01	6.8929E-01	CU2	7.0012E-01	6.4407E-01	3.6790E-01
C2	5.0074E-27	1.6942E-19	3.0092E-18	C2	4.7002E-01	1.4226E-15	1.5242E-14
P1 = 2.00E+03 N/30-M, US1 = 2.40E+03 M/SEC				P1 = 2.00E+03 N/30-M, US1 = 3.00E+03 M/SEC			
	MUVMG SHUCK	STANDING SHOCK	REFLECTED SHUCK		MUVMG SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	9.3977E+01	9.4354E+02	1.2309E+03	P	1.0070E+02	1.6944E+03	2.3927E+03
T	8.7551E+00	1.0322E+01	1.0901E+01	T	9.6232E+00	1.2521E+01	1.3240E+01
RMU	1.1012E+01	9.1562E+01	9.8992E+01	RMU	1.4533E+01	1.1545E+02	1.3102E+02
M	8.0704E-01	4.0114E-01	3.1850E-01	M	4.8031E-01	4.5942E-02	7.2220E-02
A	2.6240E+00	3.1796E+00	3.3294E+00	A	4.9334E+00	3.8022E+00	4.0120E+00
S	1.2641E+00	1.3696E+00	1.3590E+00	S	1.3940E+00	1.5728E+00	1.5330E+00
Z	1.0240E+00	1.1326E+00	1.1717E+00	Z	1.1000E+00	1.3119E+00	1.3726E+00
GAME	8.6333E-01	8.6479E-01	8.6706E-01	GAME	8.5702E-01	8.8011E-01	8.8672E-01
U	8.1240E+00	1.1797E+00	1.1272E+00	U	1.0037E+01	1.3032E+00	1.2024E+00
SPECIES ----- MOLF FRACTIONS -----				SPECIES ----- MOLF FRACTIONS -----			
E-	1.2290E-13	1.7824E-10	5.9102E-10	E-	4.9441E-11	1.0231E-08	2.7320E-08
O	6.7497E-04	1.1643E-02	1.9072E-02	O	4.0320E-03	1.6944E-02	4.7734E-02
U+	1.7520E-19	4.0781E-14	2.6006E-13	U+	2.0000E-15	6.2788E-11	1.1232E-10
U0+	9.1120E-10	1.8718E-11	8.5012E-11	U0+	2.0046E-06	7.4497E-04	4.0771E-03
U1	4.7034E-02	1.0593E-01	1.2704E-01	U1	4.0013E-13	2.6183E-09	8.5942E-09
U2	1.5590E-13	2.7542E-10	9.6730E-10	U2	9.0131E-05	1.7651E-01	1.0401E-01
U2+	9.7410E-15	7.9213E-11	2.9019E-10	U2+	3.3037E-11	1.7474E-06	4.7523E-06
C	2.2801E-10	9.2860E-12	5.1400E-11	C	3.5530E-12	4.8551E-09	1.2024E-08
C+	1.6030E-07	3.3486E-14	4.0095E-16	C+	4.2173E-13	2.9733E-09	2.3000E-10
C0+	4.4038E-02	3.4987E-08	1.2493E-09	C0+	3.0047E-01	2.2605E-15	1.0010E-11
C-	4.3015E-29	7.0173E-21	1.1270E-19	C-	3.0047E-01	1.2500E-19	6.4730E-10
CU	5.4344E-02	2.2254E-01	2.7001E-01	CU	4.5347E-04	6.2266E-17	4.5011E-01
CU+	2.0149E-17	7.1837E-13	3.8074E-12	CU+	1.9700E-01	1.8797E-10	7.0620E-01
CU2	9.1772E-01	6.5999E-01	5.7900E-01	CU2	7.1370E-01	3.4804E-01	2.7010E-01
C2	5.1330E-23	5.4719E-18	7.4147E-17	C2	8.0000E-20	1.9794E-14	1.5037E-13
P1 = 2.00E+03 N/30-M, US1 = 2.60E+03 M/SEC				P1 = 2.00E+03 N/30-M, US1 = 3.20E+03 M/SEC			
	MUVMG SHUCK	STANDING SHOCK	REFLECTED SHUCK		MUVMG SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	1.1085E+02	1.2241E+03	1.5700E+03	P	1.0041E+02	2.2976E+03	2.8942E+03
T	1.3098E-17	1.1049E-01	1.1634E+01	T	9.0024E+00	1.3307E+01	1.4147E+01
RMU	1.2738E+01	9.3433E+01	1.4887E+01	RMU	1.5302E+01	1.7440E+02	1.4002E+02
M	6.1471E-01	2.9173E-01	1.4434E+00	M	4.1242E-01	9.0058E-02	7.2332E-01
A	2.7341E+00	3.3731E+00	3.5314E+00	A	3.0023E+00	4.7618E+00	4.2802E+00
S	1.2641E+00	1.4130E+00	1.4434E+00	S	1.4240E+00	1.5448E+00	1.5802E+00
Z	1.0511E+00	1.1859E+00	1.2317E+00	Z	1.1492E+00	1.3938E+00	1.4242E+00
GAME	8.5904E-01	8.6865E-01	8.7000E-01	GAME	8.5910E-01	8.6743E-01	8.6950E-01
U	8.0052E+00	1.2105E+00	1.1600E+00	U	1.1000E+01	1.3661E+00	1.3350E+00
SPECIES ----- MOLF FRACTIONS -----				SPECIES ----- MOLF FRACTIONS -----			
E-	1.1053E-12	8.1981E-10	2.4119E-09	E-	9.9487E-11	7.0566E-09	8.0002E-08
O	1.4953E-03	2.2283E-02	3.4107E-02	O	1.4240E-02	4.3023E-02	1.2931E-01
U+	2.0951E-17	4.3233E-13	2.5222E-12	U+	1.3342E-10	1.3103E-10	6.3302E-10
U0+	1.5009E-14	1.2402E-10	4.7441E-10	U0+	6.0198E-03	1.0372E+06	3.0024E+03
U1	4.6172E-02	1.3467E+01	1.5433E-01	U1	3.9903E-14	9.3980E-09	2.9030E-08
U2	1.2920E-12	1.3326E-09	4.1007E-09	U2	1.1220E-01	1.8443E-01	1.0240E-01
U2+	1.1284E-13	3.9497E-10	1.2030E-09	U2+	1.1379E-10	7.2168E-04	1.3001E-07
C	4.7007E-10	7.9502E-11	3.7092E-10	C	1.0000E-11	1.3197E-08	3.1330E-08
C+	3.7058E-25	8.8950E-18	9.9033E-17	C+	2.8004E-14	2.8004E-14	5.8051E-08
C-	3.2689E-27	2.1479E-14	1.4492E-02	C-	4.3391E+00	2.4791E-14	2.4697E-13
CU	4.9360E-02	2.9129E+01	3.4411E+01	CU	5.1010E-01	2.2799E-07	6.1094E-05
CU+	4.6073E-10	5.8112E+12	2.6602E+11	CU+	3.0200E-22	7.3505E-16	7.1332E-15
CU2	8.5041E+01	5.5156E-01	4.6092E-01	CU2	2.3010E-01	4.1224E-01	4.9202E-01
C2	3.0463E-23	1.3060E-15	1.2004E-15	C2	4.0039E-19	1.7941E-13	1.3004E-12

Table I. - Continued.

$$P_1 = 2 \text{ KN/m}^2$$

$P_1 = 2.00E+03 \text{ N/3m}^2, \quad US1 = 3.40E+03 \text{ N/SEC}$				$P_1 = 2.00E+03 \text{ N/3m}^2, \quad US1 = 4.00E+03 \text{ N/SEC}$			
	Moving SHOCK	STANDING SHOCK	REFLECTED SHOCK		Moving SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4619E+02	2.7249E+03	2.4361E+03	P	2.6732E+02	4.1906E+03	5.3312E+03
T	1.0076E+01	1.4161E+01	1.5002E+01	T	1.1321E+01	1.7100E+01	1.8850E+01
RHD	1.8103E+01	1.3708E+02	1.4744E+02	RHD	1.7039E+01	1.4294E+02	1.5551E+02
M	2.3402E+01	-2.3473E+01	-3.8500E+01	M	0.5501E+00	-7.1933E-01	-9.4363E-01
A	4.3007E+00	4.3007E+00	4.3000E+00	A	3.0131E+00	5.2185E+00	5.7141E+00
S	1.4041E+00	1.4600E+00	1.6312E+00	S	1.5122E+00	1.7340E+00	1.7846E+00
Z	8.6112E-01	8.9777E-01	9.2547E-01	Z	0.7100E+00	1.7138E+00	1.8107E+00
UAME	1.1794E+01	1.4607E+00	1.4494E+00	UAME	0.7100E+00	9.2924E-01	9.5234E-01
U				U	1.0571E+01	1.7450E+00	1.8096E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	2.0000E-10	4.7305E-08	2.2976E-07	E-	4.0010E-09	1.3193E-06	4.2035E-06
U	0.0000E+00	1.3375E-01	1.0147E-01	U	0.0000E+00	3.0266E-06	3.7705E-01
U+	0.0000E+00	1.0901E+00	3.9401E+00	U+	4.9157E-12	6.5564E+00	4.4705E-07
U2+	1.4344E-11	2.9783E-08	8.0379E-08	U2+	1.7200E-03	5.7986E-05	1.4704E-01
U2-	1.5202E+01	1.8162E-01	1.6002E+01	U2-	0.3790E+00	4.9534E-07	1.4339E-06
U2-	3.7300E-11	7.1110E-09	3.0670E-07	U2-	1.7040E+01	1.1410E-01	7.3309E-02
C	1.0694E-11	4.2707E-08	6.0919E-08	U2-	4.0000E-09	1.0704E+00	4.2701E-00
C+	3.0090E-09	2.6014E-13	2.7100E-10	U2-	4.7050E+00	1.8288E-07	3.0533E-05
C+	7.0000E+00	9.4925E-15	2.2900E-10	C	1.2402E+00	4.3567E-06	3.0011E-07
CO	2.0012E-01	7.5930E-15	7.4.00E-14	C+	1.2402E+00	2.8206E-10	6.5100E-05
CO+	3.0035E-10	3.6458E-17	1.4900E-08	CO	1.0000E+00	6.3009E-20	7.6046E-25
CO2	5.0000E-01	1.0022E-01	1.3100E-01	CO+	2.7270E-11	2.0122E-07	5.2117E-01
C2	3.0002E-10	1.6673E-12	1.1000E-11	CO2	3.3927E-01	5.2877E-02	2.6203E-02
				C2	5.2441E-16	5.5872E-10	9.1346E-09
$P_1 = 2.00E+03 \text{ N/3m}^2, \quad US1 = 3.60E+03 \text{ N/SEC}$				$P_1 = 2.00E+03 \text{ N/3m}^2, \quad US1 = 4.20E+03 \text{ N/SEC}$			
	Moving SHOCK	STANDING SHOCK	REFLECTED SHOCK		Moving SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4251E+02	3.1915E+03	4.0040E+03	P	2.9530E+02	4.7107E+03	6.0499E+03
T	1.0000E+01	1.5036E+01	1.0101E+01	T	1.1700E+01	1.8735E+01	2.0883E+01
RHD	1.0771E+01	1.3771E+02	1.5200E+02	RHD	1.0000E+01	1.4236E+02	1.5200E+02
M	2.0000E+01	-3.8791E-01	-5.5444E+01	M	-0.5920E+00	-8.9723E-01	-1.1501E+00
A	3.3333E+00	4.5802E+00	4.9110E+00	A	3.7030E+00	5.5970E+00	6.2500E+00
S	1.4041E+00	1.6611E+00	1.6000E+00	S	1.0100E+00	1.7791E+00	1.8327E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.3700E+00	1.8700E+00	1.9050E+00
UAME	0.0000E+00	0.0000E+00	0.0000E+00	UAME	0.7500E+00	9.4667E-01	9.8200E-01
U	1.2500E+01	1.5276E+00	1.5010E+00	U	1.0000E+00	1.8895E+00	1.9997E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.0000E-10	2.2125E-07	5.9550E-07	E-	0.0531E-09	3.2191E-06	1.3923E-05
U	0.0000E+00	1.0362E-01	2.6498E-01	U	0.0000E+00	3.6488E-01	4.3703E-01
U+	0.0000E+00	1.2901E-00	1.7000E+00	U+	1.4300E-11	2.9083E-07	2.0000E-06
U2+	4.4400E-11	8.3457E-08	2.4150E-07	U2+	3.1997E-01	2.3000E-02	4.4400E-02
U2-	1.0000E+01	1.0785E-01	1.4900E+01	U2-	0.1000E+00	1.0813E-06	3.5099E-06
U2-	0.0000E+00	0.0000E+00	0.0000E+00	U2-	1.8170E-01	8.0499E-02	3.8300E-02
C	0.0000E+00	2.0775E-12	1.3059E-07	C	1.0017E-06	3.4290E-06	8.3600E-06
C+	3.0000E+00	1.2139E-12	1.2100E-06	C+	1.3000E-10	2.9391E-07	3.8526E-07
CO	0.0000E+00	6.0480E-14	6.3237E-10	CO	1.3000E-10	1.9310E-05	2.2720E-04
CO+	3.0013E-01	9.1076E-01	7.0000E-10	CO+	1.3000E-10	3.1463E-09	1.5048E-07
CO2	0.0000E+00	1.4247E-08	6.1700E+00	CO2	1.0000E+00	1.2771E-05	8.1846E-22
C2	1.7000E-10	1.0799E-11	0.0077E-02	C2	0.0000E+00	3.5162E-11	1.2019E+00
				CU	4.5510E-01	4.2484E-01	5.1205E-01
				CU+	7.7401E-11	7.8078E-07	6.8800E-06
				CU2	2.7077E-01	1.0172E-02	1.1500E-02
				C2	2.0000E-10	4.5553E-09	1.6320E-07
$P_1 = 2.00E+03 \text{ N/3m}^2, \quad US1 = 3.80E+03 \text{ N/SEC}$				$P_1 = 2.00E+03 \text{ N/3m}^2, \quad US1 = 4.40E+03 \text{ N/SEC}$			
	Moving SHOCK	STANDING SHOCK	REFLECTED SHOCK		Moving SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4000E+02	3.4015E+03	4.0900E+03	P	3.0390E+02	5.2310E+03	6.8123E+03
T	1.0000E+01	1.6012E+01	1.7301E+01	T	1.0197E+01	1.9087E+01	2.3815E+01
RHD	1.7300E+01	1.4137E+02	1.5500E+02	RHD	1.0530E+01	1.3910E+02	1.4500E+02
M	3.4702E+00	-5.4994E-01	-7.4470E-01	M	-1.0730E+01	-1.0828E+00	-1.3904E+00
A	3.4702E+00	4.8843E+00	5.2000E+00	A	3.4210E+00	6.0444E+00	6.8201E+00
S	1.5050E+00	1.6881E+00	1.7200E+00	S	1.0000E+00	1.8229E+00	1.8791E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0000E+00	1.8816E+00	1.9675E+00
UAME	0.0000E+00	0.0000E+00	0.0000E+00	UAME	0.7000E+00	9.7140E-01	9.9440E-01
U	1.3000E+01	1.6828E+00	1.6590E+00	U	1.5400E+01	2.0549E+00	2.2400E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.0000E-10	5.4883E-07	1.5000E-06	E-	1.0000E-10	8.6981E-06	6.0400E-05
U	0.0000E+00	2.4099E-01	3.0023E-01	U	1.0000E-10	4.2079E-01	4.7070E-01
U+	1.0000E+00	1.4978E-00	8.4100E-00	U+	0.0000E+00	1.3910E-06	1.6815E-05
U2+	1.7300E-10	1.3013E-07	1.3000E-06	U2+	3.5000E+00	2.0000E-09	2.0057E-08
U2-	1.2700E+01	2.1951E-01	1.0000E+01	U2-	1.0000E+00	2.3553E-06	1.0730E-05
U2-	1.0000E+00	1.6443E-01	1.0000E+00	U2-	1.0000E+01	4.7968E-02	1.5120E-02
C	1.0000E+00	1.0000E+00	1.0000E+00	C	2.1110E-08	6.4528E-06	1.2079E-05
C+	1.0000E+00	1.0000E+00	1.0000E+00	C+	1.7170E-09	3.1335E-07	4.7700E-07
CO	1.0000E+00	1.0000E+00	1.0000E+00	CO	3.9300E-09	1.0524E-04	2.5400E-03
CO+	1.0000E+00	1.0000E+00	1.0000E+00	CO+	3.9900E-10	4.7521E-08	5.7070E-06
CO2	1.0000E+00	1.0000E+00	1.0000E+00	CO2	1.0000E+00	5.4200E-23	1.9930E-18
C2	1.0000E+00	1.0000E+00	1.0000E+00	C2	3.0000E-10	3.7400E-10	3.8300E-08
				CU	4.0015E+01	5.1602E+00	5.0143E+01
				CU+	0.1990E-10	3.4720E-06	4.2270E-05
				CU2	0.1930E-01	1.5111E-02	0.0099E-03
				C2	1.0000E-14	5.1278E-08	5.3677E-06

Table I. - Continued.

$$P_1 = 2 \text{ KN/m}^2$$

P1 = 2.00E+03 N/3000, US1 = 4.00E+00 M/SEC

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0543E+02	1.7300E+03	1.5100E+03
T	1.2222E+01	2.2187E+01	2.0500E+01
MU	1.0794E+01	1.3797E+02	1.4162E+02
H	-2.1005E+01	-1.2777E+03	-1.6200E+03
A	6.2000E+00	5.5530E+00	2.1111E+00
S	1.0072E+00	1.0242E+00	1.9200E+00
Z	1.0000E+00	1.9449E+00	2.0100E+00
GAME	0.0041E+01	1.9017E+01	0.4043E+01
U	1.0130E+01	2.2746E+01	2.4510E+00

SPECIES ----- MOLE FRACTIONS -----

E+	3.0000E-00	2.0000E-04	2.0000E-04
U	1.0000E-01	4.0000E-01	4.0000E-01
U+	1.0000E-01	7.1277E-05	5.0000E-05
U++	2.0000E-07	2.0000E-00	7.0000E-04
U+	3.0000E-04	5.0000E-06	2.0000E-05
U-	1.0000E-01	2.2777E-02	7.3333E-03
U--	1.0000E-01	1.0000E-05	1.0000E-05
U--	2.0000E-06	3.0000E-07	1.0000E-06
C	1.1000E-00	7.0000E-04	0.3333E-01
L	2.0000E-10	1.0000E-06	7.0000E-07
U+	2.0000E-00	4.1333E-20	4.0000E-10
U-	1.0000E-10	4.0000E-05	5.0000E-07
U0	2.0000E-01	5.0000E-21	4.0000E-01
U+	2.0000E-01	1.0000E-05	1.0000E-04
U-	1.0000E-01	1.0000E-05	1.0000E-05
U2	0.0000E-00	4.0000E-07	7.0000E-05

P1 = 2.00E+03 N/3000, US1 = 5.20E+03 M/SEC

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0000E+02	7.2000E+03	9.7000E+03
T	1.0000E+01	2.0000E+01	3.0000E+01
MU	1.0000E+01	1.2000E+02	1.2000E+02
H	-5.0000E+01	-1.0000E+03	-2.0000E+03
A	4.0000E+00	7.0000E+00	7.0000E+00
S	1.0000E+00	1.0000E+00	2.0000E+00
Z	1.0000E+00	2.0000E+00	2.0000E+00
GAME	4.0000E+01	9.0000E+01	4.0000E+01
U	1.0000E+01	2.0000E+00	2.0000E+00

SPECIES ----- MOLE FRACTIONS -----

E+	2.0000E-07	6.0000E-04	1.3000E-03
U	1.0000E-01	5.1333E-01	5.3000E-01
U+	4.0000E-04	1.0000E-04	1.9700E-04
U++	1.0000E-04	2.1245E-20	7.0000E-19
U+	2.0000E-01	4.0000E-05	1.0000E-04
U2	1.0000E-01	4.0000E-03	3.0000E-03
U+	2.0000E-01	1.0000E-05	1.0000E-05
U-	1.0000E-01	7.0000E-07	1.2000E-06
L	2.0000E-07	4.1000E-02	0.7000E-02
U+	2.0000E-12	2.0000E-12	0.2000E-04
U-	3.0000E-15	9.0000E-15	1.0000E-10
U0	1.0000E-14	2.0000E-06	1.0000E-05
U0	5.0000E+01	4.0000E-01	3.0000E-01
U+	1.0000E-00	2.0000E-00	4.0000E-00
U-	3.0000E-02	9.0000E-04	0.3100E-04
U2	0.0000E-00	2.0000E-04	0.2000E-04

P1 = 2.00E+03 N/3000, US1 = 4.00E+03 M/SEC

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0000E+02	1.2000E+03	0.3100E+03
T	1.0000E+01	2.0000E+01	0.0000E+01
MU	1.0000E+01	1.0000E+02	1.0000E+02
H	-3.1000E+01	-1.0000E+03	-1.0000E+03
A	4.0000E+00	5.0000E+00	7.0000E+00
S	1.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	1.0000E+00	0.0000E+00
GAME	0.0000E+00	0.0000E+00	0.0000E+00
U	1.0000E+01	2.0000E+00	2.0000E+00

SPECIES ----- MOLE FRACTIONS -----

E+	0.0000E-00	1.1000E-04	0.0000E-00
U	1.0000E-01	0.0000E-01	5.1000E-01
U+	0.0000E-00	2.0000E-05	0.0000E-00
U++	2.0000E-07	2.0000E-03	1.0000E-03
U+	7.0000E-04	1.0000E-05	4.0000E-05
U-	1.0000E-01	1.0000E-02	5.1000E-03
U+	1.0000E-00	1.0000E-05	1.0000E-05
U--	1.0000E-01	4.0000E-07	0.0000E-00
U--	3.0000E-00	5.0000E-03	2.0000E-04
C	1.0000E-10	1.0000E-05	1.0000E-04
U+	1.0000E-10	2.1000E-17	7.0000E-10
C+	0.0000E-00	1.1000E-07	2.0000E-00
U0	0.1000E+01	4.0000E-01	4.0000E+01
U+	1.0000E+01	7.0000E-05	2.0000E-04
U-	1.0000E+01	2.0000E-03	1.0000E-03
U2	1.0000E+01	1.0000E-05	2.0000E-04

P1 = 2.00E+03 N/3000, US1 = 5.00E+03 M/SEC

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0000E+02	7.0000E+03	1.0000E+04
T	1.0000E+01	2.0000E+01	3.0000E+01
MU	1.0000E+01	1.0000E+02	1.0000E+02
H	-4.0000E+01	-1.0000E+03	-2.0000E+03
A	4.0000E+00	7.0000E+00	0.0000E+00
S	1.0000E+00	2.0000E+00	2.0000E+00
Z	1.0000E+00	2.0000E+00	2.0000E+00
GAME	4.0000E+01	9.0000E+01	5.0000E+01
U	1.0000E+01	2.0000E+00	2.0000E+00

SPECIES ----- MOLE FRACTIONS -----

E+	4.0000E-07	9.0000E-04	1.0000E-03
U	3.0000E-01	5.2000E-01	5.3000E-01
U+	1.0000E-04	1.0000E-04	2.0000E-04
U++	1.0000E-04	1.0000E-19	2.0000E-10
U+	0.0000E-00	6.0000E-05	1.0000E-02
U-	0.0000E-00	3.0000E-05	3.0000E-05
U+	0.0000E-00	1.0000E-05	1.0000E-05
U-	1.0000E+00	0.0000E-07	1.0000E-06
L	0.0000E-00	6.0000E-02	1.0000E-01
U+	1.0000E-11	5.0000E-11	1.0000E-03
C+	1.0000E-14	4.0000E-14	4.0000E-13
C-	5.0000E-14	0.0000E-00	1.0000E-05
U0	3.0000E+01	3.0000E+01	3.0000E+01
U+	3.0000E+00	7.0000E+00	4.0000E+00
U-	4.0000E+04	7.0000E+04	4.0000E+04
U2	1.0000E+11	5.0000E+04	1.0000E+03

P1 = 2.00E+03 N/3000, US1 = 5.00E+03 M/SEC

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0000E+02	6.0000E+03	0.0000E+00
T	1.0000E+01	2.0000E+01	2.0000E+01
MU	1.0000E+01	1.0000E+02	1.0000E+02
H	-4.0000E+01	-1.0000E+03	-2.0000E+03
A	4.0000E+00	7.0000E+00	7.0000E+00
S	1.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	2.0000E+00	2.0000E+00
GAME	0.0000E+00	0.0000E+00	0.0000E+00
U	1.0000E+01	2.0000E+00	2.0000E+00

SPECIES ----- MOLE FRACTIONS -----

E+	1.0000E-07	3.1000E-04	4.0000E-04
U	0.3000E-01	7.0000E-01	5.2000E-01
U+	1.0000E-04	4.0000E-05	1.0000E-04
U++	1.0000E-07	1.0000E-01	1.0000E-01
U+	1.0000E-00	7.0000E-05	7.0000E-05
U-	1.0000E-01	2.0000E-05	4.0000E-05
U+	1.0000E-07	1.0000E-05	1.0000E-05
U--	0.0000E-00	5.0000E-01	1.0000E-01
C	0.0000E-00	2.0000E-02	1.0000E-01
U+	0.0000E-10	1.0000E-04	4.0000E-04
U+	0.0000E-10	1.0000E-09	0.0000E-00
C+	0.0000E-00	0.0000E-00	0.0000E-00
C-	0.0000E-00	0.0000E-00	0.0000E-00
U0	0.0000E-00	0.0000E-00	0.0000E-00
U+	0.0000E-00	0.0000E-00	0.0000E-00
U-	0.0000E-00	0.0000E-00	0.0000E-00
U2	0.0000E-00	0.0000E-00	0.0000E-00

P1 = 2.00E+03 N/3000, US1 = 5.00E+03 M/SEC

	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0000E+02	8.0000E+03	1.0000E+04
T	1.0000E+01	3.0000E+01	3.0000E+01
MU	1.0000E+01	1.0000E+02	1.0000E+02
H	-7.0000E+01	-2.0000E+03	-2.0000E+03
A	5.0000E+00	7.0000E+00	0.0000E+00
S	1.0000E+00	2.0000E+00	2.0000E+00
Z	1.0000E+00	2.0000E+00	2.0000E+00
GAME	0.0000E+00	0.0000E+00	0.0000E+00
U	1.0000E+01	2.0000E+00	2.0000E+00

SPECIES ----- MOLE FRACTIONS -----

E+	0.0000E-00	1.0000E-03	2.0000E-03
U	3.0000E-01	5.0000E-01	5.0000E-01
U+	0.0000E-00	1.0000E-04	3.0000E-04
U++	0.0000E-00	5.0000E-19	9.0000E-10
U+	0.0000E-00	9.0000E-05	1.0000E-04
U-	1.0000E+00	3.0000E-03	1.0000E-02
U+	0.0000E-00	1.0000E-05	1.0000E-05
U-	1.0000E+00	1.0000E-06	1.0000E-06
L	2.0000E-00	9.0000E-02	1.0000E-01
U+	1.0000E-10	0.0000E-00	1.0000E-03
C+	1.0000E-10	1.0000E-10	1.0000E-12
C-	0.0000E-00	1.0000E-13	1.0000E-05
U0	5.0000E+01	3.0000E+01	2.0000E+01
U+	1.0000E+00	3.0000E+00	5.0000E+00
U-	0.0000E-00	5.0000E+04	3.0000E+04
U2	1.0000E+11	0.0000E+00	1.0000E+03

Table I, - Continued.

$$P_1 = 2 \text{ KN/m}^2$$

P1 = 2.00E+03 N/5u-M, US1 = 5.80E+03 M/SEC				P1 = 2.00E+03 N/5u-M, US1 = 6.40E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0132E+02	8.4939E+03	1.1449E+04	P	6.7667E+02	9.1070E+03	1.1921E+04
T	1.6504E+01	3.1521E+01	3.3724E+01	T	2.1764E+01	3.3861E+01	3.6411E+01
RHD	1.8041E+01	1.2196E+02	1.4196E+02	RHD	1.5557E+01	1.0889E+02	1.2437E+02
H	-2.2596E+00	2.0505E+00	-3.1429E+00	H	-1.3393E+00	-2.3555E+00	-3.9830E+00
A	5.4766E+00	1.1765E-04	2.0340E-05	A	6.3551E+00	8.7620E+00	2.4662E+00
S	1.9419E+00	1.7100E-05	2.4262E-05	S	2.0226E+00	2.1983E+00	2.2662E+00
Z	1.8448E+00	2.2615E+00	2.1972E+00	Z	1.9991E+00	2.4700E+00	2.6324E+00
GAME	4.4653E-01	9.0973E-01	9.1640E-01	GAME	9.8100E-01	9.1791E-01	9.3262E-01
U	2.0271E+01	3.0039E+03	2.9514E+03	U	2.2139E+01	3.1711E+03	3.1677E+03

P1 = 2.00E+03 N/5u-M, US1 = 5.00E+03 M/SEC				P1 = 2.00E+03 N/5u-M, US1 = 4.60E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.9930E+02	8.9521E+03	1.1011E+04	P	7.2853E+02	9.4517E+03	1.2230E+04
T	1.7771E+01	3.2346E+01	3.4061E+01	T	2.3523E+01	3.7745E+01	3.7502E+01
RHD	1.7780E+01	1.1819E+02	1.3770E+02	RHD	1.5114E+01	1.2697E+02	1.2130E+02
H	-1.0277E+00	-2.8519E+00	-3.4220E+00	H	-1.4078E+00	-1.3227E+00	-4.2910E+00
A	5.0117E+00	8.2813E+00	8.8073E+00	A	6.0047E+00	5.7314E+00	9.7996E+00
S	1.9557E+00	2.1211E+00	2.1870E+00	S	2.0232E+00	2.2359E+00	2.3070E+00
Z	1.9406E+00	2.3293E+00	2.4777E+00	Z	2.0650E+00	2.5634E+00	2.7131E+00
GAME	4.7922E-01	9.1157E-01	9.2080E-01	GAME	9.2662E-01	9.2245E-01	9.4170E-01
U	2.0924E+01	3.0614E+03	3.0209E+03	U	2.2014E+01	3.2457E+03	3.2610E+03

P1 = 2.00E+03 N/5u-M, US1 = 5.00E+03 M/SEC				P1 = 2.00E+03 N/5u-M, US1 = 4.60E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3203E+02	9.0482E+03	1.1186E+04	P	7.8021E+02	1.0708E+04	1.3092E+04
T	1.9009E+01	3.3194E+01	3.5400E+01	T	2.4947E+01	3.5773E+01	3.9499E+01
RHD	1.6440E+01	1.1394E+02	1.3116E+02	RHD	2.5120E+01	1.3685E+02	1.2030E+02
H	-1.1962E+00	-3.0498E+00	-3.6446E+00	H	-1.0403E+00	-3.7064E+00	-4.0212E+00
A	6.2090E+00	8.8207E+00	9.1617E+00	A	6.7661E+00	4.3313E+00	1.0208E+01
S	1.9099E+00	2.1596E+00	2.2720E+00	S	2.0100E+00	2.2726E+00	2.3475E+00
Z	1.9772E+00	2.3908E+00	2.5596E+00	Z	2.0600E+00	2.6197E+00	2.7494E+00
GAME	1.0331E+00	9.1428E-01	9.2592E-01	GAME	9.9000E-01	9.2902E-01	9.5412E-01
U	2.1340E+01	3.1188E+03	3.0792E+03	U	2.3700E+01	3.3272E+03	3.3953E+03

Table I. - Continued.

$P_1 = 2 \text{ kN/m}^2$

$P_1 = 2.00E+03 \text{ N/SQ-M, US1} = 8.20E+03 \text{ M/SEC}$				$P_1 = 2.00E+03 \text{ N/SQ-M, US1} = 8.80E+03 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1130E+04	1.5336E+04	2.0876E+04	P	1.2060E+04	1.7855E+04	2.4682E+04
T	2.0677E+01	4.8840E+01	5.7812E+01	T	3.0292E+01	5.6787E+01	6.4927E+01
KMU	1.6610E+01	1.0185E+02	1.1197E+02	KMU	1.6538E+01	9.8245E+01	1.2034E+02
H	-2.8412E+00	-6.1494E+00	-7.3844E+00	H	-3.4249E+00	-7.2328E+00	-8.7001E+00
A	7.8522E+00	1.2251E+01	1.3470E+01	A	8.3891E+00	1.3313E+01	1.4508E+01
S	2.2652E+00	2.5179E+00	2.8010E+00	S	2.3762E+00	2.6050E+00	2.8949E+00
Z	2.5528E+00	3.0831E+00	3.2392E+00	Z	2.5633E+00	3.2288E+00	3.4070E+00
WAKE	0.9777E+01	9.9274E+01	9.7296E+01	WAKE	9.0037E+01	9.7525E+01	9.5921E+01
U	2.0670E+01	4.5355E+01	4.6170E+01	U	3.0593E+01	5.1566E+01	5.3231E+01

SPECIES ----- MOL FRACTIONS -----				SPECIES ----- MOL FRACTIONS -----			
E-	2.3007E+03	3.8842E+02	7.7931E+02	E-	4.1794E+03	7.5000E+02	1.2162E+01
U	3.7770E+01	8.2777E+01	5.8007E+01	U	6.0048E+01	5.9058E+01	5.3611E+01
0+	2.0677E+01	9.1430E+01	2.5510E+02	0+	3.7243E+01	2.3829E+02	4.9460E+02
0-	1.1120E+01	2.2522E+01	4.2520E+01	0+	1.3819E+01	4.3135E+01	4.3135E+01
0+	3.0039E+01	6.1798E+01	1.1261E+02	0+	5.1074E+01	1.0140E+02	1.2034E+02
U2	0.8016E+01	6.2416E+01	3.7702E+01	U2	1.6770E+01	3.5931E+01	2.3280E+01
U2+	4.0000E+00	5.7125E+00	6.5000E+00	U2+	5.0000E+00	7.0340E+00	1.0100E+01
U2-	7.9170E+00	2.0256E+00	1.4190E+00	U2-	1.0046E+01	1.6165E+01	1.4097E+01
C	1.0000E+01	2.8249E+01	2.5121E+01	C	2.1031E+01	2.5325E+01	2.1031E+01
C+	4.0030E+03	2.9997E+02	5.3303E+02	C+	3.5531E+03	5.2202E+02	7.3220E+02
C+	1.4617E+03	3.0775E+04	5.0000E+04	C+	8.7701E+03	4.4569E+07	3.8003E+08
C-	6.6390E+00	2.7445E+00	3.4001E+00	C-	1.0000E+05	3.1190E+04	3.3000E+04
CU	2.3274E+01	9.7416E+01	2.0000E+02	CU	1.7003E+01	2.9091E+01	3.3000E+01
CU+	2.0701E+00	5.3946E+00	4.1700E+00	CU+	3.1111E+00	4.2286E+00	3.3100E+00
CU2	9.0000E+00	2.1638E+00	3.4000E+00	CU2	5.0112E+00	3.4528E+00	8.0000E+00
CU2	5.9403E+04	5.8227E+04	2.3070E+04	CU2	1.0000E+04	2.3759E+04	1.0400E+04

$P_1 = 2.00E+03 \text{ N/SQ-M, US1} = 8.40E+03 \text{ M/SEC}$				$P_1 = 2.00E+03 \text{ N/SQ-M, US1} = 9.00E+03 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1251E+04	1.6185E+04	2.2100E+04	P	1.2430E+04	1.8706E+04	2.5930E+04
T	2.0677E+01	5.1644E+01	6.0170E+01	T	3.0000E+01	5.8535E+01	6.7100E+01
KMU	1.6630E+01	1.3330E+02	1.1110E+02	KMU	1.6538E+01	9.7480E+01	1.1132E+02
H	-2.8012E+00	-6.1502E+00	-7.8170E+00	H	-3.0200E+00	-7.8100E+00	-9.1000E+00
A	0.0000E+00	1.2029E+01	1.3000E+01	A	0.0000E+00	1.3640E+01	1.4900E+01
S	2.2652E+00	2.5453E+00	2.8000E+00	S	2.4000E+00	2.6340E+00	2.7200E+00
Z	2.5528E+00	3.1321E+00	3.2900E+00	Z	2.6212E+00	3.2783E+00	3.4000E+00
WAKE	0.9000E+01	9.8977E+01	9.6700E+01	WAKE	9.1057E+01	9.7959E+01	9.5000E+01
U	2.0770E+01	4.7011E+01	4.9000E+01	U	3.1495E+01	5.3356E+01	5.4750E+01

SPECIES ----- MOL FRACTIONS -----				SPECIES ----- MOL FRACTIONS -----			
E-	2.3007E+03	5.0020E+02	4.2000E+02	E-	4.1794E+03	8.8113E+02	1.3570E+01
U	3.7770E+01	1.1763E+01	5.6777E+01	U	6.1000E+01	5.7579E+01	5.1000E+01
0+	2.0677E+01	1.3397E+01	3.2700E+01	0+	4.0077E+01	2.9999E+01	5.8000E+01
0-	3.0039E+01	4.9048E+01	6.0000E+01	0+	3.0000E+01	3.8999E+01	9.2000E+01
U2	0.8016E+01	1.1477E+01	3.1000E+01	U2	1.6538E+01	1.0509E+01	1.2000E+01
U2+	4.0000E+00	5.0280E+00	4.2000E+00	U2+	5.0000E+00	6.1534E+00	2.0000E+00
U2-	7.9170E+00	1.4952E+00	1.0700E+00	U2-	1.0000E+01	1.4899E+00	1.0000E+00
C	1.0000E+01	2.7381E+01	2.3970E+01	C	2.1170E+01	2.4264E+01	2.0000E+01
C+	4.0030E+03	3.0775E+04	6.0000E+04	C+	4.0000E+03	5.9071E+02	7.0000E+02
C-	6.6390E+00	2.9054E+00	1.1900E+00	C-	1.0000E+01	8.6787E+00	6.2000E+00
CU	2.3274E+01	1.1849E+01	1.9000E+01	CU	1.7000E+01	3.1741E+01	3.2000E+01
CU+	2.0701E+00	4.7767E+00	3.4000E+00	CU+	2.1170E+00	2.1170E+00	0.5700E+00
CU2	9.0000E+00	1.0920E+00	2.0000E+00	CU2	3.0270E+00	3.8931E+00	3.0000E+00
CU2	5.9403E+04	7.2451E+04	1.7000E+04	CU2	1.0070E+04	1.8166E+04	8.1000E+03

$P_1 = 2.00E+03 \text{ N/SQ-M, US1} = 8.60E+03 \text{ M/SEC}$				$P_1 = 2.00E+03 \text{ N/SQ-M, US1} = 9.20E+03 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1251E+04	1.7025E+04	2.3480E+04	P	1.4030E+04	1.9500E+04	2.7174E+04
T	2.0677E+01	5.3024E+01	6.3480E+01	T	3.0000E+01	6.0683E+01	6.9300E+01
KMU	1.6630E+01	9.0145E+01	1.1100E+02	KMU	1.6000E+01	9.6776E+01	1.1100E+02
H	-2.8012E+00	-6.9112E+00	-8.2590E+00	H	-3.0000E+00	-7.9055E+00	-9.0000E+00
A	0.0000E+00	1.2978E+01	1.4200E+01	A	0.7000E+00	1.3963E+01	1.5200E+01
S	2.2652E+00	2.5755E+00	2.8000E+00	S	2.4000E+00	2.6626E+00	2.7500E+00
Z	2.5528E+00	3.1802E+00	3.3000E+00	Z	2.6794E+00	3.3297E+00	3.5240E+00
WAKE	0.9000E+01	9.8709E+01	9.6000E+01	WAKE	9.1000E+01	9.8000E+01	9.5500E+01
U	2.0770E+01	4.9527E+01	5.1000E+01	U	3.1495E+01	5.5947E+01	5.6250E+01

SPECIES ----- MOL FRACTIONS -----				SPECIES ----- MOL FRACTIONS -----			
E-	2.3007E+03	5.7216E+02	1.0700E+01	E-	2.0007E+03	1.0140E+01	1.5000E+01
U	3.7770E+01	4.0632E+01	9.5000E+01	U	6.2000E+01	5.8200E+01	4.5000E+01
0+	2.0677E+01	1.8000E+01	4.0000E+01	0+	3.0000E+01	3.6000E+01	6.7000E+01
0-	3.0039E+01	4.2349E+01	1.8000E+01	0+	5.0000E+01	9.7000E+01	1.8000E+01
U2	0.8016E+01	9.6361E+01	1.1000E+01	U2	6.0033E+01	1.0746E+01	1.4000E+01
U2+	4.0000E+00	5.2574E+00	2.7100E+00	U2+	5.0000E+00	2.6300E+00	1.7000E+00
U2-	7.9170E+00	7.9422E+00	9.7000E+00	U2-	1.0000E+01	8.5930E+00	1.7000E+00
C	1.0000E+01	1.7477E+01	1.0017E+01	C	2.2222E+01	1.3673E+01	1.2000E+01
C+	4.0030E+03	2.7017E+01	2.2000E+01	C	4.2211E+01	2.3224E+01	1.9000E+01
C-	1.0000E+01	6.3452E+02	6.7000E+02	C+	5.0730E+03	5.8484E+02	0.3000E+02
CU	1.0000E+01	3.0899E+04	3.4000E+04	CU	3.0100E+01	1.5031E+00	9.8110E+00
CU+	2.0701E+00	4.5003E+00	3.6000E+00	CU	1.4000E+01	1.1437E+00	3.1000E+00
CU2	9.0000E+00	9.9527E+00	1.2000E+00	CU+	1.5782E+00	1.7801E+00	6.6000E+00
CU2	7.0012E+04	3.1518E+04	1.3000E+04	CU2	3.0200E+00	1.3342E+00	2.7000E+00
				CU2	7.1000E+04	1.4092E+04	0.3000E+04

Table 1. - Continued.

P1 = 2 MN/m^2

P1 = 2.00E+03 N/30-M, US1 = 1.15E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and rows for P, T, RMD, H, A, S, Z, GAME, U.

Table with 3 columns: SPECIES, MOLE FRACTIONS, and rows for E-, D, O+, O++, D-, O2, D2+, O2-, C, C+, C-, CO, CO+, CO2, CZ.

P1 = 2.00E+03 N/30-M, US1 = 1.30E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and rows for P, T, RMD, H, A, S, Z, GAME, U.

Table with 3 columns: SPECIES, MOLE FRACTIONS, and rows for E-, D, O+, O++, D-, O2, D2+, O2-, C, C+, C-, CO, CO+, CO2, CZ.

P1 = 2.00E+03 N/30-M, US1 = 1.20E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and rows for P, T, RMD, H, A, S, Z, GAME, U.

Table with 3 columns: SPECIES, MOLE FRACTIONS, and rows for E-, D, O+, O++, D-, O2, D2+, O2-, C, C+, C-, CO, CO+, CO2, CZ.

P1 = 2.00E+03 N/30-M, US1 = 1.35E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and rows for P, T, RMD, H, A, S, Z, GAME, U.

Table with 3 columns: SPECIES, MOLE FRACTIONS, and rows for E-, D, O+, O++, D-, O2, D2+, O2-, C, C+, C-, CO, CO+, CO2, CZ.

P1 = 2.00E+03 N/30-M, US1 = 1.25E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and rows for P, T, RMD, H, A, S, Z, GAME, U.

Table with 3 columns: SPECIES, MOLE FRACTIONS, and rows for E-, D, O+, O++, D-, O2, D2+, O2-, C, C+, C-, CO, CO+, CO2, CZ.

P1 = 2.00E+03 N/30-M, US1 = 1.40E+04 M/SEC

Table with 4 columns: MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK, and rows for P, T, RMD, H, A, S, Z, GAME, U.

Table with 3 columns: SPECIES, MOLE FRACTIONS, and rows for E-, D, O+, O++, D-, O2, D2+, O2-, C, C+, C-, CO, CO+, CO2, CZ.

Table L - Continued.

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/50-M, US1 = 1.45E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4315E+03	3.7589E+04	5.4782E+04
T	6.4381E+01	1.1040E+02	1.3151E+02
RHO	1.3362E+01	6.8140E+01	7.7382E+01
H	-1.0950E+01	-2.0914E+01	-2.5645E+01
A	1.5646E+01	2.3650E+01	2.6705E+01
S	3.1217E+00	3.3705E+00	3.5042E+00
Z	3.9428E+00	4.9903E+00	5.3833E+00
GAME	9.5460E-01	1.0152E+00	1.0134E+00
U	4.9644E+01	9.7430E+01	1.0373E+01

SPECIES	MOLE FRACTIONS		
E-	2.4706E-01	3.9897E-01	4.4282E-01
O	3.0018E-01	1.3827E-01	8.3120E-02
O+	1.1550E-01	2.6150E-01	2.8512E-01
OH+	2.9318E-07	7.4741E-04	5.1048E-04
H	2.5913E-04	1.9011E-04	8.4103E-05
O2	1.7529E-05	2.8218E-06	6.2866E-07
O2+	2.4179E-05	2.2256E-05	9.8062E-06
O2-	3.2029E-08	1.5946E-08	3.3203E-08
C	1.1903E-01	6.6676E-02	4.6326E-02
C+	1.3173E-01	1.2097E-01	1.2923E-01
C++	2.1192E-05	2.5939E-03	1.0124E-02
C-	5.3598E-05	3.2664E-05	1.6417E-05
CO	6.4484E-05	4.5705E-06	9.3945E-07
CO+	6.3044E-05	1.6065E-05	5.4781E-06
CO2	4.7006E-10	9.6710E-12	7.7073E-13
C2	4.5530E-06	3.5567E-07	7.0210E-06

P1 = 2.00E+03 N/50-M, US1 = 1.55E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9172E+03	4.2017E+04	5.2141E+04
T	6.9485E+01	1.2275E+02	1.4591E+02
RHO	1.3230E+01	6.4624E+01	7.4042E+01
H	-1.2295E+01	-2.3977E+01	-2.9530E+01
A	1.0844E+01	2.5742E+01	2.8752E+01
S	3.2257E+00	3.4867E+00	3.6202E+00
Z	4.2507E+00	5.2967E+00	5.8900E+00
GAME	9.5460E-01	1.0192E+00	1.0504E+00
U	5.3021E+01	1.0873E+01	1.1346E+01

SPECIES	MOLE FRACTIONS		
E-	2.4900E-01	4.3772E-01	4.7292E-01
O	3.0130E-01	9.2741E-02	5.6702E-02
O+	1.2049E-01	2.8163E-01	2.8050E-01
OH+	1.0000E-06	2.8616E-03	1.4402E-03
H	2.2277E-04	9.6884E-05	4.2002E-05
O2	7.0074E-06	8.5089E-07	1.9432E-07
O2+	2.1997E-05	1.1367E-05	4.7222E-06
O2-	1.4037E-08	4.1909E-09	9.0202E-10
C	7.3810E-02	4.9264E-02	3.2001E-02
C+	1.3250E-01	1.3250E-01	1.2188E-01
C++	6.0000E-05	6.8773E-03	2.1012E-02
C-	9.1100E-05	1.8791E-05	8.2702E-06
CO	2.0222E-05	1.3086E-06	2.7401E-06
CO+	5.1432E-05	6.9804E-06	2.2001E-06
CO2	1.0030E-10	1.2885E-12	1.1109E-13
C2	1.9091E-06	9.9706E-08	1.5227E-06

P1 = 2.00E+03 N/50-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6705E+03	3.9784E+04	5.0447E+04
T	6.9935E+01	1.1635E+02	1.3804E+02
RHO	1.3312E+01	6.6475E+01	7.5921E+01
H	-1.1831E+01	-2.2422E+01	-2.7554E+01
A	1.6204E+01	2.4708E+01	2.7708E+01
S	3.1708E+00	3.4280E+00	3.5602E+00
Z	4.1196E+00	5.1439E+00	5.5404E+00
GAME	9.5600E-01	1.0200E+00	1.0022E+00
U	5.1334E+01	1.0296E+01	1.0501E+01

SPECIES	MOLE FRACTIONS		
E-	2.7201E-01	4.1691E-01	4.5001E-01
O	3.4405E-01	1.1385E-01	6.8085E-02
O+	1.2523E-01	2.7350E-01	2.8301E-01
OH+	7.0540E-07	1.4748E-04	9.0000E-05
H	2.3401E-04	1.3739E-04	5.9020E-05
O2	1.3301E-05	1.5778E-06	3.3420E-07
O2+	2.3009E-05	1.6176E-05	6.7445E-06
O2-	2.5101E-08	8.3663E-09	1.6753E-09
C	1.0529E-01	7.7737E-02	5.8098E-02
C+	1.3691E-01	1.3229E-01	1.2033E-01
C++	3.6507E-05	4.2539E-03	1.5149E-02
C-	6.7221E-05	2.6587E-05	1.1491E-05
CO	4.2541E-05	2.4663E-06	4.9420E-07
CO+	5.1553E-05	1.0753E-05	3.4000E-06
CO2	2.5831E-10	3.2895E-12	2.7216E-13
C2	2.4990E-06	1.9167E-07	3.6119E-06

P1 = 2.00E+03 N/50-M, US1 = 1.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1722E+03	4.4288E+04	6.5053E+04
T	7.2097E+01	1.2908E+02	1.5249E+02
RHO	1.3180E+01	6.3000E+01	7.3953E+01
H	-1.2040E+01	-2.5582E+01	-3.1340E+01
A	1.7470E+01	2.6679E+01	2.9677E+01
S	3.2422E+00	3.5425E+00	3.6807E+00
Z	4.4000E+00	5.4382E+00	5.8377E+00
GAME	9.5622E-01	1.0133E+00	1.0487E+00
U	5.4706E+01	1.1425E+01	1.1820E+01

SPECIES	MOLE FRACTIONS		
E-	2.4842E-01	4.4842E-01	4.8081E-01
O	2.7077E-01	7.6473E-02	4.7940E-02
O+	1.2744E-01	2.8017E-01	2.8200E-01
OH+	3.2370E-06	5.0504E-03	2.1032E-03
H	1.0000E-04	6.9014E-05	3.2100E-05
O2	7.3440E-06	4.7296E-07	1.1021E-07
O2+	2.0039E-05	8.0319E-06	3.3700E-06
O2-	1.4521E-08	2.1107E-09	5.1830E-10
C	6.0013E-02	4.2211E-02	2.7000E-02
C+	1.4345E-01	1.3130E-01	1.1614E-01
C+	4.7424E-05	1.2457E-02	2.7101E-02
C-	3.0007E-05	1.3431E-05	6.1018E-06
CO	1.0065E-05	7.1954E-07	1.0100E-07
CO+	3.0007E-05	4.7510E-06	1.5701E-06
CO2	7.1000E-11	4.7855E-13	4.0290E-14
C2	1.2110E-06	5.3344E-08	1.1139E-06

Table I. - Continued.

$P_1 = 5 \text{ kN/m}^2$

$P_1 = 5.00E+03 \text{ N/SQ-M}, \text{ U}S1 = 2.20E+03 \text{ N/SEC}$				$P_1 = 5.00E+03 \text{ N/SQ-M}, \text{ U}S1 = 2.80E+03 \text{ N/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8481E+01	7.1895E+02	9.5600E+02	P	1.2893E+02	1.5015E+03	1.9216E+03
T	7.1042E+00	9.0290E+00	1.0471E+01	T	8.9970E+00	1.2208E+01	1.2540E+01
RHD	1.0642E+01	5.7648E+01	6.2330E+01	RHD	1.3394E+01	9.9990E+01	1.1579E+02
H	7.2479E+01	5.0195E+01	4.2670E+01	H	5.5209E+01	1.7494E+01	6.7322E+02
A	2.5184E+00	3.0285E+00	3.1702E+00	A	2.8780E+00	3.0288E+00	3.8272E+00
S	1.2150E+00	1.3395E+00	1.3043E+00	S	1.3707E+00	1.4647E+00	1.4996E+00
Z	1.0103E+00	1.0781E+00	1.1096E+00	Z	1.0699E+00	1.2301E+00	1.2824E+00
GAME	8.7820E-01	8.6555E-01	8.6717E-01	GAME	8.8047E-01	8.7690E-01	8.8205E-01
U	7.3901E+00	1.1831E+00	1.1201E+00	U	9.5869E+00	1.2863E+00	1.2544E+00

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	4.6047E-15	2.9054E-11	1.2450E-10	E-	7.8907E-12	3.5589E-09	1.0278E-08
D	1.0142E-04	4.1446E-03	7.8713E-03	D	9.5405E-03	3.3107E-02	4.9679E-02
O+	5.0871E-21	3.1880E-15	3.3252E-14	O+	3.0171E-16	5.8703E-12	3.1496E-11
Oo+	9.4857E-87	2.6411E-63	8.5945E-59	Oo+	2.1882E-68	1.6054E-50	3.0598E-47
U2	2.5077E-12	3.0497E-12	2.0682E-11	U2	2.8880E-13	1.1642E-09	4.2888E-09
U2+	1.0534E-02	6.8866E-02	9.1281E-02	U2	6.2200E-02	1.5431E-01	1.7091E-01
OZ-	5.2018E-10	2.1525E-11	1.1310E-10	OZ-	9.8548E-12	8.0224E-09	2.4184E-08
L	3.7130E-18	1.0218E-12	8.6678E-12	L	1.6980E-12	3.3743E-09	9.9015E-09
C+	9.1152E-29	1.2228E-20	3.3301E-14	C+	1.00497E-10	9.00497E-10	4.2245E-09
C++	1.9101E-10	1.5938E-91	5.3095E-44	C++	2.0923E-22	3.9338E-16	4.5990E-15
C	3.0478E-31	3.2398E-22	1.0778E-20	C-	2.0923E-22	4.3570E-11	1.9529E-38
CO	2.0306E-02	1.4066E-01	1.8988E-01	CO-	2.7159E-24	1.5849E-17	1.9834E-16
LO+	4.7799E-19	9.2996E-14	7.5500E-13	CO	4.2712E-01	3.4101E-01	3.9018E-01
CO2	9.4093E-01	7.8653E-01	7.1120E-01	CO+	4.1955E-15	6.9263E-11	3.1310E-10
C2	0.8088E-27	4.6888E-19	1.0002E-17	CO2	4.0714E-01	4.7158E-01	3.8801E-01
				C2	8.4009E-21	6.3237E-15	5.8232E-14

$P_1 = 5.00E+03 \text{ N/SQ-M}, \text{ U}S1 = 2.40E+03 \text{ N/SEC}$				$P_1 = 5.00E+03 \text{ N/SQ-M}, \text{ U}S1 = 3.00E+03 \text{ N/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3802E+01	9.3674E+02	1.2240E+03	P	1.4855E+02	1.8459E+03	2.3447E+03
T	7.0537E+00	1.0652E+01	1.1270E+01	T	4.4212E+00	1.3023E+01	1.3859E+01
RHD	1.1803E+01	7.8548E+01	9.3863E+01	RHD	1.4225E+01	1.0958E+02	1.2549E+02
H	6.7210E+01	4.0218E-01	3.1751E-01	H	4.8641E-01	4.7946E-02	-7.3930E-02
A	2.0419E+00	3.2165E+00	3.3759E+00	A	2.9974E+00	3.8577E+00	4.0840E+00
S	1.2000E+00	1.3776E+00	1.4042E+00	S	1.4030E+00	1.5095E+00	1.5470E+00
Z	1.0242E+00	1.1216E+00	1.1599E+00	Z	1.0018E+00	1.2936E+00	1.3537E+00
GAME	8.6693E-01	8.6780E-01	8.7001E-01	GAME	8.8006E-01	8.8343E-01	8.9052E-01
U	8.1193E+00	1.2078E+00	1.1520E+00	U	1.0320E+01	1.3419E+00	1.3228E+00

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.0990E-15	1.9488E-10	6.7006E-10	E-	3.4734E-11	1.2012E-08	3.3367E-08
U	4.0773E-04	9.0215E-03	1.0240E-02	U	6.4794E-03	5.3730E-02	7.8119E-02
O+	3.0236E-19	8.2108E-14	4.3970E-13	O+	2.7925E-15	3.8646E-11	1.9923E-10
Oo+	2.6575E-76	7.2471E-58	1.7467E-54	Oo+	2.7276E-64	2.7901E-47	1.7589E-44
U2	1.1850E-15	3.3018E-11	1.5976E-10	U2	1.6816E-12	4.9751E-09	1.6968E-08
U2+	2.3009E-02	9.8185E-02	1.2197E-01	U2	4.4448E-02	1.7355E-01	1.4331E-01
OZ-	1.2088E-15	3.9243E-10	1.6798E-09	OZ-	9.4551E-11	2.7595E-08	7.8303E-08
L	1.6503E-14	1.6588E-10	8.0537E-11	L	1.9708E-12	1.0107E-09	2.9747E-08
C+	2.2439E-10	1.5072E-11	1.0909E-11	C+	7.2254E-13	5.0781E-09	2.2631E-08
C++	3.0221E-20	7.48530E-19	1.0000E-17	C++	1.9843E-21	8.8453E-15	6.0609E-14
C	3.8138E-64	5.9272E-47	2.1467E-44	C-	1.1935E-52	2.1130E-38	4.2512E-36
CO	4.0840E-02	2.0717E-01	2.5382E-01	CO-	6.7189E-23	2.4489E-16	2.6044E-15
LO+	2.5472E-17	1.2824E-12	1.3708E-11	LO	1.7505E-01	4.0016E-01	4.4400E+01
CO2	9.2290E-01	8.8405E-01	6.0433E-01	CO+	5.0337E-14	3.7066E-10	1.5796E-09
C2	1.7586E-25	2.1136E-17	2.0491E-16	CO2	7.3254E-01	3.7298E-01	2.9087E-01
				C2	1.1403E-19	7.1391E-14	5.4904E-13

$P_1 = 5.00E+03 \text{ N/SQ-M}, \text{ U}S1 = 2.60E+03 \text{ N/SEC}$				$P_1 = 5.00E+03 \text{ N/SQ-M}, \text{ U}S1 = 3.20E+03 \text{ N/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0099E+02	1.1978E+03	1.9449E+03	P	1.0453E+02	2.2280E+03	2.8277E+03
T	8.4547E+00	1.1817E+01	1.2093E+01	T	9.9013E+00	1.3878E+01	1.4806E+01
RHD	1.2549E+01	8.9864E+01	1.0501E+02	RHD	1.5001E+01	1.0784E+02	1.3339E+02
H	6.1474E+01	2.9306E+01	1.9378E+01	H	4.1598E-01	-0.7740E-02	-2.2287E-01
A	2.7000E+00	3.4158E+00	3.5910E+00	A	3.1212E+00	4.1046E+00	4.3820E+00
S	1.3384E+00	1.4207E+00	1.4535E+00	S	1.4378E+00	1.9849E+00	1.9947E+00
Z	1.0444E+00	1.1725E+00	1.2177E+00	Z	1.1330E+00	1.2624E+00	1.4396E+00
GAME	8.6217E-01	8.7155E-01	8.7600E-01	GAME	8.6188E-01	8.9108E-01	8.9869E-01
U	8.6520E+00	1.2419E+00	1.1991E+00	U	1.1051E+01	1.4090E+00	1.4001E+00

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.2545E-12	9.2935E-10	2.8414E-09	E-	1.2125E-10	3.6828E-08	1.0070E-07
D	1.5099E-03	1.8886E-02	2.9047E-02	U	1.2229E-02	8.2104E-02	1.1633E-01
O+	1.8008E-17	7.0887E-13	4.1983E-12	U+	1.8304E-14	2.2515E-10	1.8500E-09
Oo+	3.0517E-72	1.0661E-53	1.1206E-50	O	4.1122E-00	1.9653E-44	2.8798E-41
U2	2.0509E-16	2.2754E-10	9.1947E-10	O+	7.8278E-12	1.8204E-08	5.8190E-08
U2+	4.1398E-02	1.2866E-01	1.4949E-01	U2	1.0676E-01	1.8422E-01	1.8516E-01
OZ-	1.2135E-12	2.0014E-09	6.5268E-09	OZ-	1.5810E-10	8.3570E-08	2.2404E-07
L	7.8437E-15	8.5624E-10	2.8244E-09	L	3.0384E-11	3.0809E-08	7.7121E-08
C+	5.0045E-15	1.3883E-10	6.8052E-10	C+	4.0594E-12	5.0931E-08	1.1922E-07
C++	7.8248E-50	2.2946E-17	2.6937E-16	C++	7.6414E-20	7.0371E-14	7.5174E-13
C	4.1400E-26	8.4720E-19	2.8088E-17	C-	1.5025E-44	5.5520E-36	3.1815E-34
LO	8.4603E-02	2.7543E-01	3.2791E-01	CO	9.7064E-22	2.9568E-15	3.1815E-14
LO+	7.1129E-16	1.0998E-13	5.3228E-11	CO+	2.2497E-01	4.4989E-01	4.8592E-01
CO2	8.7368E-01	8.7705E-01	4.9290E-01	CO2	3.0854E-13	1.7263E-09	7.2614E-09
C2	1.9391E-22	4.6377E-16	4.5620E-15	C2	1.2049E-18	2.8379E-01	2.1264E-01
						6.5885E-13	5.4691E-12

Table I. - Continued.

$$P_1 = 5 \text{ KN/m}^2$$

$P_1 = 5.00E+03 \text{ N/Sq-M}$, $U_{S1} = 1.45E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4203E+03	3.5757E+04	5.2647E+04
T	6.8760E+01	1.1863E+02	1.4100E+02
KMU	1.2631E+01	6.3688E+01	7.2606E+01
M	-1.4983E+01	-2.0819E+01	-2.5041E+01
A	1.3492E+01	2.3864E+01	2.7103E+01
S	3.0900E+00	3.3260E+00	3.4500E+00
Z	3.8702E+00	4.7341E+00	5.1162E+00
GAME	9.5617E+01	1.0140E+02	1.0159E+02
U	6.9602E+01	9.9999E+00	1.0623E+01

SPECIES	MOLE FRACTIONS		
E-	2.2529E-01	3.6649E-01	4.1379E-01
O	4.0769E-01	1.7748E-01	1.1762E-01
O+	1.0840E-01	2.4357E-01	2.6775E-01
U+	5.3114E-07	8.6721E-04	9.2710E-03
D+	4.7823E-04	3.8782E-04	1.8971E-04
O2	3.6422E-05	7.8382E-06	2.0636E-06
O2+	4.3529E-05	4.6407E-05	2.2647E-05
O2-	1.6715E-07	7.7220E-08	1.9017E-08
C	1.4601E-01	9.1000E-02	6.0042E-02
C+	1.1727E-01	1.1687E-01	1.1687E-01
C++	2.5698E-05	2.3491E-03	8.4102E-03
C-	1.0704E-04	7.5345E-05	3.7400E-05
CU	1.4453E-04	1.2267E-05	2.9958E-06
CU+	1.0494E-04	3.0036E-05	1.1410E-05
CU2	1.6213E-04	5.6791E-11	6.0400E-14
CZ	1.0469E-05	9.4411E-07	2.1612E-07

$P_1 = 5.00E+03 \text{ N/Sq-M}$, $U_{S1} = 1.55E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9044E+03	3.9969E+04	5.9705E+04
T	7.4495E+01	1.3118E+02	1.5683E+02
KMU	1.2711E+01	6.0333E+01	7.0213E+01
M	-1.2693E+01	-2.3866E+01	-2.9551E+01
A	1.7170E+01	2.5977E+01	2.9153E+01
S	3.2052E+00	3.4379E+00	3.5755E+00
Z	4.1234E+00	5.0311E+00	5.4204E+00
GAME	9.6039E+01	1.0186E+02	9.9976E+01
U	5.2042E+01	1.1146E+01	1.1671E+01

SPECIES	MOLE FRACTIONS		
E-	2.7275E-01	4.0384E-01	4.4004E-01
O	1.9001E-01	1.2875E-01	8.5413E-02
O+	1.0601E-01	2.6553E-01	2.6997E-01
U+	2.7899E-06	2.9363E-03	1.3431E-02
D+	4.0514E-04	2.1540E-04	1.0493E-04
O2	2.2221E-05	2.7325E-06	7.2341E-07
O2+	4.1196E-05	2.5913E-05	1.1641E-05
O2-	7.9011E-08	2.3458E-08	6.1359E-09
C	1.1315E-01	7.1782E-02	5.1164E-02
C+	1.2647E-01	1.2105E-01	1.1636E-01
C++	7.4218E-05	4.2031E-05	1.6635E-02
C-	8.4218E-05	3.7400E-05	2.0626E-05
CU	3.9304E-05	4.0816E-06	2.0151E-06
CU+	7.1099E-05	1.4400E-05	5.2227E-06
CU2	5.4363E-10	9.4509E-12	1.0931E-14
CZ	4.7504E-06	3.0492E-07	7.1099E-08

$P_1 = 5.00E+03 \text{ N/Sq-M}$, $U_{S1} = 1.50E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6549E+03	3.7861E+04	5.6139E+04
T	7.1606E+01	1.2508E+02	1.4938E+02
KMU	1.2738E+01	6.1984E+01	7.1339E+01
M	-1.1623E+01	-2.2320E+01	-2.7576E+01
A	1.6550E+01	2.4945E+01	2.8156E+01
S	3.1504E+00	3.3824E+00	3.5176E+00
Z	3.9424E+00	4.8843E+00	5.2714E+00
GAME	9.5773E+01	1.0187E+02	1.0007E+02
U	5.1162E+01	1.0522E+01	1.1174E+01

SPECIES	MOLE FRACTIONS		
E-	2.4491E-01	3.8595E-01	4.3100E-01
O	3.7263E-01	1.5132E-01	9.9742E-02
O+	1.2710E-01	2.5611E-01	2.7070E-01
D+	1.2614E-06	1.6417E-03	8.7842E-03
U+	4.4326E-04	2.9039E-04	1.3905E-04
O2	2.4219E-05	4.6445E-06	1.1477E-06
O2+	4.3798E-05	3.4965E-05	1.6261E-05
O2-	1.0124E-07	4.3269E-08	1.0683E-08
C	1.2720E-01	8.1468E-02	5.0940E-02
C+	1.2265E-01	1.1935E-01	1.1840E-01
C++	4.3404E-05	3.7435E-03	1.2239E-02
C-	4.9701E-05	5.6486E-05	2.7402E-05
CU	6.7030E-05	7.0841E-06	1.7078E-06
CU+	8.0402E-05	2.0895E-05	7.6494E-06
CU2	1.0003E-09	2.3168E-11	2.4405E-14
CZ	7.0400E-06	5.3705E-07	1.2190E-07

$P_1 = 5.00E+03 \text{ N/Sq-M}$, $U_{S1} = 1.60E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1500E+03	4.2139E+04	6.3257E+04
T	7.7394E+01	1.3827E+02	1.6394E+02
KMU	1.2630E+01	5.8943E+01	6.9322E+01
M	-1.3389E+01	-2.5444E+01	-3.1573E+01
A	1.7616E+01	2.6931E+01	3.0123E+01
S	3.2524E+00	3.4914E+00	3.6314E+00
Z	4.2557E+00	5.1705E+00	5.5600E+00
GAME	9.6012E+01	1.0145E+02	9.9942E+01
U	5.4517E+01	1.1685E+01	1.2131E+01

SPECIES	MOLE FRACTIONS		
E-	2.9494E-01	4.1990E-01	4.6110E-01
O	3.0495E-01	1.1014E-01	7.3722E-02
O+	1.0405E-01	2.7148E-01	2.6692E-01
D+	2.8426E-06	4.9768E-03	1.9199E-02
U+	3.6391E-04	1.6108E-04	8.0098E-05
O2	1.6664E-05	1.6399E-06	4.5339E-07
O2+	3.7941E-05	1.9208E-05	8.6780E-06
O2-	6.4463E-08	1.3552E-08	3.6757E-09
C	1.0493E-01	6.3128E-02	4.4514E-02
C+	1.3094E-01	1.2146E-01	1.1399E-01
C++	1.1207E-06	8.8822E-03	2.1426E-02
C-	7.3203E-05	3.1507E-05	1.5642E-05
CU	4.0426E-05	2.4050E-06	6.2632E-07
CU+	5.7908E-05	9.9903E-06	3.6307E-06
CU2	2.9960E-10	4.0421E-12	5.1400E-13
CZ	3.2102E-06	1.7692E-07	4.3024E-08

Table 1. - Continued.

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/50-M. U51 = 4.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5303E+02	5.5974E+03	7.1979E+03
T	1.3710E+01	2.3727E+01	2.8223E+01
RHO	1.7680E+01	1.1990E+02	1.2878E+02
H	-2.0362E+01	-1.2860E+00	-1.6330E+00
A	4.2212E+00	6.6403E+00	7.3303E+00
S	1.6994E+00	1.8639E+00	1.9214E+00
Z	1.4564E+00	1.8832E+00	1.9694E+00
GAME	8.9238E-01	9.8682E-01	9.6671E-01
U	1.6058E+01	2.3710E+00	2.5937E+00

SPECIES	MOLE FRACTIONS		
E-	6.3720E-08	3.0624E-05	1.9494E-04
O	1.3217E-01	4.2119E-01	4.7227E-01
O+	4.0454E-10	7.4881E-06	5.2223E-05
O++	3.4741E-44	4.1048E-25	4.5740E-21
D+	1.7519E-08	1.7490E-05	7.2622E-05
D2	1.8190E-01	4.7040E-02	1.9906E-02
D2+	1.6494E-08	2.0790E-05	3.4573E-05
D2-	1.7745E-08	2.7806E-06	5.0453E-06
C	3.6553E-08	7.0219E-04	9.2928E-03
C+	1.2622E-13	8.1336E-07	3.5409E-05
C++	1.0322E-35	1.3126E-19	5.6944E-16
C-	2.8034E-19	1.9523E-08	9.9819E-07
CO	4.9496E-01	5.1928E-01	4.9273E-01
CO+	2.8195E-09	2.1820E-05	1.5143E-04
CO2	1.9178E-01	1.4790E-02	5.1803E-01
C2	5.5616E-13	1.6718E-06	7.3357E-05

P1 = 1.00E+04 N/50-M. U51 = 4.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8441E+02	3.8149E+03	7.6497E+03
T	1.4877E+01	2.6106E+01	3.0505E+01
RHO	1.7759E+01	1.1441E+02	1.2741E+02
H	-3.1713E+01	-1.4654E+00	-1.8746E+00
A	4.4102E+00	7.0895E+00	7.6025E+00
S	1.7370E+00	1.9023E+00	1.9601E+00
Z	1.5151E+00	1.9384E+00	2.0196E+00
GAME	8.9857E-01	9.8762E-01	9.5819E-01
U	1.6761E+01	2.3918E+00	2.7143E+00

SPECIES	MOLE FRACTIONS		
E-	1.7600E-07	8.9487E-05	4.4665E-04
O	1.6743E-01	4.5666E-01	4.9110E-01
O+	1.2425E-09	2.4822E-05	1.0018E-04
O++	3.0569E-42	9.8538E-23	1.6546E-19
D+	3.6421E-08	3.7740E-05	1.3320E-04
D2	1.7294E-01	2.7371E-02	1.3934E-02
D2+	1.8504E-07	2.8032E-05	3.8763E-05
D2-	2.9340E-08	3.4889E-06	6.4977E-06
C	1.0093E-07	3.3009E-03	2.5603E-02
C+	6.4702E-13	8.0903E-06	1.4797E-04
C++	4.4774E-34	1.9344E-17	1.4809E-14
C-	1.2095E-14	1.4742E-07	4.9337E-01
CO	5.1293E-01	5.0442E-01	4.6505E-01
CO+	5.4825E-09	7.0310E-05	2.9876E-04
CO2	1.4720E-01	7.6174E-03	3.1909E-03
C2	2.2623E-12	1.5438E-05	3.1853E-04

P1 = 1.00E+04 N/50-M. U51 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1703E+02	6.2724E+03	6.5194E+03
T	1.4489E+01	2.8480E+01	3.2239E+01
RHO	1.7740E+01	1.1108E+02	1.2719E+02
H	-4.2918E-01	-1.6730E+00	-2.1198E+00
A	4.6109E+00	7.3995E+00	7.8673E+00
S	1.7746E+00	1.9387E+00	1.9970E+00
Z	1.5767E+00	1.9827E+00	2.0744E+00
GAME	9.0540E-01	9.5917E-01	9.2590E-01
U	1.7459E+01	2.7956E+00	2.8317E+00

SPECIES	MOLE FRACTIONS		
E-	2.4227E-07	2.1969E-04	7.8068E-04
O	2.0715E-01	4.7878E-01	5.0685E-01
O+	3.6959E-09	6.0487E-05	1.6840E-04
O++	2.1176E-40	7.9786E-21	1.7324E-18
D+	7.1827E-08	7.4791E-05	2.0404E-04
D2	1.5870E-01	1.6769E-02	1.0834E-02
D2+	1.4166E-07	3.2597E-05	4.2451E-05
D2-	4.5403E-08	6.3562E-06	8.0733E-06
C	2.7341E-07	1.1960E-02	4.7174E-02
C+	5.2201E-12	5.0504E-05	3.5108E-04
C++	1.6823E-32	1.0685E-15	1.0706E-13
C-	5.3237E-14	1.3082E-04	1.3629E-05
CO	5.2399E-01	4.8750E-01	4.3015E-01
CO+	1.4136E-08	1.7232E-04	4.4453E-04
CO2	1.1016E-01	4.2572E-03	2.2769E-03
C2	8.9617E-12	9.8306E-05	7.3804E-04

P1 = 1.00E+04 N/50-M. U51 = 5.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5086E+02	6.7390E+03	9.1689E+03
T	1.9552E+01	3.0404E+01	3.3608E+01
RHO	1.7684E+01	1.0927E+02	1.2736E+02
H	-9.4766E-01	-1.8895E+00	-2.3700E+00
A	4.8252E+00	7.3945E+00	8.1388E+00
S	1.8122E+00	1.9730E+00	2.0331E+00
Z	1.6394E+00	2.0204E+00	2.1337E+00
GAME	9.1311E-01	9.8521E-01	9.2118E-01
U	1.8153E+01	2.9426E+00	2.9216E+00

SPECIES	MOLE FRACTIONS		
E-	4.5539E-07	4.7728E-04	1.1788E-03
O	2.9043E-01	4.9470E-01	5.2170E-01
O+	1.0714E-08	1.0924E-04	2.3867E-04
O++	3.7415E-39	1.5897E-19	1.0027E-17
D+	1.3480E-07	1.2491E-04	2.8237E-04
D2	1.3984E-01	1.2087E-02	9.3628E-03
D2+	6.0927E-07	3.9525E-05	4.6425E-05
D2-	6.1745E-08	9.3748E-06	9.7175E-06
C	7.3144E-07	2.7958E-02	7.0701E-02
C+	1.5741E-11	1.6620E-04	6.3578E-04
C++	3.5135E-31	1.5470E-14	4.6065E-13
C-	2.2405E-13	5.0084E-06	2.7690E-05
CO	9.2958E-01	4.6092E-01	3.9223E-01
CO+	3.6006E-08	3.0157E-04	5.7771E-04
CO2	8.0146E-02	2.7984E-03	1.7868E-03
C2	3.4957E-11	3.2936E-04	1.2763E-03

P1 = 1.00E+04 N/50-M. U51 = 5.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8588E+02	7.2023E+03	9.7786E+03
T	1.8267E+01	3.1934E+01	3.4940E+01
RHO	1.7930E+01	1.0849E+02	1.2738E+02
H	-6.6685E-01	-2.1145E+00	-2.6279E+00
A	5.0557E+00	7.8344E+00	8.4072E+00
S	1.8694E+00	2.0085E+00	2.0673E+00
Z	1.7039E+00	2.0795E+00	2.1971E+00
GAME	9.2718E-01	9.2444E-01	9.2072E-01
U	1.8861E+01	1.0506E+00	3.0064E+00

SPECIES	MOLE FRACTIONS		
E-	8.4825E-07	7.9070E-04	1.6445E-03
O	2.9594E-01	5.0903E-01	4.5412E-01
O+	3.1397E-08	1.6495E-04	3.2058E-04
O++	1.0429E-34	1.2986E-18	4.2914E-17
D+	2.4301E-07	1.6295E-04	3.6837E-04
D2	1.1744E-01	9.0294E-03	8.4033E-03
D2+	1.0532E-06	3.8289E-05	5.0840E-05
D2-	8.8955E-08	8.4893E-06	1.1399E-05
C	2.0399E-06	4.8381E-02	9.4878E-02
C+	6.4587E-11	3.6118E-04	1.0011E-03
C++	2.6032E-29	9.1231E-14	1.4839E-12
C-	9.7345E-13	1.2444E-05	4.7509E-05
CO	9.3029E-01	4.2810E-01	3.5513E-01
CO+	9.3599E-08	4.2016E-04	6.9922E-04
CO2	5.6331E-02	2.9460E-03	1.3606E-03
C2	1.4538E-10	7.0599E-04	1.8629E-03

P1 = 1.00E+04 N/50-M. U51 = 5.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2202E+02	7.6443E+03	1.0391E+04
T	1.7068E+01	3.3225E+01	3.6125E+01
RHO	1.7290E+01	1.0774E+02	1.2657E+02
H	-7.9245E-01	-2.3473E+00	-2.8936E+00
A	5.3086E+00	8.0803E+00	8.6853E+00
S	1.8863E+00	2.0432E+00	2.1058E+00
Z	1.7489E+00	2.1395E+00	2.2638E+00
GAME	9.3340E-01	9.2020E-01	9.2239E-01
U	1.9529E+01	3.1386E+00	3.0864E+00

SPECIES	MOLE FRACTIONS		
E-	1.5937E-06	1.1644E-03	2.1863E-03
O	3.4209E-01	5.2290E-01	5.5009E-01
O+	9.2736E-08	2.2781E-04	4.1801E-04
O++	8.0957E-35	4.5394E-18	1.5853E-16
D+	4.2593E-07	2.4697E-04	4.6176E-04
D2	9.2818E-02	8.5284E-03	7.6834E-03
D2+	1.7791E-06	4.1299E-05	5.5673E-05
D2-	1.1245E-07	7.6412E-04	1.3059E-05
C	5.8381E-06	7.0637E-02	1.1922E-01
C+	4.7178E-10	6.2935E-04	1.4514E-03
C++	9.7690E-28	3.6779E-13	4.0254E-12
C-	4.2978E-12	2.4087E-05	7.3225E-05
CO	5.2722E-01	3.9229E-01	3.1402E-01
CO+	2.4980E-07	5.4460E-04	8.0931E-04
CO2	3.7056E-02	1.5804E-03	1.0736E-03
C2	8.3747E-10	1.1758E-04	2.4396E-03

Table L - Continued

$P_1 = 10 \text{ kN/m}^2$

$P1 = 1.00E+04 \text{ N/50-M}$ $US1 = 5.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5921E+02	8.0428E+03	1.0890E+04
T	1.8007E+01	3.4379E+01	3.7262E+01
RHD	1.6940E+01	1.0658E+02	1.2458E+02
H	-4.2250E-01	-2.5871E+00	-3.1846E+00
A	5.5936E+00	8.331E+00	6.9709E+00
S	1.9226E+00	2.0762E+00	2.1427E+00
Z	1.8324E+00	2.1934E+00	2.1334E+00
GAME	9.4829E-01	9.1955E-01	9.2548E-01
U	2.0199E+01	3.2169E+01	3.1710E+01

SPECIES	MOLE FRACTIONS		
E-	3.0745E-06	1.8979E-03	2.8198E-03
O	3.8685E-01	5.3647E-01	5.6793E-01
O+	2.8886E-07	2.9995E-04	5.3504E-04
O++	9.9979E-23	2.5639E-17	4.9228E-16
D+	7.3011E-07	3.1597E-04	5.6191E-04
DZ	6.7643E-02	7.4448E-03	7.9752E-03
OZ+	2.9278E-06	6.4563E-05	6.0645E-05
OZ-	1.3278E-07	6.7766E-06	1.4613E-05
C	1.8620E-05	9.3655E-02	1.4301E-01
C+	3.1624E-09	9.6818E-04	1.9699E-03
C++	6.2237E-26	1.1035E-12	9.8189E-12
C-	2.1405E-11	4.0091E-05	2.7958E-04
CO	9.2162E-01	3.5538E-01	1.0479E-04
CO+	7.1745E-07	6.4496E-04	9.0750E-04
COZ	2.3861E-02	1.2470E-03	6.4291E-04
CZ	3.3040E-09	1.6819E-03	2.9581E-03

$P1 = 1.00E+04 \text{ N/50-M}$ $US1 = 6.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7597E+02	8.7301E+03	1.1686E+04
T	2.2620E+01	3.7351E+01	4.0606E+01
RHD	1.9133E+01	9.7794E+01	1.1209E+02
H	-1.3388E+00	-3.3379E+00	-4.0224E-01
A	6.8825E+00	9.0978E+00	9.8003E+00
S	2.0240E+00	2.1862E+00	2.2569E+00
Z	1.9736E+00	2.3908E+00	2.5539E+00
GAME	1.0002E+00	9.2681E-01	9.4133E-01
U	2.2117E+01	3.4293E+01	3.4290E+01

SPECIES	MOLE FRACTIONS		
E-	4.9680E-05	3.3341E-03	5.5380E-03
O	4.8134E-01	5.7432E-01	5.9942E-01
O+	1.2550E-05	3.9881E-04	1.0890E-03
O++	1.8180E-25	6.3702E-16	1.1990E-14
D+	5.1990E-06	5.3902E-04	2.8879E-04
DZ	1.2115E-02	3.8306E-03	5.3910E-03
OZ+	8.8161E-06	5.4737E-05	7.7029E-05
OZ-	1.7415E-07	1.1352E-05	1.7529E-05
C	1.8745E-06	1.6112E-01	2.0878E-01
C+	3.6794E-07	2.4491E-03	4.3977E-03
C++	3.8015E-19	2.3579E-11	1.0220E-10
C-	1.3393E-08	1.1111E-04	7.8171E-04
CO	9.0136E-01	2.4697E-01	1.6891E-01
CO+	2.9821E-05	6.9207E-04	1.1123E-03
COZ	3.1951E-03	6.1034E-04	3.6308E-04
CZ	2.5095E-06	2.9671E-03	3.7984E-03

$P1 = 1.00E+04 \text{ N/50-M}$ $US1 = 6.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.9730E+02	8.3691E+03	1.1269E+04
T	1.9176E+01	3.8425E+01	3.8325E+01
RHD	1.6478E+01	1.0641E+02	1.2204E+02
H	-1.0570E+00	-2.8328E+00	-3.4481E+00
A	5.9263E+00	8.5829E+00	9.2654E+00
S	1.9580E+00	2.1136E+00	2.1803E+00
Z	1.8911E+00	2.2583E+00	2.4058E+00
GAME	9.6879E-01	9.2082E-01	9.2973E-01
U	2.0854E+01	3.2900E+01	3.2630E+01

SPECIES	MOLE FRACTIONS		
E-	6.4014E-06	2.8966E-03	3.5708E-03
O	4.2749E-01	5.4487E-01	5.7638E-01
O+	9.6782E-07	3.8378E-04	6.8935E-04
O++	1.3695E-30	8.2846E-17	1.4750E-15
D+	1.2840E-06	3.8804E-04	6.6790E-04
DZ	6.3947E-02	6.9411E-03	6.5086E-03
OZ+	4.8584E-06	4.7970E-03	6.6245E-03
OZ-	1.4736E-07	9.8194E-06	1.9959E-05
C	6.9550E-05	1.1667E-01	1.6615E-01
C+	2.8016E-08	3.3799E-03	2.6582E-03
C++	7.2715E-24	2.8053E-12	2.2406E-11
C-	1.3006E-10	6.0179E-03	1.4201E-04
CO	5.1479E-01	3.1843E-01	2.3813E-01
CO+	2.7806E-06	7.4386E-04	9.9250E-04
COZ	1.3691E-02	9.8968E-04	6.5149E-04
CZ	2.1930E-08	2.1730E-03	3.1789E-03

$P1 = 1.00E+04 \text{ N/50-M}$ $US1 = 6.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.1654E+02	8.9514E+03	1.1942E+04
T	2.4530E+01	3.8351E+01	4.1874E+01
RHD	1.6608E+01	9.4886E+01	1.0842E+02
H	-1.4884E+00	-3.6022E+00	-4.3256E+00
A	6.8764E+00	9.3736E+00	1.0224E+01
S	2.0516E+00	2.2223E+00	2.2990E+00
Z	1.9997E+00	2.4598E+00	2.6298E+00
GAME	9.6395E-01	9.3137E-01	9.4917E-01
U	2.2750E+01	3.5078E+01	3.5259E+01

SPECIES	MOLE FRACTIONS		
E-	1.7960E-06	4.1217E-03	6.9029E-03
O	4.9237E-01	5.8597E-01	6.0943E-01
O+	3.2313E-05	7.4510E-04	1.3913E-03
O++	2.0287E-23	1.1078E-13	3.4335E-14
D+	1.0998E-05	6.2467E-04	1.0157E-03
DZ	6.6045E-03	5.3875E-03	6.8053E-03
OZ+	9.6401E-06	3.8076E-05	8.3810E-05
OZ-	2.0485E-07	1.2009E-05	1.2815E-05
C	7.9342E-03	1.6222E-01	2.2812E-01
C+	2.9780E-05	3.1431E-03	5.5903E-03
C++	3.1095E-17	2.0291E-11	2.2273E-10
C-	1.1510E-07	1.4326E-04	2.8281E-04
CO	4.9012E-01	2.1292E-01	1.3707E-01
CO+	7.0706E-05	9.5466E-04	1.1342E-03
COZ	1.6501E-03	4.7260E-04	2.9096E-04
CZ	2.0249E-05	3.2458E-03	3.8044E-03

$P1 = 1.00E+04 \text{ N/50-M}$ $US1 = 6.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.3609E+02	8.5911E+03	1.1532E+04
T	2.0492E+01	3.6400E+01	3.9481E+01
RHD	1.5848E+01	1.0153E+02	1.1781E+02
H	-1.1957E+00	-3.0832E+00	-3.7325E+00
A	6.3163E+00	8.8381E+00	9.5666E+00
S	1.9919E+00	2.1497E+00	2.2184E+00
Z	1.9307E+00	2.3236E+00	2.4793E+00
GAME	9.9399E-01	9.2339E-01	9.3498E-01
U	2.1494E+01	3.3599E+01	3.3044E+01

SPECIES	MOLE FRACTIONS		
E-	1.6356E-05	2.6701E-03	4.4594E-03
O	6.017E-01	5.6239E-01	5.8034E-01
O+	3.5490E-06	4.8180E-04	8.5917E-04
O++	4.5782E-28	2.3832E-16	4.1616E-15
D+	2.4485E-04	4.6303E-04	7.7960E-04
DZ	2.4697E-02	6.3691E-03	5.9501E-03
OZ+	6.8903E-06	5.1369E-05	7.1587E-05
OZ-	1.5806E-07	1.0579E-06	1.6921E-05
C	3.3977E-04	1.3924E-01	1.8099E-01
C+	2.9702E-07	1.6499E-03	3.4442E-03
C++	1.4960E-21	6.3936E-12	4.8392E-11
C-	1.1347E-09	8.9746E-05	1.8349E-04
CO	5.0059E-01	2.8215E-01	2.0237E-01
CO+	8.2299E-06	8.2455E-04	1.0060E-03
COZ	6.8179E-03	7.8130E-04	4.9324E-04
CZ	2.0496E-07	2.6123E-03	3.6626E-03

$P1 = 1.00E+04 \text{ N/50-M}$ $US1 = 6.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.9977E+02	9.3618E+03	1.2916E+04
T	2.5992E+01	3.9470E+01	4.3419E+01
RHD	1.4400E+01	9.3719E+01	1.0484E+02
H	-1.6390E+00	-3.8804E+00	-4.6329E+00
A	7.0121E+00	9.6798E+00	1.0617E+01
S	2.0830E+00	2.2575E+00	2.3328E+00
Z	2.0299E+00	2.5108E+00	2.7074E+00
GAME	9.3142E-01	9.3722E-01	9.5893E-01
U	2.3414E+01	3.6032E+01	3.6616E+01

SPECIES	MOLE FRACTIONS		
E-	2.9183E-04	5.0831E-03	8.7332E-03
O	9.0277E-01	5.9669E-01	6.1824E-01
O+	5.7369E-05	9.3759E-04	1.6402E-03
O++	4.1902E-22	4.8509E-13	1.1776E-11
D+	1.8089E-05	7.2875E-04	1.1798E-03
DZ	4.5166E-03	4.9753E-03	4.3684E-03
OZ+	9.8770E-06	6.4436E-05	9.3250E-05
OZ-	2.4796E-07	1.3103E-05	1.9111E-05
C	1.9853E-02	2.0244E-01	2.4601E-01
C+	1.0447E-04	3.9916E-03	7.1386E-03
C++	6.9258E-16	6.0176E-11	5.2853E-10
C-	4.8959E-07	1.6294E-04	3.4995E-04
CO	4.7110E-01	1.6006E-01	1.0696E-01
CO+	1.3894E-04	1.0143E-03	1.1900E-03
COZ	1.0599E-03	3.6131E-04	1.7658E-04
CZ	7.6058E-05	3.6506E-03	3.6805E-03

Table L - Continued.

$$P_1 = 10 \text{ kN/m}^2$$

 $P_1 = 1.00E+04 \text{ N/50-N}$
 $US1 = 7.00E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.0499E+02	9.9847E+03	1.3255E+04
T	2.7099E+01	6.0722E+01	4.5265E+01
RMO	1.4382E+01	9.3449E+01	1.0527E+02
H	-1.7962E+00	1.1711E+00	-4.9989E+00
A	7.1521E+00	1.0009E+01	1.1087E+01
S	2.1113E+00	2.2917E+00	2.3699E+00
Z	2.0699E+00	2.4028E+00	2.7898E+00
GAME	9.1648E-01	9.4444E-01	9.7017E-01
U	2.4100E+01	3.7149E+00	3.8129E+00

SPECIES	MOLE FRACTIONS		
E-	4.8831E-04	6.2773E-03	1.1227E-02
O	5.1214E-01	6.0691E-01	6.2523E-01
O+	8.3274E-05	1.1951E-03	2.5097E-03
O++	3.1882E-21	1.4678E-14	4.6388E-13
O*	2.6837E-03	8.3204E-04	1.3789E-03
O2	7.8532E-03	4.4882E-03	3.8899E-03
O2+	1.0004E-05	7.1373E-05	1.0539E-04
O2*	2.9811E-07	1.4255E-05	2.0044E-05
C	3.5376E-02	2.2147E-01	2.6137E-01
C+	2.2833E-04	5.0366E-03	9.2293E-03
C++	2.9494E-15	1.3129E-10	1.3458E-09
C*	1.2836E-06	2.3091E-04	4.3006E-04
CO	4.4691E-01	1.4882E-01	7.9399E-02
CO+	1.9484E-04	1.0584E-03	1.2116E-03
CO2	7.8161E-04	2.7006E-04	1.1844E-04
C2	1.7320E-04	3.5596E-03	3.4039E-03

 $P_1 = 1.00E+04 \text{ N/50-N}$
 $US1 = 7.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.5189E+02	1.0523E+04	1.4138E+04
T	2.7988E+01	4.2119E+01	4.7463E+01
RMO	1.4452E+01	9.3402E+01	1.0425E+02
H	-1.9589E+00	-4.4711E+00	-5.3423E+00
A	7.3215E+00	1.0243E+01	1.1546E+01
S	2.1395E+00	2.3253E+00	2.4063E+00
Z	2.1061E+00	2.8750E+00	2.8570E+00
GAME	9.0944E-01	9.5310E-01	9.8138E-01
U	2.4798E+01	3.8427E+00	3.9887E+00

SPECIES	MOLE FRACTIONS		
E-	7.1903E-04	7.7893E-03	1.4710E-02
O	5.2176E-01	6.1521E-01	6.2976E-01
O+	1.1000E-04	1.5461E-03	3.5362E-03
O++	1.4507E-20	4.6989E-14	2.0845E-12
O*	3.6605E-03	9.9433E-04	1.6103E-03
O2	7.8216E-03	4.2346E-03	3.3544E-03
O2+	1.0391E-05	7.9634E-05	1.2041E-04
O2*	3.5311E-07	1.5400E-05	2.0689E-05
C	5.2649E-02	2.3040E-01	2.7332E-01
C+	3.9381E-04	6.3479E-03	1.1994E-02
C++	1.0758E-14	2.9467E-10	3.7182E-09
C*	2.9769E-06	2.0733E-04	5.2122E-04
CO	4.2010E-01	1.1875E-01	5.6799E-02
CO+	2.4436E-04	1.1277E-03	1.2116E-03
CO2	6.1822E-04	1.9477E-04	6.7648E-05
C2	3.0210E-04	3.5366E-03	2.9783E-03

 $P_1 = 1.00E+04 \text{ N/50-N}$
 $US1 = 7.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.0032E+02	1.1188E+04	1.5097E+04
T	2.8766E+01	4.3690E+01	5.0040E+01
RMO	1.4942E+01	9.5252E+01	1.0318E+02
H	-2.1256E+00	-4.7823E+00	-5.7432E+00
A	7.4858E+00	1.0749E+01	1.2032E+01
S	2.1674E+00	2.3600E+00	2.4426E+00
Z	2.1493E+00	2.7461E+00	2.9242E+00
GAME	9.0633E-01	9.6311E-01	9.8932E-01
U	2.5501E+01	3.9870E+00	4.1875E+00

SPECIES	MOLE FRACTIONS		
E-	9.8119E-04	9.7474E-03	1.9561E-02
O	5.3146E-01	6.2250E-01	6.3109E-01
O+	1.3847E-04	2.0362E-03	5.1172E-03
O++	5.0532E-20	1.6071E-13	1.0391E-11
O*	4.7388E-03	1.1562E-03	1.6680E-03
O2	2.7568E-03	3.8395E-03	2.6401E-03
O2+	1.0804E-05	8.9910E-05	1.3835E-04
O2*	4.1235E-07	1.6410E-05	2.0841E-05
C	7.0718E-02	2.9428E-01	2.8084E-01
C+	5.9349E-04	8.0035E-03	1.5626E-02
C++	3.9121E-14	6.8533E-10	1.0899E-08
C*	4.6256E-06	3.5216E-04	6.1785E-04
CO	3.9204E-01	9.3321E-02	3.8604E-02
CO+	2.8861E-04	1.1431E-03	1.1860E-03
CO2	5.0675E-04	1.3415E-04	3.7521E-05
C2	4.5195E-04	3.3012E-03	2.4548E-03

 $P_1 = 1.00E+04 \text{ N/50-N}$
 $US1 = 7.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.5018E+02	1.1882E+04	1.6122E+04
T	2.9473E+01	4.5477E+01	5.2902E+01
RMO	1.4667E+01	9.2836E+01	1.0215E+02
H	-2.2971E+00	-5.1019E+00	-6.1992E+00
A	7.6931E+00	1.1165E+01	1.2504E+01
S	2.1955E+00	2.3933E+00	2.4774E+00
Z	2.1950E+00	2.8145E+00	2.9833E+00
GAME	9.0532E-01	9.7392E-01	9.9070E-01
U	2.6207E+01	4.1516E+00	4.4401E+00

SPECIES	MOLE FRACTIONS		
E-	1.2753E-03	1.2338E-02	2.5949E-02
O	5.4119E-01	6.2799E-01	6.2881E-01
O+	1.6906E-04	2.7380E-03	7.4337E-03
O++	1.4806E-19	5.9598E-13	5.2122E-11
O*	5.0247E-03	1.3381E-03	2.1318E-03
O2	2.9345E-03	3.4206E-03	2.9723E-03
O2+	1.1313E-05	1.0098E-04	1.5856E-04
O2*	4.7589E-07	1.7169E-05	2.0485E-05
C	8.9093E-02	2.6709E-01	2.8350E-01
C+	6.3233E-04	1.0123E-02	2.0079E-02
C++	7.1905E-14	1.6710E-09	3.1779E-08
C*	4.8814E-06	6.2468E-04	7.0813E-04
CO	3.6346E-01	7.0139E-02	2.9723E-02
CO+	3.2846E-04	1.1585E-03	1.1379E-03
CO2	4.2369E-04	8.7437E-05	2.0082E-05
C2	6.1375E-04	3.0932E-03	1.9293E-03

 $P_1 = 1.00E+04 \text{ N/50-N}$
 $US1 = 7.80E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0016E+03	1.2595E+04	1.7192E+04
T	3.3138E+01	4.7315E+01	5.6000E+01
RMO	1.4481E+01	9.2088E+01	1.0110E+02
H	-2.4733E+00	-4.4278E+00	-6.5472E+00
A	7.8235E+00	1.1601E+01	1.2947E+01
S	2.2237E+00	2.4259E+00	2.5121E+00
Z	2.2428E+00	2.8785E+00	3.0367E+00
GAME	9.0553E-01	9.8396E-01	9.8574E-01
U	2.6913E+01	4.3398E+00	4.6172E+00

SPECIES	MOLE FRACTIONS		
E-	1.6041E-03	1.5801E-02	3.4060E-02
O	5.4084E-01	6.3123E-01	6.2298E-01
O+	2.0438E-04	3.7597E-03	1.0710E-02
O++	3.9267E-19	2.3935E-12	2.5041E-10
O*	7.7288E-03	1.9382E-03	2.3842E-03
O2	2.5422E-03	2.9675E-03	1.9650E-03
O2+	1.1900E-05	1.1360E-04	1.8032E-04
O2*	5.4265E-07	1.7567E-05	1.9660E-05
C	1.0748E-01	2.7652E-01	2.8197E-01
C+	1.1053E-03	1.2837E-02	2.5287E-02
C++	1.9345E-13	4.2603E-09	8.9355E-08
C*	6.9946E-04	5.0289E-04	7.8514E-04
CO	2.3481E-01	9.0795E-02	1.7118E-02
CO+	3.6533E-04	1.1494E-03	1.0722E-03
CO2	3.5796E-04	5.3719E-05	1.0587E-05
C2	7.7950E-04	2.6983E-03	1.4610E-03

 $P_1 = 1.00E+04 \text{ N/50-N}$
 $US1 = 8.00E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0744E+03	1.3320E+04	1.8295E+04
T	3.0779E+01	4.9811E+01	5.9082E+01
RMO	1.4940E+01	9.1099E+01	1.0039E+02
H	-2.6539E+00	-5.7623E+00	-6.9648E+00
A	7.9976E+00	1.2038E+01	1.3349E+01
S	2.2521E+00	2.4578E+00	2.5451E+00
Z	2.2922E+00	2.9366E+00	3.0845E+00
GAME	9.0688E-01	9.9066E-01	9.7785E-01
U	2.7620E+01	4.5379E+00	4.8294E+00

SPECIES	MOLE FRACTIONS		
E-	1.9716E-03	2.0387E-02	4.3272E-02
O	5.6034E-01	6.3176E-01	6.1946E-01
O+	1.4904E-04	3.7408E-03	1.4843E-02
O++	9.7508E-19	1.0108E-11	1.0174E-09
O*	8.6546E-03	1.7502E-03	2.6006E-03
O2	2.2302E-03	2.5621E-03	1.6444E-03
O2+	1.2589E-05	1.2839E-04	2.0170E-04
O2*	6.1320E-07	1.7555E-05	1.8626E-05
C	1.7570E-01	2.8222E-01	2.7758E-01
C+	1.4171E-03	1.6249E-02	3.0685E-02
C++	3.9475E-13	1.1161E-08	2.2356E-07
C*	1.3818E-05	5.8135E-04	8.3913E-04
CO	3.0635E-01	3.5884E-02	1.1771E-02
CO+	3.9908E-04	1.1221E-03	1.0008E-03
CO2	3.0276E-04	3.1358E-05	5.8395E-06
C2	9.4253E-04	2.2469E-03	1.1004E-03

Table I. - Continued.

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/50-M. US1 = 8.20E+03 M/SEC				P1 = 1.00E+04 N/50-M. US1 = 8.80E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1079E+03	1.4035E+04	1.9420E+04	P	1.2774E+03	1.4318E+04	2.2840E+04
T	3.1408E+01	5.2318E+01	6.3922E+01	T	3.7322E+01	6.0222E+01	7.0349E+01
RHD	1.5094E+01	8.9892E+01	9.9044E+01	RHD	1.5308E+01	8.6886E+01	9.3338E+01
H	-2.8991E+00	-6.1047E+00	-7.3993E+00	H	-3.4221E+00	-7.1803E+00	-8.7125E+00
A	8.1760E+00	1.2453E+01	1.3728E+01	A	8.7462E+00	1.3527E+01	1.4810E+01
S	2.2804E+00	2.4889E+00	2.5770E+00	S	2.3671E+00	2.5776E+00	2.6480E+00
Z	2.3433E+00	2.9885E+00	3.1294E+00	Z	2.5041E+00	3.1183E+00	3.2399E+00
GAME	9.0828E-01	9.9194E-01	9.6988E-01	GAME	9.1675E-01	9.7437E-01	9.5367E-01
U	2.8320E+01	4.7501E+00	5.0206E+00	U	3.0439E+01	5.3702E+00	5.5373E+00

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	2.3638E-03	2.6242E-02	5.3277E-02	E-	3.9815E-03	5.0291E-02	8.5729E-02
D	5.4963E-01	6.2947E-01	6.0396E-01	D	3.9583E-01	6.0828E-01	5.6528E-01
D+	7.8928E-04	7.3199E-03	1.9780E-02	D+	4.7946E-04	1.7714E-02	3.8524E-02
D++	2.3139E-18	4.2681E-11	3.5067E-09	D++	2.7497E-17	1.8884E-09	6.4544E-08
D-	1.0219E-04	1.9627E-03	2.7735E-03	D-	1.5877E-04	2.4844E-03	3.0555E-03
O2	2.1141E+03	2.1718E-03	1.3918E-03	O2	1.8162E+03	1.3341E-03	8.8903E-04
O2+	1.3390E-09	1.4448E-04	2.2177E-04	O2+	1.6155E-05	1.9396E-04	2.6859E-04
O2-	6.8690E-07	1.7158E-05	1.7484E-05	O2-	9.2039E-07	1.4702E-05	1.3901E-05
C	1.4301E-01	2.8408E-01	2.7155E-01	C	1.9444E-01	2.7347E-01	2.5054E-01
C+	1.7723E-03	2.0334E-02	3.6010E-02	C+	3.1744E-03	3.4774E-02	5.0145E-02
C++	5.8837E-13	2.9032E-06	4.9980E-07	C++	9.4837E-12	3.4471E-07	3.2633E-06
C-	1.8411E-09	6.5443E-04	8.7131E-04	C-	3.7463E-05	7.9143E-04	9.8335E-04
CO	2.7828E-01	2.4710E-02	8.3842E-03	CO	1.9775E-01	8.8980E-03	3.5872E-03
CO+	9.3019E-04	1.0778E-03	9.2841E-04	CO+	5.0821E-04	8.9886E-04	7.2428E-04
CO2	2.5131E-04	1.7788E-05	3.3934E-06	CO2	1.4886E-04	3.5409E-06	8.4302E-07
C2	1.0970E-03	1.8018E-03	8.3179E-04	C2	1.4586E-03	6.5072E-04	3.7696E-04

P1 = 1.00E+04 N/50-M. US1 = 8.40E+03 M/SEC				P1 = 1.00E+04 N/50-M. US1 = 9.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1632E+03	1.4799E+04	2.0508E+04	P	1.3363E+03	1.7808E+04	2.4001E+04
T	3.7035E+01	5.4945E+01	6.5001E+01	T	3.4003E+01	6.2780E+01	7.3179E+01
RHD	1.5136E+01	8.8750E+01	9.9687E+01	RHD	1.5354E+01	8.6150E+01	9.9303E+01
H	-3.0289E+00	-6.4550E+00	-7.8234E+00	H	-3.6250E+00	-7.5552E+00	-9.1609E+00
A	8.3595E+00	1.2837E+01	1.4094E+01	A	8.9323E+00	1.3852E+01	1.5161E+01
S	2.3093E+00	2.3192E+00	2.8079E+00	S	2.3962E+00	2.6059E+00	2.6968E+00
Z	2.3957E+00	3.0349E+00	3.1730E+00	Z	2.5597E+00	3.1981E+00	3.3034E+00
GAME	9.1054E-01	9.8814E-01	9.6307E-01	GAME	9.2080E-01	9.6775E-01	9.5088E-01
U	2.9031E+01	4.9643E+00	5.2033E+00	U	3.1133E+01	5.5966E+00	5.8534E+00

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	2.8485E-03	3.3222E-02	6.3783E-02	E-	4.6890E-03	5.9711E-02	9.8815E-02
D	5.7868E-01	6.2447E-01	5.9202E-01	D	6.0385E-01	5.9798E-01	5.7102E-01
D+	7.4214E-04	1.0087E-02	2.5422E-02	D+	5.7058E-04	2.2876E-02	4.9709E-02
D++	5.3189E-18	1.6889E-10	1.0402E-08	D++	4.3092E-17	5.2571E-09	1.3907E-07
D-	1.1934E-04	2.1622E-03	2.9078E-03	D-	1.8147E-04	2.3998E-03	3.0799E-03
O2	2.0098E-03	1.8360E-03	1.1906E-03	O2	1.7202E-03	1.1506E-03	7.7634E-04
O2+	1.4194E-09	1.6130E-04	2.3985E-04	O2+	1.7290E-05	2.0862E-04	2.7877E-04
O2-	1.3319E-07	1.6478E-05	1.6302E-05	O2-	9.9910E-07	1.3741E-05	1.2738E-05
C	1.6113E-01	2.8278E-01	2.6478E-01	C	1.6045E-01	2.6729E-01	2.4359E-01
C+	2.1773E-03	2.4945E-02	4.1070E-02	C+	3.7957E-03	3.9601E-02	5.9071E-02
C++	1.0887E-12	7.1932E-08	1.0093E-06	C++	6.4167E-12	6.7900E-07	5.3344E-06
C-	2.8834E-05	7.1568E-04	8.6462E-04	C-	4.9840E-05	8.0675E-04	8.4533E-04
CO	2.5076E-01	1.7201E-02	5.1689E-03	CO	1.7290E-01	6.6492E-03	2.6166E-03
CO+	4.5876E-04	1.0223E-03	8.3765E-04	CO+	9.2877E-05	8.3706E-04	6.8343E-04
CO2	2.1571E-04	1.0101E-05	2.0590E-06	CO2	1.2113E-04	2.2114E-06	5.6482E-07
C2	1.2377E-03	1.4117E-03	6.3895E-04	C2	1.5307E-03	6.8329E-04	2.9473E-04

P1 = 1.00E+04 N/50-M. US1 = 8.60E+03 M/SEC				P1 = 1.00E+04 N/50-M. US1 = 9.20E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2196E+03	1.3554E+04	2.1709E+04	P	1.3964E+03	1.7842E+04	2.5137E+04
T	3.2670E+01	5.7601E+01	6.7809E+01	T	3.4721E+01	6.5264E+01	7.5768E+01
RHD	1.5241E+01	8.7737E+01	9.9941E+01	RHD	1.5375E+01	8.5996E+01	9.9095E+01
H	-3.2233E+00	-6.8136E+00	-8.2641E+00	H	-3.8335E+00	-7.9380E+00	-9.6387E+00
A	8.5492E+00	1.3181E+01	1.4452E+01	A	9.1802E+00	1.4171E+01	1.5518E+01
S	2.3302E+00	2.5487E+00	2.6381E+00	S	2.4233E+00	2.6337E+00	2.7268E+00
Z	2.4494E+00	3.0777E+00	3.2162E+00	Z	2.6159E+00	3.1975E+00	3.3479E+00
GAME	9.1335E-01	9.8156E-01	9.5770E-01	GAME	9.2565E-01	9.6224E-01	9.4909E-01
U	2.9734E+01	5.1724E+00	5.3747E+00	U	3.1828E+01	5.7322E+00	5.8447E+00

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	3.3782E-03	4.1421E-02	7.4608E-02	E-	5.5107E-03	6.9932E-02	1.0810E-01
D	5.8743E-01	6.1729E-01	5.7912E-01	D	6.1142E-01	5.8664E-01	5.3613E-01
D+	6.0461E-04	2.3563E-02	3.1677E-02	D+	4.8347E-04	2.7023E-02	5.3400E-02
D++	1.2077E-17	6.0002E-10	2.7204E-08	D++	1.4696E-16	1.3202E-08	2.8116E-07
D-	1.3314E-04	2.3379E-03	3.0006E-03	D-	2.0657E-04	2.6849E-03	3.0726E-03
O2	1.9118E-03	1.5591E-03	1.0267E-03	O2	1.6213E-03	9.9095E-04	6.7430E-04
O2+	1.5127E-05	1.7802E-04	2.5533E-04	O2+	1.8948E-05	2.2166E-04	2.8808E-04
O2-	8.4134E-07	1.5631E-05	1.5108E-05	O2-	1.0739E-06	1.2770E-05	1.1878E-05
C	1.7817E-01	2.7881E-01	2.5770E-01	C	2.7551E-01	2.6088E-01	2.3674E-01
C+	2.6408E-03	2.9836E-02	4.5778E-02	C+	4.9295E-03	4.4215E-02	5.7692E-02
C++	1.9773E-12	1.8925E-07	1.8742E-06	C++	1.1624E-11	1.2319E-06	8.3702E-06
C-	3.0188E-05	7.8151E-04	8.8266E-04	C-	9.5398E-05	8.0955E-04	8.1540E-04
CO	2.2386E-01	1.2214E-02	4.6409E-03	CO	1.6081E-01	5.0881E-03	2.2327E-03
CO+	4.8480E-04	9.6135E-04	7.8947E-04	CO+	9.4619E-04	7.7698E-04	6.0535E-04
CO2	1.8022E-04	5.8771E-06	1.2982E-06	CO2	9.6694E-05	1.4260E-06	3.8390E-07
C2	1.3597E-03	1.0999E-03	4.8749E-04	C2	1.5709E-03	5.2017E-04	2.3115E-04

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Table I. - Continued.

$$P_1 = 10 \text{ KN/m}^2$$

$P_1 = 1.00E+04 \text{ N/SQ-M.}$ $U_1 = 9.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6378E+03	1.8591E+04	2.6244E+04
T	3.5493E+01	6.7673E+01	7.8310E+01
RHD	1.9289E+01	8.4856E+01	9.8759E+01
M	-4.2639E-01	-8.3286E+00	-1.0106E+01
A	9.3997E+00	1.4406E+01	1.5874E+01
S	2.4544E+00	2.8612E+00	2.7340E+00
Z	2.6724E+00	3.2373E+00	3.3938E+00
GAME	9.3149E-01	9.5782E-01	9.4820E-01
U	3.2510E+01	5.8984E+00	5.9929E+00

SPECIES	MOLE FRACTIONS		
E-	6.5021E-03	7.9635E-02	1.1947E-01
O	6.1848E-01	5.7449E-01	5.2080E-01
O+	8.2685E-04	3.3667E-02	6.1425E-02
O++	3.3716E-16	3.0279E-08	5.3634E-07
D+	2.3428E-04	2.7410E-03	3.0378E-03
O2	1.9175E-03	9.7153E-04	5.8691E-04
O2+	1.9951E-05	1.1801E-05	2.9040E-04
O2-	1.1488E-06	2.1274E-06	1.0443E-05
C	2.3968E-01	2.5390E-01	2.3006E-01
C+	5.3971E-03	4.8547E-02	6.1101E-02
C++	2.1503E-11	2.1041E-06	1.2699E-05
CO	6.6260E-05	8.0197E-04	7.8009E-04
CO+	5.6002E-04	3.9529E-03	1.7851E-03
CO2	7.5308E-05	7.1910E-04	5.5063E-04
C2	1.5769E-03	4.1030E-04	2.6441E-07
			1.8202E-04

$P_1 = 1.00E+04 \text{ N/SQ-M.}$ $U_1 = 1.00E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6479E+03	2.0653E+04	2.9266E+04
T	3.8332E+01	7.4520E+01	8.3717E+01
RHD	1.5141E+01	8.2597E+01	9.4533E+01
M	-4.7099E+00	-9.5421E+00	-1.1972E+01
A	1.0208E+01	1.3427E+01	1.6970E+01
S	2.9412E+00	2.7624E+00	2.8385E+00
Z	2.8394E+00	3.3605E+00	3.5368E+00
GAME	9.5743E-01	9.9032E-01	9.4991E-01
U	3.4558E+01	6.3543E+00	6.4261E+00

SPECIES	MOLE FRACTIONS		
E-	1.1183E-02	1.1103E-01	1.5401E-01
O	6.3501E-01	5.3441E-01	6.7285E-01
O+	1.6042E-03	5.3718E-02	8.7138E-02
O++	7.2192E-15	2.3997E-07	2.6488E-06
D+	3.1879E-04	2.7523E-03	2.7937E-03
O2	1.1635E-03	5.8569E-04	3.8112E-04
O2+	2.5374E-05	2.5288E-04	2.8607E-04
O2-	1.3120E-06	8.9591E-06	7.2715E-06
C	2.7478E-01	2.3373E-01	2.1084E-01
C+	9.4279E-03	5.9983E-02	6.9537E-02
C++	2.18970E-10	7.9746E-06	3.7193E-05
CO	1.0810E-04	1.3507E-04	6.5937E-04
CO+	6.4410E-02	2.0071E-03	9.3893E-04
CO2	5.7361E-04	5.6029E-04	4.0627E-04
C2	2.8599E-05	3.0689E-07	9.0240E-08
			9.0195E-05

$P_1 = 1.00E+04 \text{ N/SQ-M.}$ $U_1 = 9.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5201E+03	1.9319E+04	2.7312E+04
T	3.6336E+01	6.9975E+01	8.0826E+01
RHD	1.9311E+01	8.4259E+01	9.8222E+01
M	-4.2628E+00	-8.3286E+00	-1.0106E+01
A	9.6469E+00	1.4794E+01	1.6237E+01
S	2.4833E+00	2.6878E+00	2.7825E+00
Z	2.7209E+00	3.2767E+00	3.4403E+00
GAME	9.3854E-01	9.5449E-01	9.4809E-01
U	3.3205E+01	6.0540E+00	6.1388E+00

SPECIES	MOLE FRACTIONS		
E-	7.7141E-03	8.9717E-02	1.3100E-01
O	6.2484E-01	5.6194E-01	5.0500E-01
O+	1.0125E-03	3.9825E-02	6.9813E-02
O++	9.0428E-16	2.7709E-08	2.9777E-07
D+	2.6320E-04	2.6540E-04	2.9175E-04
O2	1.4073E-03	7.6540E-04	5.0913E-04
O2+	2.1527E-05	2.4171E-04	2.0175E-04
O2-	1.2146E-06	1.0872E-05	9.3314E-06
C	2.5280E-01	2.4726E-01	2.2348E-01
C+	6.4533E-03	5.2547E-02	6.4088E-02
C++	4.0791E-11	3.3836E-06	1.8614E-05
CO	7.8569E-05	7.8673E-04	7.4065E-04
CO+	1.0324E-01	5.1377E-03	1.4337E-03
CO2	5.6970E-04	6.4502E-04	4.8889E-04
C2	1.5453E-03	6.4525E-07	1.8331E-07
			1.4392E-04

$P_1 = 1.00E+04 \text{ N/SQ-M.}$ $U_1 = 1.05E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8123E+03	2.1967E+04	3.1180E+04
T	4.1725E+01	7.9844E+01	9.1681E+01
RHD	1.4645E+01	7.9252E+01	9.2778E+01
M	-5.7933E+00	-1.0593E+01	-1.2838E+01
A	1.1052E+01	1.6220E+01	1.7919E+01
S	2.6119E+00	2.8100E+00	2.9087E+00
Z	2.9649E+00	3.4707E+00	3.6668E+00
GAME	9.8795E-01	9.4915E-01	9.5942E-01
U	3.6201E+01	6.7002E+00	6.7844E+00

SPECIES	MOLE FRACTIONS		
E-	1.9271E-02	1.3818E-01	1.8315E-01
O	6.3989E-01	6.9791E-01	6.3846E-01
O+	3.2695E-03	7.2744E-02	1.0979E-02
O++	1.6843E-13	9.5713E-07	1.1084E-06
D+	4.5749E-04	2.6077E-03	2.4781E-03
O2	8.2775E-04	4.1683E-04	2.5601E-04
O2+	3.2077E-05	2.5346E-04	2.6488E-04
O2-	1.3243E-06	6.7397E-06	5.0214E-06
C	2.6040E-02	2.1790E-01	1.9543E-01
C+	1.6009E-09	6.7857E-02	7.5669E-02
C-	1.5412E-04	1.9510E-05	7.9478E-05
CO	2.8792E-07	1.1931E-03	5.5548E-04
CO+	9.4181E-04	4.4515E-04	3.0797E-04
CO2	8.8282E-06	1.2634E-07	3.7362E-08
C2	9.5161E-04	1.1888E-04	5.0570E-05

$P_1 = 1.00E+04 \text{ N/SQ-M.}$ $U_1 = 9.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5836E+03	2.0010E+04	2.8326E+04
T	3.7273E+01	7.2299E+01	8.3278E+01
RHD	1.5256E+01	8.3398E+01	9.7524E+01
M	-4.4841E+00	-9.1311E+00	-1.1076E+01
A	9.9150E+00	1.5113E+01	1.6600E+01
S	2.5129E+00	2.7155E+00	2.8105E+00
Z	2.7848E+00	3.3186E+00	3.4877E+00
GAME	9.4712E-01	9.5197E-01	9.4868E-01
U	3.3885E+01	6.2083E+00	6.2837E+00

SPECIES	MOLE FRACTIONS		
E-	9.2324E-03	1.0043E-01	1.4244E-01
O	6.3043E-01	5.4827E-01	4.8911E-01
O+	1.2611E-03	4.8663E-02	7.8940E-02
O++	2.9982E-04	1.2773E-07	1.6968E-06
D+	1.2896E-03	6.6842E-04	4.4171E-04
O2	2.3317E-05	2.4849E-04	2.9032E-04
O2+	1.2705E-06	9.8910E-06	8.2821E-06
O2-	2.6460E-01	2.4037E-01	2.1713E-01
C	7.7671E-03	5.6438E-02	6.6809E-02
C+	6.0581E-11	5.3144E-06	2.6349E-05
C-	9.2675E-05	7.8376E-04	6.9934E-04
CO	8.2911E-02	2.4921E-03	1.1198E-03
CO+	5.7451E-04	6.1068E-04	4.5155E-04
CO2	4.1308E-05	4.4018E-07	1.2897E-07
C2	1.4748E-03	2.5902E-04	1.1380E-04

$P_1 = 1.00E+04 \text{ N/SQ-M.}$ $U_1 = 1.10E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9824E+03	2.2959E+04	3.2639E+04
T	4.6143E+01	6.4912E+01	7.6039E+01
RHD	1.4008E+01	7.5390E+01	8.7909E+01
M	-5.9039E+00	-1.1079E+01	-1.4154E+01
A	1.1889E+01	1.7021E+01	1.8917E+01
S	2.6782E+00	2.8763E+00	2.9789E+00
Z	1.0670E+00	3.5864E+00	3.8039E+00
GAME	9.9884E-01	9.5131E-01	9.6387E-01
U	3.7797E+01	7.0334E+00	7.1633E+00

SPECIES	MOLE FRACTIONS		
E-	3.4913E-02	1.6933E-01	2.1245E-01
O	6.3168E-01	4.6027E-01	3.8941E-01
O+	7.2609E-03	9.2850E-02	1.3287E-01
O++	5.3882E-12	3.0427E-06	2.5971E-05
D+	5.9328E-04	2.3765E-03	2.0948E-03
O2	3.8917E-04	2.9395E-04	1.6913E-04
O2+	4.1027E-05	2.4208E-04	2.3348E-04
O2-	1.2027E-06	6.8694E-06	3.2705E-06
C	2.8949E-01	2.0216E-01	1.8027E-01
C+	2.7329E-02	7.4735E-02	8.1284E-02
C-	1.3648E-08	4.1518E-05	1.5840E-04
CO	2.0027E-04	5.5597E-04	4.4026E-04
CO+	1.0926E-02	7.2925E-04	3.2720E-04
CO2	4.7592E-04	3.4923E-04	2.2868E-04
C2	2.1186E-06	5.8053E-08	1.5346E-08
			2.8322E-05

Table 1. - Continued.

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/SQ-M. US1 = 1.15E+04 N/SEC				P1 = 1.00E+04 N/SQ-M. US1 = 1.30E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1601E+03	2.4056E+04	3.427E+04	P	2.7477E+03	2.8700E+04	4.1657E+04
T	5.0728E+01	8.9963E+01	1.0378E+02	T	4.2376E+01	1.0650E+02	1.2536E+02
RMD	1.3479E+01	7.2115E+01	8.3618E+01	RMD	1.2763E+01	6.5795E+01	7.5138E+01
H	-0.5426E+00	-1.2814E+01	-1.5540E+01	H	-0.6325E+00	-1.8593E+01	-2.0229E+01
A	1.2578E+01	1.7059E+01	1.9990E+01	A	1.4377E+01	2.0742E+01	2.3477E+01
S	2.7410E+00	2.9408E+00	3.0475E+00	S	2.9147E+00	3.1255E+00	3.2436E+00
Z	3.1591E+00	3.7409E+00	3.9900E+00	Z	3.4514E+00	4.1073E+00	4.224E+00
GAME	9.8729E-01	9.5409E-01	9.7476E-01	GAME	9.6013E-01	9.8335E-01	1.0112E+00
U	3.9396E+01	7.3782E+00	7.5689E+00	U	4.4334E+01	8.6100E+00	9.0622E+00

SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	5.6133E-02	1.9226E-01	2.4129E-01	E-	1.3222E-01	2.7014E-01	3.2196E-01
O	6.1213E-01	4.2194E-01	3.4771E-01	O	5.2598E-01	3.0859E-01	2.3267E-01
O+	1.4481E-02	1.1348E-01	1.5587E-01	O+	5.1613E-02	1.7630E-01	2.1763E-01
D+	1.0649E-10	8.4481E-06	6.4832E-05	D+	2.9004E-08	1.1486E-04	7.8429E-04
D-	7.0622E-04	2.1117E-03	1.7231E-03	D-	8.3371E-04	1.2868E-03	8.1056E-04
D2	3.6023E-06	2.0970E-04	1.0815E-04	D2	1.4695E-04	6.3616E-05	2.3888E-05
D2+	9.0420E-05	2.2393E-04	1.9809E-04	D2+	6.9753E-05	1.4961E-04	9.9452E-05
D2-	1.0374E-06	3.4457E-06	2.0510E-06	D2-	6.3675E-07	1.0448E-06	4.0508E-07
C	2.1978E-02	1.8772E-01	1.6561E-01	C	2.0489E-01	1.4844E-01	1.2395E-01
C+	9.5823E-08	8.0492E-02	8.6406E-02	C+	8.1359E-02	9.3949E-02	1.0006E-01
C-	2.2987E-04	4.6795E-04	3.4870E-04	C-	3.4801E-06	4.7258E-04	1.7550E-03
CO	4.3440E-03	4.9319E-04	1.9187E-04	CO	2.2862E-04	2.5616E-04	1.5579E-04
CO+	4.0634E-04	2.7152E-04	1.6711E-04	CO+	7.6151E-04	1.0900E-04	3.3922E-05
CO2	5.7177E-07	2.5223E-08	6.2793E-09	CO2	2.5182E-04	1.1884E-04	9.8499E-05
C2	2.9626E-04	4.1366E-05	1.5873E-05	C2	3.4981E-08	2.3493E-09	3.9305E-10

P1 = 1.00E+04 N/SQ-M. US1 = 1.20E+04 N/SEC				P1 = 1.00E+04 N/SQ-M. US1 = 1.35E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3470E+03	2.5428E+04	3.6170E+04	P	2.9610E+03	3.0645E+04	4.4695E+04
T	5.4949E+01	9.5297E+01	1.1044E+02	T	6.5762E+01	1.1254E+02	1.3350E+02
RMD	1.3132E+01	6.9565E+01	8.0268E+01	RMD	1.2659E+01	6.4103E+01	7.3032E+01
H	-7.2103E+00	-1.4004E+01	-1.7013E+01	H	-9.1864E+00	-1.7706E+01	-2.1984E+01
A	1.3197E+01	1.8764E+01	2.1152E+01	A	1.4961E+01	2.1807E+01	2.4952E+01
S	2.8007E+00	3.0044E+00	3.1145E+00	S	2.9699E+00	3.1834E+00	3.3058E+00
Z	3.2524E+00	3.8170E+00	4.1027E+00	Z	3.5568E+00	4.2479E+00	4.5843E+00
GAME	9.7456E-01	9.6333E-01	9.8741E-01	GAME	9.5697E-01	9.9475E-01	1.0174E+00
U	4.1022E+01	7.7848E+00	8.0201E+00	U	4.6008E+01	9.0964E+00	9.6354E+00

SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	8.0821E-02	2.1912E-01	2.4936E-01	E-	1.5760E-01	2.9420E-01	3.4584E-01
O	9.8628E-01	3.8312E-01	3.0711E-01	O	4.9292E-01	2.7373E-01	2.0056E-01
O+	2.4642E-02	1.9509E-01	1.7814E-01	O+	6.7480E-02	1.9532E-01	2.3272E-01
D+	1.0744E-09	2.1673E-05	1.5697E-04	D+	1.0122E-07	2.4396E-04	1.6052E-03
D-	7.8041E-04	1.8310E-03	1.3779E-03	D-	8.2494E-04	1.0409E-03	6.0312E-04
D2	2.5638E-04	1.4147E-04	6.7277E-05	D2	1.1377E-04	4.1205E-05	1.3821E-05
D2+	9.8847E-05	2.0122E-04	1.6276E-04	D2+	7.2438E-05	1.3160E-04	7.4888E-05
D2-	8.8551E-07	2.3788E-06	1.1570E-06	D2-	5.3348E-07	4.5914E-07	2.2243E-07
C	2.4738E-01	1.7392E-01	1.5140E-01	C	1.8916E-01	1.3632E-01	1.1087E-01
C+	5.6795E-02	6.5502E-02	9.1199E-02	C+	9.0860E-02	9.7821E-02	1.0403E-01
C-	4.2647E-07	1.9210E-04	5.5461E-04	C-	7.6714E-06	8.0909E-04	2.9678E-03
CO	2.4086E-04	3.8783E-04	2.7139E-04	CO	2.1376E-04	2.0348E-04	1.1580E-04
CO2	2.2402E-03	2.8175E-04	1.1134E-04	CO2	4.8813E-04	6.8916E-05	2.0194E-05
C2	3.4642E-04	2.0826E-04	1.2000E-04	C2	2.7680E-05	3.9949E-05	3.9949E-05
	1.9581E-07	1.1394E-08	2.5304E-09		1.8395E-08	1.0480E-09	1.5337E-10
	1.7142E-04	2.4610E-05	8.8338E-06		4.9373E-05	5.2993E-06	1.4772E-06

P1 = 1.00E+04 N/SQ-M. US1 = 1.25E+04 N/SEC				P1 = 1.00E+04 N/SQ-M. US1 = 1.40E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5429E+03	2.7023E+04	3.8859E+04	P	3.1825E+03	3.2587E+04	4.7911E+04
T	5.8800E+01	1.0074E+02	1.1764E+02	T	6.9021E+01	1.1888E+02	1.4185E+02
RMD	1.2910E+01	6.7956E+01	7.7522E+01	RMD	1.2597E+01	6.2433E+01	7.1283E+01
H	-7.9070E+00	-1.3259E+01	-1.6577E+01	H	-1.0164E+01	-1.9704E+01	-2.3773E+01
A	1.3792E+01	1.9723E+01	2.2393E+01	A	1.5590E+01	2.2908E+01	2.6172E+01
S	2.9584E+00	3.0657E+00	3.1798E+00	S	3.0242E+00	3.2407E+00	3.3663E+00
Z	3.3499E+00	3.9700E+00	4.2609E+00	Z	3.6637E+00	4.3903E+00	4.7435E+00
GAME	9.6571E-01	9.7258E-01	1.0003E+00	GAME	9.5967E-01	1.0034E+00	1.0180E+00
U	4.2671E+01	8.1643E+00	8.5195E+00	U	4.7085E+01	9.6181E+00	1.0220E+01

SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	1.0648E-01	2.4506E-01	2.9635E-01	E-	1.8242E-01	3.1704E-01	3.6774E-01
O	5.5697E-01	3.4923E-01	2.6847E-01	O	4.9957E-01	2.4118E-01	1.7268E-01
O+	3.7186E-02	1.5606E-01	1.9899E-01	O+	8.4393E-02	2.1207E-01	2.4929E-01
D+	6.6495E-09	9.1385E-05	3.3982E-04	D+	2.9800E-07	4.9431E-04	3.0869E-03
D-	8.2082E-04	1.9537E-03	1.0705E-03	D-	7.9894E-04	0.2311E-04	4.4638E-04
D2	1.9155E-04	9.5918E-05	6.0608E-05	D2	0.8744E-05	2.6109E-05	8.0224E-06
D2+	6.5148E-05	1.7402E-04	1.2928E-04	D2+	7.3260E-05	9.9441E-05	5.5123E-05
D2-	7.5313E-07	1.6009E-06	7.2182E-07	D2-	4.6160E-07	4.0267E-07	1.2207E-07
C	2.2640E-01	1.6093E-01	1.3752E-01	C	1.7316E-01	1.2432E-01	9.8948E-02
C+	6.9992E-02	8.0894E-02	9.5705E-02	C+	9.8740E-02	1.0135E-01	1.0727E-01
C-	1.3630E-06	2.7215E-04	9.9992E-04	C-	1.5146E-05	1.3243E-03	4.7128E-03
CO	2.3898E-04	3.1757E-04	2.0739E-04	CO	1.9632E-04	1.8959E-04	8.9594E-04
CO2	1.2533E-03	1.7982E-04	6.3654E-05	CO2	3.2400E-04	4.0673E-05	1.1471E-05
C2	2.9557E-04	1.9628E-04	8.4531E-05	C2	1.8072E-04	6.3923E-05	2.7268E-05
	8.0238E-08	9.1951E-09	1.0066E-09		9.6118E-09	4.6139E-10	6.1316E-11
	1.0467E-04	1.4754E-05	4.8960E-06		2.8846E-05	3.1174E-06	8.2288E-07

Table I. - Continued

$$P_1 = 10 \text{ KN/m}^2$$

$P_1 = 1.00E+04 \text{ N/50-N}$ $U_{S1} = 1.49E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4122E+03	3.4576E+04	5.1252E+04
T	7.2203E+01	1.2551E+02	1.5012E+02
RHO	1.2509E+01	6.0753E+01	6.9726E+01
H	-1.0901E+01	-2.0752E+01	-2.5660E+01
A	1.6148E+01	2.4017E+01	2.7503E+01
S	3.0702E+00	3.2964E+00	3.4244E+00
Z	3.7177E+00	4.3341E+00	4.8964E+00
GAME	9.5589E-01	1.0136E+00	1.0141E+00
H	6.9369E+01	1.0177E+01	1.0794E+01

SPECIES	MOLE FRACTIONS		
E-	2.0686E-01	3.3860E-01	3.8747E-01
D	4.2598E-01	2.1129E-01	1.4933E-01
O+	1.0200E-01	2.2790E-01	2.5339E-01
O++	7.7440E-07	9.5842E-04	5.2917E-03
O-	7.5947E-04	6.3910E-04	3.3379E-04
O2	6.9146E-05	1.6240E-05	4.7752E-06
O2+	7.2376E-05	7.8114E-05	4.0716E-05
O2-	3.6048E-07	2.3973E-07	2.8899E-08
C	1.5674E-01	1.1303E-01	8.7406E-02
C+	1.0522E-01	1.0910E-01	1.0944E-01
C++	2.7655E-05	2.1372E-03	7.1088E-03
C-	1.7187E-04	1.2324E-04	6.4577E-05
CO	2.1994E-04	2.4510E-05	6.7198E-06
CO+	1.5187E-04	4.6021E-05	1.6791E-05
CO2	3.1808E-09	2.0106E-10	2.6110E-11
C2	1.9433E-09	1.8396E-06	4.7371E-07

$P_1 = 1.00E+04 \text{ N/50-N}$ $U_{S1} = 1.55E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8952E+03	3.8668E+04	5.0138E+04
T	7.8493E+01	1.3920E+02	1.6625E+02
RHO	1.2371E+01	5.7307E+01	6.7329E+01
H	-1.2608E+01	-2.3790E+01	-2.9566E+01
A	1.7388E+01	2.6119E+01	2.9421E+01
S	3.1898E+00	3.4033E+00	3.5382E+00
Z	4.0133E+00	4.8136E+00	5.1941E+00
GAME	9.6021E-01	1.0181E+00	1.0024E+00
H	5.2718E+01	1.1316E+01	1.1866E+01

SPECIES	MOLE FRACTIONS		
E-	2.9250E-01	3.7694E-01	4.2254E-01
D	3.9941E-01	1.6143E-01	1.1277E-01
O+	1.1806E-01	2.5059E-01	2.5928E-01
O++	4.0218E-06	3.0192E-03	1.2756E-02
O-	6.5189E-04	3.7692E-04	1.9335E-04
O2	4.1121E-05	6.2412E-06	1.8136E-06
O2+	6.6217E-05	4.6247E-05	2.2254E-05
O2-	2.2787E-07	8.3242E-08	2.3747E-08
C	1.3382E-01	9.1786E-02	6.8236E-02
C+	1.1497E-01	1.1076E-01	1.1026E-01
C++	7.8713E-05	4.9987E-03	1.3847E-02
C-	1.4076E-04	7.2909E-05	3.7786E-05
CO	1.0480E-04	9.0298E-06	2.4962E-06
CO+	1.0500E-04	2.3572E-05	9.1642E-06
CO2	1.9715E-09	3.9689E-11	5.4452E-12
C2	8.9947E-06	6.5929E-07	1.7059E-07

$P_1 = 1.00E+04 \text{ N/50-N}$ $U_{S1} = 1.50E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6498E+03	3.6608E+04	5.4672E+04
T	7.5349E+01	1.3230E+02	1.5936E+02
RHO	1.2442E+01	5.9186E+01	6.9390E+01
H	-1.1820E+01	-2.2247E+01	-2.7580E+01
A	1.6759E+01	2.5093E+01	2.8389E+01
S	3.1312E+00	3.3505E+00	3.4823E+00
Z	3.0932E+00	4.6751E+00	5.0481E+00
GAME	9.5746E-01	1.0180E+00	1.0081E+00
H	5.1043E+01	1.0745E+01	1.1343E+01

SPECIES	MOLE FRACTIONS		
E-	2.2995E-01	3.5852E-01	4.0586E-01
D	3.9249E-01	1.8674E-01	1.2933E-01
O+	1.1999E-01	2.4063E-01	2.5797E-01
O++	1.8306E-06	1.7666E-03	8.5909E-03
O-	7.0953E-04	4.8174E-04	2.5146E-04
O2	3.3575E-05	1.8559E-05	2.8895E-06
O2+	6.9950E-05	6.0433E-05	2.9949E-05
O2-	2.8930E-07	1.4133E-07	3.9370E-08
C	1.4970E-01	1.0210E-01	7.7190E-02
C+	1.1054E-01	1.0823E-01	1.1046E-01
C++	4.7666E-05	3.3306E-03	1.0292E-02
C-	1.5914E-04	9.4861E-05	4.8896E-05
CO	1.9131E-04	1.4833E-05	4.0156E-06
CO+	1.2677E-04	3.2976E-05	1.3000E-05
CO2	2.8426E-09	4.8559E-11	1.1489E-11
C2	1.3195E-05	1.0929E-06	2.7850E-07

$P_1 = 1.00E+04 \text{ N/50-N}$ $U_{S1} = 1.60E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1482E+03	4.0774E+04	5.1630E+04
T	8.1641E+01	1.4622E+02	1.7383E+02
RHO	1.2301E+01	5.8320E+01	6.8456E+01
H	-1.3584E+01	-2.5381E+01	-3.1598E+01
A	1.8031E+01	2.7164E+01	3.0428E+01
S	3.2354E+00	3.4951E+00	3.5927E+00
Z	4.1307E+00	4.9513E+00	5.3368E+00
GAME	9.6408E-01	1.0147E+00	9.9804E-01
H	5.4389E+01	1.1879E+01	1.2351E+01

SPECIES	MOLE FRACTIONS		
E-	2.7410E-01	3.9424E-01	4.3797E-01
D	3.2735E-01	1.4095E-01	9.8790E-02
O+	1.5589E-01	2.5764E-01	2.5793E-01
O++	8.2919E-06	4.9589E-03	1.7866E-02
O-	9.8996E-04	2.8890E-04	1.5119E-04
O2	3.1281E-05	3.8899E-06	1.1719E-06
O2+	6.1508E-05	3.9554E-05	1.6663E-05
O2-	1.7629E-07	4.9130E-08	1.4751E-08
C	1.2305E-01	8.2056E-02	6.0493E-02
C+	1.1851E-01	1.1251E-01	1.0902E-01
C++	1.2535E-04	7.2337E-03	1.7742E-02
C-	1.2332E-04	5.6007E-05	2.9703E-05
CO	7.2974E-05	5.5358E-06	1.6014E-06
CO+	8.6421E-05	1.6794E-05	6.3560E-06
CO2	8.7436E-10	1.8078E-11	2.7253E-12
C2	6.1601E-06	3.9567E-07	1.0801E-07

Table I. - Continued.

$$P_1 = 20 \text{ kN/m}^2$$

PI = 2.00E+04 N/50-M, US1 = 1.00E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5770E+01	6.7835E+01	1.1248E+02
T	2.5812E+00	3.4570E+00	4.0727E+00
RMD	6.1029E+00	1.9532E+01	2.7599E+01
M	9.4419E-01	9.0798E-01	8.8129E-01
A	1.4478E+00	1.7757E+00	1.9265E+00
S	1.0825E+00	1.0797E+00	1.1187E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.2819E-01	9.1432E-01	9.1127E-01
U	3.0500E+00	9.6509E-01	8.7897E-01

PI = 2.00E+04 N/50-M, US1 = 1.60E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1024E+01	2.8619E+02	4.1618E+02
T	4.6619E+00	6.9579E+00	7.8652E+00
RMD	8.8002E+00	4.1009E+01	5.2420E+01
M	8.9508E-01	7.4502E-01	6.9222E-01
A	1.0573E+00	2.4999E+00	2.4487E+00
S	1.1894E+00	1.2254E+00	1.2512E+00
Z	1.0000E+00	1.0030E+00	1.0097E+00
GAME	9.0787E-01	8.9093E-01	8.8175E-01
U	5.2490E+00	1.1277E+00	1.0572E+00

SPECIES	MOLE FRACTIONS		
E-	7.5740E-33	2.2685E-43	7.9614E-35
O	5.1698E-35	3.7925E-12	1.9112E-10
O+	3.1773E-38	2.1147E-34	1.4851E-31
O++	0.	0.	0.
H-	1.4789E-58	4.4914E-48	9.1699E-35
O2	4.3952E-04	4.3907E-04	4.4008E-04
O2+	1.7597E-18	1.7597E-18	1.7897E-18
O2+	3.0556E-11	4.9638E-11	3.8833E-11
F	1.7314E-64	3.2779E-64	7.2986E-67
C+	1.0599E-44	4.1722E-44	1.2906E-48
O-	0.	0.	0.
C-	5.3439E-69	4.8987E-62	2.7664E-64
CO	3.6131E-12	2.4723E-10	3.2611E-07
CO2	5.2706E-37	1.1548E-37	2.7207E-29
F0+	9.9056E-01	9.7966E-01	9.9946E-01
C2	2.2986E-78	1.9989E-67	1.7175E-63

SPECIES	MOLE FRACTIONS		
E-	5.8951E-24	1.7089E-16	1.4014E-14
O	5.0824E-09	9.7923E-06	7.5237E-04
O+	9.7563E-30	2.4500E-23	5.1730E-20
O++	0.	6.3975E-88	9.9190E-80
H-	1.9055E-29	1.4270E-18	4.6882E-16
O2	4.4401E-04	3.4847E-02	9.7201E-03
O2+	1.7578E-18	1.8903E-16	3.0043E-14
O2-	1.2732E-26	1.1497E-14	1.9566E-14
C	4.6233E-29	6.3469E-20	4.9820E-17
C+	3.9117E-41	9.9222E-31	5.6535E-27
C++	0.	5.7278E-77	3.5231E-68
C-	4.9252E-40	1.6382E-32	1.2048E-25
CO	1.4002E-05	6.0019E-33	1.8444E-02
CO+	1.0436E-27	1.1763E-20	7.1921E-18
CO2	9.9074E-01	9.9074E-01	9.7166E-01
C2	1.7769E-41	1.9104E-28	1.1967E-24

PI = 2.00E+04 N/50-M, US1 = 1.20E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2845E+01	1.2150E+02	1.9027E+02
T	3.1977E+00	4.5333E+00	4.2613E+00
RMD	7.1005E+00	2.7927E+01	3.8109E+01
M	9.1932E-01	8.4239E-01	8.7884E-01
A	1.7137E+00	2.0790E+00	2.1821E+00
S	1.1184E+00	1.1400E+00	1.1411E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.1904E-01	9.0874E-01	9.2945E-01
U	3.8211E+00	1.0190E+00	9.7649E-01

PI = 2.00E+04 N/50-M, US1 = 1.80E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.2100E+01	3.9947E+02	4.741E+02
T	5.0025E+00	8.1673E+00	9.0025E+00
RMD	9.4842E+00	4.8289E+01	6.0901E+01
M	8.1427E-01	4.7388E-01	4.1313E-01
A	2.2301E+00	7.4558E+00	2.8419E+00
S	1.2237E+00	1.2664E+00	1.2932E+00
Z	1.0002E+00	1.0174E+00	1.0277E+00
GAME	9.0277E-01	8.7837E-01	8.7300E-01
U	8.9666E+00	1.1481E+00	1.0939E+00

SPECIES	MOLE FRACTIONS		
E-	4.1747E-42	2.1888E-27	1.1741E-23
O	4.7672E-32	1.2100E-09	4.2479E-08
O+	1.0924E-34	5.7718E-27	7.8825E-24
O++	0.	0.	0.
H-	7.8111E-60	9.7400E-51	1.2114E-34
O2	4.7992E-04	4.4112E-04	4.9642E-04
O2+	1.7807E-18	1.7507E-18	1.7594E-18
O2-	9.9088E-47	1.6798E-27	7.2637E-24
F	8.2412E-65	2.2900E-60	4.0231E-57
C+	1.7790E-54	1.7899E-49	1.2934E-50
O-	0.	0.	0.
C-	2.9208E-80	1.7647E-69	1.7940E-67
CO	8.3221E-10	2.3077E-02	7.2889E-46
CO+	8.3221E-10	2.4177E-01	1.1311E-04
CO2	7.2310E-31	4.2088E-27	4.3878E-25
F0+	9.9056E-01	9.9056E-01	9.9929E-01
C2	9.9434E-64	3.2472E-23	2.0968E-18

SPECIES	MOLE FRACTIONS		
E-	1.8226E-21	4.6455E-14	9.2679E-12
O	2.2431E-07	1.4274E-04	5.8865E-04
O+	4.9328E-27	1.5662E-19	2.3247E-17
O++	0.	2.9231E-74	7.8488E-68
H-	1.4404E-24	1.7888E-15	7.8201E-14
O2	6.7611E-04	1.3491E-02	2.6762E-02
O2+	1.7611E-18	1.0038E-07	7.2857E-12
O2-	3.2176E-22	5.1709E-14	1.3444E-12
C	3.4803E-25	1.9842E-14	1.3698E-14
C+	1.1764E-37	3.2447E-26	1.5333E-23
C++	8.4488E-90	7.4407E-67	6.1692E-56
C-	8.6388E-47	1.2209E-21	4.4971E-24
CO	4.7281E-04	2.6279E-02	5.3227E-02
CO+	8.3937E-24	2.9278E-17	1.7623E-15
CO2	9.9074E-01	9.9074E-01	9.1949E-01
C2	5.0675E-36	1.4369E-24	2.1724E-21

PI = 2.00E+04 N/50-M, US1 = 1.40E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1278E+01	1.9417E+02	2.9198E+02
T	3.8892E+00	4.6019E+00	4.7818E+00
RMD	9.0418E+00	3.4108E+01	4.4284E+01
M	8.8922E-01	8.0790E-01	7.6487E-01
A	1.9839E+00	2.7433E+00	2.4285E+00
S	1.1442E+00	1.1899E+00	1.2084E+00
Z	1.0000E+00	1.0022E+00	1.0014E+00
GAME	9.1225E-01	9.0234E-01	8.9514E-01
U	4.5382E+00	1.0724E+00	1.0099E+00

PI = 2.00E+04 N/50-M, US1 = 2.00E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.6535E+01	4.3753E+02	7.1790E+02
T	4.3962E+00	9.2320E+00	1.0010E+01
RMD	1.0071E+01	5.6252E+01	6.9774E+01
M	7.7867E-01	6.9276E-01	6.2908E-01
A	2.3929E+00	2.9847E+00	3.0239E+00
S	1.2585E+00	1.3075E+00	1.2555E+00
Z	1.0019E+00	1.0343E+00	1.0665E+00
GAME	8.9333E-01	8.7148E-01	8.7034E-01
U	6.6658E+00	1.1946E+00	1.1231E+00

SPECIES	MOLE FRACTIONS		
E-	7.0478E-36	1.0854E-20	2.4430E-17
O	1.1323E-10	1.5744E-07	3.7889E-06
O+	4.7861E-17	5.7417E-27	4.8401E-24
O++	0.	0.	3.9840E-93
H-	3.5777E-60	3.1107E-22	1.8282E-19
O2	4.4000E-04	4.7144E-04	1.9951E-03
O2+	1.7857E-18	1.7434E-18	1.6274E-17
O2-	1.1798E-34	6.8174E-21	1.6279E-17
F	7.4120E-78	9.9797E-68	9.4553E-21
C+	1.5329E-49	5.2188E-38	7.8500E-32
O-	0.	0.	0.
C-	9.4797E-87	4.4974E-67	2.7949E-74
CO	7.7650E-68	5.4974E-40	7.8773E-34
CO+	1.7072E-07	4.4425E-04	7.1150E-07
CO2	6.4748E-30	3.8787E-24	4.7477E-21
F0+	9.9056E-01	9.9867E-01	9.9480E-01
C2	5.4747E-74	1.0840E-24	1.1038E-25

SPECIES	MOLE FRACTIONS		
E-	1.4485E-17	1.9579E-12	1.4508E-11
O	4.6572E-06	8.4186E-04	2.1456E-02
O+	9.7490E-27	9.3499E-17	1.9799E-15
O++	0.	1.8098E-67	1.1774E-60
H-	1.9979E-09	2.1531E-13	2.7930E-12
O2	4.9006E-02	3.2707E-02	1.1747E-02
O2+	2.1929E-17	5.2799E-17	4.6796E-11
O2-	3.4466E-18	3.1122E-12	2.6447E-11
F	1.7840E-21	4.5892E-14	7.8212E-13
C+	1.4206E-33	1.1713E-22	7.4575E-21
C++	3.4619E-78	4.0230E-67	9.0777E-60
C-	1.0433E-24	6.3459E-02	3.0903E-27
CO	3.7711E-03	6.5495E-02	1.0483E-01
CO+	3.6743E-22	4.4178E-14	8.8811E-14
CO2	9.9290E-01	9.9100E-01	8.4190E-01
C2	1.9541E-31	1.4198E-20	6.1794E-19

Table I. - Continued.

$$P_1 = 20 \text{ kN/m}^2$$

 $P_1 = 2.00E+04 \text{ N/50-M, US1} = 2.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8398E+01	7.0703E+02	4.9278E+02
T	7.2542E+00	1.0187E+01	1.0980E+01
RMD	1.0710E+02	6.0507E+01	7.9188E+01
M	7.2486E-01	4.0298E-01	4.2214E-01
A	2.9386E+00	3.0741E+00	3.2724E+00
S	1.2892E+00	1.3497E+00	1.3787E+00
Z	1.0076E+00	1.0622E+00	1.0967E+00
GAME	8.8190E+01	8.7003E-01	8.7158E-01
U	7.3827E+00	1.2189E+00	1.1742E+00

SPECIES	MOLE FRACTIONS		
E-	2.2412E-18	2.4648E-11	1.2783E-10
D	5.1180E-05	2.8198E-27	5.7304E-07
O+	1.2433E-22	4.1334E-17	4.1340E-16
O++	1.9170E-82	8.2076E-40	5.1170E-37
O	1.5420E-17	4.5847E-12	4.0648E-11
O2	7.4902E-03	5.8705E-07	8.1197E-02
O2+	2.9154E-15	7.8329E-11	4.6294E-10
O2-	6.5718E-16	4.8877E-11	7.5822E-10
C	9.4726E-19	1.4449E-17	1.6247E-11
C+	1.8857E-28	1.8921E-20	1.0706E-18
C++	2.9175E-07	7.7793E-48	1.7419E-44
C-	7.0642E-30	7.4000E-27	5.5448E-20
CO	1.4578E-02	1.1457E-01	1.7722E-01
CO+	1.6776E-16	1.7081E-17	1.8199E-12
CO2	9.7770E-03	8.7822E-01	7.5727E-03
C2	1.4444E-24	1.1318E-18	4.1620E-17

 $P_1 = 2.00E+04 \text{ N/50-M, US1} = 2.80E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2864E+02	1.4488E+03	1.4735E+03
T	9.3240E+00	1.2897E+01	1.3768E+01
RMD	1.3028E+01	9.3212E+01	1.0834E+02
M	5.8304E-01	1.7740E+01	6.5149E+02
S	2.9225E+00	3.7016E+00	3.9181E+00
A	1.8682E+00	1.4777E+00	1.5125E+00
Z	1.0590E+00	1.2051E+00	1.2140E+00
GAME	8.5501E-01	8.9144E-01	8.8774E-01
U	9.5652E+00	1.3392E+00	1.3074E+00

SPECIES	MOLE FRACTIONS		
E-	5.1328E-12	3.8200E-09	1.1790E-08
D	2.4569E-03	2.5616E-02	3.9840E-02
O+	3.8788E-16	1.2002E-11	7.3477E-11
O++	1.0185E-64	1.1348E-48	4.7948E-45
O	5.4075E-13	2.5333E-09	1.0066E-08
O2	5.3668E-02	1.4493E-01	1.4436E-01
O2+	1.3420E-11	1.5859E-06	4.1752E-08
O2-	4.4710E-12	9.4971E-09	3.0887E-08
C	1.5225E-12	1.9022E-09	9.6994E-09
C+	4.2323E-22	1.0007E-15	1.9571E-14
C++	6.4235E-53	9.8403E-49	1.0294E-34
C-	8.1368E-24	9.4000E-17	1.2208E-15
CO	1.0896E-01	7.1478E-01	2.6786E-01
CO+	1.4403E-14	1.8910E-10	9.3811E-10
CO2	3.3652E-01	5.1444E-01	4.2753E-01
C2	2.4194E-20	2.7424E-14	3.8442E-12

 $P_1 = 2.00E+04 \text{ N/50-M, US1} = 3.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3711E+01	9.1967E+02	1.2068E+03
T	7.2542E+00	1.1757E+01	1.1849E+01
RMD	1.1460E+01	7.4490E+01	9.0640E+01
M	6.7219E-01	4.0298E-01	3.1818E-01
A	2.6710E+00	2.2700E+00	3.6432E+00
S	1.2131E+00	1.2912E+00	1.4228E+00
Z	1.0186E+00	1.1047E+00	1.1613E+00
GAME	8.7247E-01	8.7188E-01	8.7288E-01
U	8.1059E+00	1.2433E+00	1.1968E+00

SPECIES	MOLE FRACTIONS		
E-	9.2121E-17	1.8092E-10	7.1422E-10
D	2.8820E-06	5.9991E-07	1.2334E-02
O+	6.2154E-19	9.1978E-14	9.0644E-13
O++	4.2267E-77	4.0547E-74	2.8886E-79
O	2.1482E-15	8.6544E-11	2.6828E-10
O2	1.8436E-02	8.8727E-02	1.1141E-01
O2+	1.3222E-12	6.7314E-10	2.8847E-09
O2-	2.7089E-14	4.1277E-10	1.8488E-09
C	2.4890E-16	2.4482E-12	1.8907E-19
C+	8.4836E-24	9.1497E-18	4.7321E-17
C++	7.0528E-69	2.5610E-44	1.1448E-47
C-	1.0527E-27	4.7435E-23	2.2707E-18
CO	7.4251E-02	1.8221E-01	2.3149E-01
CO+	3.9249E-17	2.6487E-12	3.0045E-11
CO2	9.4489E-01	7.7321E-01	6.0484E-01
C2	7.1097E-21	6.8810E-17	1.6889E-15

 $P_1 = 2.00E+04 \text{ N/50-M, US1} = 3.00E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4819E+02	1.7740E+02	2.2829E+03
T	9.8910E+00	1.3524E+01	1.4799E+01
RMD	1.3788E+01	1.0149E+02	1.1559E+02
M	4.9488E-01	5.0290E-02	3.4594E-02
A	3.0605E+00	3.4023E+00	4.1887E+00
S	1.4196E+00	1.7218E+00	1.8280E+00
Z	1.0688E+00	1.2447E+00	1.2321E+00
GAME	8.4497E-01	8.8927E-01	8.9105E-01
U	1.0297E+01	1.4707E+00	1.3837E+00

SPECIES	MOLE FRACTIONS		
E-	3.9427E-11	1.3393E-08	7.9878E-08
D	5.0925E-03	4.2727E-02	4.3790E-02
O+	4.7099E-15	8.8717E-11	4.8989E-10
O++	3.9949E-61	6.2780E-45	8.4138E-42
O	2.9071E-12	1.1270E-09	4.7196E-08
O2	1.4488E-02	1.4570E-01	1.8074E-01
O2+	4.8627E-11	1.4570E-09	1.1720E-07
O2-	2.4404E-11	3.3037E-08	1.6412E-08
C	1.3394E-12	1.1144E-09	9.3811E-08
C+	1.4174E-20	2.7994E-14	2.8456E-13
C++	4.4694E-50	1.4472E-24	7.2102E-04
C-	3.3601E-27	1.8864E-14	1.9637E-14
CO	1.9696E-01	3.2075E-01	4.2460E-01
CO+	1.2103E-03	1.0213E-09	4.8870E-09
CO2	7.4411E-01	4.1498E-01	2.3087E-01
C2	5.4072E-19	4.4948E-13	4.2391E-12

 $P_1 = 2.00E+04 \text{ N/50-M, US1} = 2.90E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1047E+02	1.1412E+02	1.1444E+03
T	8.7103E+00	7.1099E+01	7.3833E+01
RMD	1.3241E+01	8.0622E+01	9.8980E+01
M	4.1491E-01	2.9523E-01	1.9897E-01
A	2.7976E+00	2.6703E+00	3.7788E+00
S	1.3393E+00	1.4231E+00	1.4677E+00
Z	1.0348E+00	1.1137E+00	1.1300E+00
GAME	8.6712E-01	8.7990E-01	8.8776E-01
U	8.8344E+00	2.2850E+00	1.7444E+00

SPECIES	MOLE FRACTIONS		
E-	1.1816E-12	9.7777E-19	1.8974E-09
D	9.7817E-04	1.7499E-07	1.3266E-02
O+	2.7417E-17	1.2922E-12	9.4136E-12
O++	1.1703E-71	7.7047E-49	2.4287E-44
O	4.1476E-14	4.7712E-10	2.9988E-09
O2	2.4210E-02	1.5987E-01	1.8490E-01
O2+	1.8311E-12	7.5747E-09	1.2618E-08
O2-	6.9972E-12	2.9700E-09	8.4253E-09
C	1.1372E-14	2.4791E-10	1.3720E-09
C+	1.4170E-23	1.2107E-17	1.1987E-15
C++	2.8002E-58	2.6788E-41	2.0013E-36
C-	2.3823E-25	3.4274E-18	2.4166E-17
CO	6.4847E-02	2.4918E-01	3.0399E-01
CO+	1.1327E-14	2.4000E-11	1.7562E-10
CO2	8.6421E-01	6.1870E-01	4.3277E-01
C2	8.3879E-22	2.1847E-14	2.6729E-14

 $P_1 = 2.00E+04 \text{ N/50-M, US1} = 2.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6911E+02	2.1238E+02	2.7592E+03
T	1.0479E+01	1.6798E+01	1.9908E+01
RMD	1.4483E+01	1.0835E+02	1.2238E+02
M	4.1885E-01	1.4229E-02	2.7888E-01
A	3.1794E+00	4.1578E+00	4.8645E+00
S	1.4538E+00	1.5442E+00	1.6068E+00
Z	1.1885E+00	1.2984E+00	1.3494E+00
GAME	9.6630E-01	8.9628E-01	8.9778E-01
U	1.1023E+01	1.4744E+00	1.4487E+00

SPECIES	MOLE FRACTIONS		
E-	1.4844E-10	4.2140E-08	1.2410E-07
D	9.2880E-07	6.4100E-03	9.4441E-02
O+	3.4219E-14	5.1213E-10	2.8392E-09
O++	2.9627E-69	8.2514E-47	2.7888E-44
O	7.0021E-11	4.2412E-08	9.1837E-08
O2	9.7276E-02	1.8157E-01	1.9498E-07
O2+	2.4923E-10	1.7832E-07	5.0887E-07
O2-	1.0191E-10	9.5746E-08	2.6500E-07
C	8.7119E-12	7.4967E-09	2.6537E-07
C+	2.8114E-10	2.9828E-13	3.6870E-12
C++	1.1574E-47	4.3032E-34	1.7213E-31
C-	7.1572E-21	2.0158E-14	2.2855E-13
CO	2.0224E-01	4.2888E-01	4.7038E-01
CO+	7.2707E-12	4.0877E-09	2.2746E-08
CO2	4.9008E-01	3.2379E-01	2.4889E-01
C2	7.4807E-18	4.2869E-12	3.9274E-11

Table 1. - Continued.

$P_1 = 20 \text{ kN/m}^2$

$P_1 = 2.00E+04 \text{ N/SQ-M}$ $US_1 = 3.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9138E+02	2.5242E+03	3.2405E+03
T	1.0990E+01	1.5895E+01	1.7121E+01
RHD	1.3132E+01	1.1408E+02	1.2640E+02
H	3.3994E-01	-2.2794E-01	3.9236E-01
M	3.3143E+00	4.4738E+00	4.8002E+00
S	1.4881E+00	1.6106E+00	1.8536E+00
Z	1.1549E+00	1.3974E+00	1.4729E+00
GAME	8.8600E-01	9.0529E-01	9.1677E-01
U	1.1749E+01	1.7609E+00	1.4472E+00

SPECIFS ----- MOLE FRACTIONS -----

E-	4.6790E-10	1.2239E-07	3.4238E-07
O	1.5448E-02	9.7464E-02	1.3973E-01
O+	2.0162E-12	2.6857E-09	1.4771E-08
O++	1.4639E-05	*.8084E-39	4.7220E-38
D-	8.1310E-11	1.4123E-07	4.7897E-07
O2	1.1909E-01	1.8721E-01	1.6243E-01
O2+	8.7495E-10	4.8244E-07	1.2914E-02
O2-	3.2939E-10	2.4225E-07	3.0849E-07
C	4.3283E-11	2.9025E-07	1.7022E-06
C+	3.1718E-18	3.1527E-12	3.7715E-11
C++	1.6001E-45	1.2944E-21	4.0707E-29
C-	9.7406E-20	9.0923E-13	2.4778E-02
CO	2.5245E-01	4.7127E-01	*.3049E-01
CO+	1.4482E-12	2.0840E-08	9.7407E-08
CO2	6.1241E-01	2.4405E-01	1.7245E-01
C2	7.0306E-17	2.4742E-11	2.2197E-10

$P_1 = 2.00E+04 \text{ N/SQ-M}$ $US_1 = 3.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1497E+02	2.9408E+02	3.7834E+03
T	1.1445E-01	1.6948E+01	1.9422E+01
RHD	1.5697E+01	1.1803E+02	1.3100E+02
H	2.9974E-01	-3.8204E-01	-4.7305E-01
M	3.4551E+00	4.7760E+00	5.1445E+00
S	1.9234E+00	1.5448E+00	1.7004E+00
Z	1.1944E+00	1.4700E+00	1.5448E+00
GAME	8.7184E-01	9.1554E-01	9.2014E-01
U	1.2472E+01	1.4611E+00	1.4819E+00

SPECIFS ----- MOLE FRACTIONS -----

E-	1.3002E-09	3.1243E-07	1.0078E-07
O	2.4045E-02	1.7709E-01	1.9020E-01
O+	9.8744E-12	1.7408E-08	4.6784E-08
O++	4.1449E-39	1.8133E-38	2.8427E-37
D-	2.7923E-10	4.1877E-07	1.3924E-06
O2	1.3921E-01	1.8297E-01	1.4683E-01
O2+	2.4807E-09	1.2922E-04	2.2787E-04
O2-	9.1602E-10	5.4104E-07	1.2987E-06
C	1.8073E-10	1.0727E-04	1.4449E-04
C+	2.9144E-17	2.4827E-11	3.7549E-10
C++	1.4923E-44	1.7126E-29	7.6292E-27
C-	9.3428E-19	1.8517E-12	2.7963E-11
CO	3.0133E-01	4.0273E-01	4.2338E-01
CO+	1.3724E-11	7.8977E-08	3.4245E-07
CO2	5.3501E-01	1.7744E-01	1.1949E-01
C2	9.1655E-16	2.4974E-10	2.4401E-09

$P_1 = 2.00E+04 \text{ N/SQ-M}$ $US_1 = 3.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3885E+02	3.7773E+02	4.3618E+03
T	1.1902E+01	1.8177E+01	1.9949E+01
RHD	1.6178E+01	1.2736E+02	1.3228E+02
H	1.7907E-01	-4.4047E-01	-4.9499E-01
M	3.6027E+00	4.1002E+00	4.4815E+00
S	1.4591E+00	1.6986E+00	1.7478E+00
Z	1.2374E+00	1.4584E+00	1.4404E+00
GAME	8.7932E-01	9.2479E-01	9.4222E-01
U	1.3191E+01	1.7749E+00	1.8221E+00

SPECIFS ----- MOLE FRACTIONS -----

E-	3.2944E-05	8.5872E-07	2.7164E-04
O	3.5944E-02	1.8424E-01	2.4408E-01
O+	4.2177E-12	4.2704E-08	3.0760E-07
O++	7.0140E-39	9.7940E-38	1.4205E-37
D-	8.4655E-10	1.1284E-07	3.6317E-06
O2	1.3679E-01	1.6857E-01	1.4115E-01
O2+	6.7444E-09	2.7977E-04	7.1412E-04
O2-	2.2618E-09	1.3785E-06	2.4221E-04
C	6.6534E-10	2.9501E-04	2.1481E-04
C+	8.3059E-42	2.4415E-10	3.4274E-09
C-	2.2255E-18	3.8704E-27	1.4498E-24
CO	3.4828E-01	1.4701E-01	1.9974E-01
CO+	4.8611E-11	5.2175E-01	5.2165E-01
CO2	4.5028E-01	2.7743E-07	1.3945E-04
C2	3.1599E-15	1.6088E-09	7.7457E-02

$P_1 = 2.00E+04 \text{ N/SQ-M}$ $US_1 = 4.00E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4412E+02	3.9285E+02	4.9821E+03
T	1.2508E+01	1.9474E+01	2.1695E+01
RHD	1.6573E+01	1.2107E+02	1.2997E+02
H	8.3749E-02	-7.0902E-01	-9.4846E-01
M	3.7881E+00	4.4499E+00	4.9932E+00
S	1.5973E+00	1.7417E+00	1.7978E+00
Z	1.2878E+00	1.4238E+00	1.7270E+00
GAME	8.7958E-01	9.3424E-01	9.5927E-01
U	1.3908E+01	1.9044E+00	1.9798E+00

SPECIFS ----- MOLE FRACTIONS -----

E-	7.7894E-09	2.1193E-06	7.2159E-06
O	5.0448E-02	2.7790E-01	3.1003E-01
O+	1.5747E-13	2.0002E-07	1.2624E-06
O++	7.0278E-40	2.4824E-38	*.8943E-38
D-	2.3213E-09	2.7325E-06	8.9223E-06
O2	1.7079E-01	1.4693E-01	1.1024E-01
O2+	1.4012E-08	5.4493E-06	1.1414E-07
O2-	3.0726E-08	1.9198E-04	4.8337E-04
C	2.2238E-09	1.4439E-06	8.6474E-04
C+	1.4877E-14	1.9420E-09	2.4352E-04
C++	1.9719E-40	3.3445E-28	2.4128E-22
C-	5.0004E-17	1.0519E-10	1.6720E-09
CO	3.9146E-01	*.3381E-01	5.7081E-01
CO+	1.3549E-10	9.1633E-07	4.7377E-04
CO2	3.8714E-01	8.6472E-02	4.7870E-02
C2	1.6964E-14	9.4884E-09	1.4989E-07

$P_1 = 2.00E+04 \text{ N/SQ-M}$ $US_1 = 4.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9364E+02	4.2475E+02	4.4784E+03
T	1.3049E+01	2.0539E+01	2.2733E+01
RHD	1.6892E+01	1.2027E+02	1.2086E+02
H	-8.0848E-02	-4.8877E-01	-1.1887E+00
M	3.9221E+00	4.8959E+00	4.4870E+00
S	1.6395E+00	1.7843E+00	1.8779E+00
Z	1.2330E+00	1.7224E+00	1.8109E+00
GAME	8.8439E-01	9.3377E-01	9.7824E-01
U	1.4620E+01	2.0407E+00	2.1642E+00

SPECIFS ----- MOLE FRACTIONS -----

E-	1.7447E-08	5.0887E-04	1.0954E-02
O	4.9741E-02	2.9367E-01	3.7967E-01
O+	*.8111E-11	7.4707E-07	4.9444E-04
O++	2.9174E-47	4.4318E-35	3.1258E-30
D-	4.8872E-09	4.1674E-07	2.0957E-07
O2	1.6874E-01	1.1963E-01	7.7281E-02
O2+	3.3392E-08	1.0890E-04	2.5707E-04
O2-	1.0453E-08	7.0797E-04	4.1088E-04
C	4.9958E-09	6.0233E-05	9.0440E-04
C+	9.0279E-14	1.4444E-08	2.4238E-07
C++	1.0482E-38	9.3944E-26	4.2416E-20
C-	*.0022E-14	7.0870E-10	1.4940E-08
CO	4.2082E-01	*.3177E-01	5.7402E-01
CO+	4.8500E-10	2.8789E-04	1.4474E-04
CO2	3.2055E-01	5.6764E-02	2.7544E-02
C2	0.2722E-14	6.5665E-08	1.0954E-04

$P_1 = 2.00E+04 \text{ N/SQ-M}$ $US_1 = 4.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2813E+02	4.7432E+02	4.2714E+03
T	1.3411E+01	2.2487E+01	2.4247E+01
RHD	1.7107E+01	1.2851E+02	1.2728E+02
H	-1.0844E-01	-4.0558E-01	-1.2847E+00
M	4.0954E+00	6.7499E+00	4.9918E+00
S	1.6498E+00	1.8971E+00	1.9817E+00
Z	1.3873E+00	1.7764E+00	1.8807E+00
GAME	8.8977E-01	9.4887E-01	9.8747E-01
U	1.4930E+01	2.2767E+00	2.3777E+00

SPECIFS ----- MOLE FRACTIONS -----

E-	3.7424E-08	1.2317E-04	7.0640E-04
O	9.3617E-02	3.4847E-01	4.2117E-01
O+	1.9577E-10	2.4637E-06	1.7990E-04
O++	2.8917E-49	9.4312E-37	4.8427E-32
D-	1.3947E-08	1.2180E-04	8.8947E-04
O2	1.8465E-01	1.0707E-01	4.8313E-02
O2+	7.0004E-09	1.4647E-04	4.8540E-04
O2-	2.9180E-09	4.5085E-04	8.4438E-04
C	2.0759E-08	1.9137E-04	1.8885E-04
C+	4.3874E-14	1.1157E-07	2.4111E-04
C++	1.5134E-36	2.9483E-21	7.3747E-19
C-	1.6287E-14	4.7870E-07	1.0897E-04
CO	4.2715E-01	*.2715E-01	4.1945E-01
CO+	1.3251E-09	4.8824E-04	5.7224E-04
CO2	2.3521E-01	3.4392E-02	1.4794E-02
C2	3.7283E-17	3.6887E-07	1.0104E-04

$$P_1 = 20 \text{ MN/m}^2$$

P1 = 2.00E+04 N/SQ-M, U51 = 4.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5200E+02	5.2001E+03	6.9848E+03
T	4.4199E+01	2.4564E+01	2.9047E+01
RMO	1.7244E+01	1.1444E+02	1.2979E+02
H	-2.0942E-01	-1.2815E+00	-1.6342E+00
A	4.2787E+00	6.6857E+00	7.4044E+00
S	1.7058E+00	1.8648E+00	1.9227E+00
Z	1.4397E+00	1.8499E+00	1.9432E+00
GAME	8.9350E-01	9.8366E-01	9.7137E-01
U	1.6034E+01	2.4193E+00	2.5929E+00

SPECIES	MOLE FRACTIONS		
E-	7.7391E-08	5.1661E-08	1.7489E-04
O	1.2193E-01	5.9793E-01	4.7994E-01
O+	6.2678E-10	8.9402E-06	5.2674E-02
D++	6.4106E-03	1.7734E-24	1.1088E-20
D-	3.1165E-08	2.7418E-04	1.0734E-04
O2	1.8377E-01	6.1444E-02	2.9349E-02
O2+	1.4056E-07	2.8684E-05	4.9867E-25
O2-	3.6311E-08	6.1392E-04	1.1690E-04
S	5.9367E-08	7.3640E-04	7.8646E-03
C+	2.7254E-14	8.8022E-07	2.8406E-05
C++	9.9199E-35	1.0330E-19	7.2527E-14
C-	8.2687E-12	2.4307E-08	1.2016E-08
CO	4.8897E-01	5.1533E-01	4.9819E-01
CO+	3.4030E-09	2.6748E-07	1.6395E-04
CO2	2.0549E-01	2.0231E-02	7.9828E-03
C2	1.5912E-12	2.7008E-04	7.9478E-05

P1 = 2.00E+04 N/SQ-M, U51 = 5.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.3011E+02	6.4221E+03	8.5511E+03
T	1.4174E+01	3.1286E+01	3.4974E+01
RMO	1.7202E+01	1.0410E+02	1.2171E+02
H	-4.4548E-01	-1.0832E+00	-2.3767E+00
A	4.8981E+00	7.8854E+00	8.2520E+00
S	1.8168E+00	1.9740E+00	2.0340E+00
Z	1.6178E+00	2.0023E+00	2.1090E+00
GAME	9.1687E-01	9.4288E-01	9.2714E-01
U	1.8127E+01	2.9993E+00	3.0311E+00

SPECIES	MOLE FRACTIONS		
E-	5.7176E-07	4.1770E-04	1.0895E-03
O	2.3483E-01	4.8207E-01	5.1109E-01
O+	1.6280E-08	1.1005E-04	2.5786E-04
D++	2.0341E-37	3.5741E-19	2.9810E-17
D-	2.4933E-07	1.8151E-04	4.2147E-04
O2	1.4731E-01	1.8293E-07	1.3878E-02
O2+	6.8740E-07	4.2399E-05	7.0658E-05
O2-	1.4339E-07	1.2434E-05	2.2549E-04
S	1.1691E-06	2.3039E-02	6.3327E-02
C	3.2810E-11	1.2941E-04	2.4206E-04
C++	4.8228E-30	1.0362E-14	7.1133E-13
C-	7.2330E-13	4.1944E-04	3.8041E-04
CO	5.2890E-01	4.7099E-01	4.0494E-01
CO+	6.0701E-08	3.7602E-04	6.7489E-04
CO2	8.8954E-02	4.4299E-03	9.6697E-03
C2	9.8127E-11	7.4299E-04	1.9290E-03

P1 = 2.00E+04 N/SQ-M, U51 = 4.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8381E+02	4.4422E+03	7.6259E+03
T	1.4818E+01	2.6847E+01	3.1470E+01
RMO	1.7304E+01	1.1013E+02	1.2198E+02
H	-3.1691E-01	-1.4696E+00	-1.8772E+00
A	4.4725E+00	7.1109E+00	7.7011E+00
S	1.7497E+00	1.9828E+00	1.9615E+00
Z	1.4958E+00	1.9099E+00	1.9944E+00
GAME	9.0200E-01	9.8665E-01	9.6498E-01
U	1.6735E+01	2.6738E+00	2.7667E+00

SPECIES	MOLE FRACTIONS		
E-	1.5490E-07	8.2183E-04	7.9831E-04
O	1.4531E-01	4.8699E-01	4.7805E-01
O+	1.9237E-05	2.4632E-05	1.0922E-04
D++	6.1131E-11	2.4268E-22	4.1340E-19
D-	6.5579E-08	4.6394E-04	1.6637E-04
O2	1.7691E-01	3.9231E-02	7.0209E-02
O2+	2.7027E-07	1.9140E-04	4.7844E-04
O2-	6.1188E-08	7.0399E-04	1.1298E-04
S	1.6797E-07	2.8513E-07	2.1177E-07
C+	1.3916E-12	4.8849E-06	1.1947E-04
C++	4.4695E-33	2.7641E-17	1.8728E-16
C-	7.8844E-14	2.7714E-07	6.2633E-04
CO	5.0895E-01	4.9918E-01	4.7399E-01
CO+	9.4829E-09	7.4349E-04	3.2983E-04
CO2	1.5923E-01	1.1834E-02	6.8971E-03
C2	6.4795E-12	1.7641E-04	3.2992E-04

P1 = 2.00E+04 N/SQ-M, U51 = 5.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5204E+02	6.9511E+03	9.5733E+03
T	1.6434E+01	3.2978E+01	3.4474E+01
RMO	1.7042E+01	1.0290E+02	1.2040E+02
H	-4.6454E-01	-2.1072E+00	-2.3437E+00
A	5.1373E+00	7.9218E+00	8.7217E+00
S	1.8934E+00	2.0084E+00	2.0456E+00
Z	1.6107E+00	2.0514E+00	2.1486E+00
GAME	9.2966E-01	9.9597E-01	9.8061E-01
U	1.8090E+01	3.1204E+00	3.0649E+00

SPECIES	MOLE FRACTIONS		
E-	1.0718E-04	7.0589E-04	1.7248E-03
O	2.7854E-01	4.5797E-01	4.2576E-01
O+	4.4481E-08	1.7101E-04	4.9041E-04
D++	2.9039E-38	3.7189E-18	1.3214E-15
D-	4.4459E-07	2.4799E-04	5.4994E-04
O2	1.7629E-01	1.4745E-02	1.7400E-02
O2+	1.5277E-07	5.7146E-05	7.7940E-05
O2-	1.9921E-07	1.4897E-04	2.6464E-04
S	1.1112E-07	4.1290E-07	4.1854E-07
C+	1.6644E-10	2.9495E-04	9.0478E-04
C++	2.2821E-28	1.2471E-13	2.3824E-12
C-	3.0792E-10	1.6037E-04	6.1244E-04
CO	5.3102E-01	4.4299E-01	4.4679E-01
CO+	1.4326E-07	4.7967E-04	8.2399E-04
CO2	6.7720E-02	3.7260E-03	7.1163E-03
C2	3.9778E-10	7.7724E-04	2.7227E-03

P1 = 2.00E+04 N/SQ-M, U51 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1635E+02	6.0794E+03	8.3025E+03
T	1.5474E+01	2.5219E+01	3.1718E+01
RMO	1.7289E+01	1.0693E+02	1.2149E+02
H	-4.2893E-01	-1.6774E+00	-2.1232E+00
A	4.6790E+00	7.4337E+00	7.8792E+00
S	1.7799E+00	1.9391E+00	1.9679E+00
Z	1.5964E+00	1.9568E+00	2.0774E+00
GAME	9.0904E-01	9.5440E-01	9.3070E-01
U	1.7431E+01	2.8386E+00	2.8992E+00

SPECIES	MOLE FRACTIONS		
E-	3.0109E-07	2.0449E-04	7.0710E-04
O	1.9324E-01	4.8395E-01	4.9533E-01
O+	4.6676E-09	4.9217E-05	1.7794E-04
D++	3.8109E-39	1.7777E-23	4.7491E-18
D-	1.7109E-07	1.0847E-04	3.0248E-04
O2	1.6452E-01	2.3296E-02	3.1409E-02
O2+	4.9905E-07	4.9951E-04	6.7904E-04
O2-	9.6728E-08	1.0070E-04	1.8774E-04
S	4.4108E-07	9.4605E-07	4.1097E-07
C+	6.7711E-12	3.7865E-04	2.9785E-04
C++	1.5061E-31	1.1763E-15	1.7744E-13
C-	1.7070E-13	1.8919E-04	1.8136E-04
CO	5.2111E-01	4.9407E-01	4.4104E-01
CO+	2.4143E-08	1.8074E-04	5.0479E-04
CO2	1.2052E-01	6.7164E-02	3.5494E-03
C2	2.9330E-11	9.9488E-05	8.9447E-04

P1 = 2.00E+04 N/SQ-M, U51 = 5.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2111E+02	7.3944E+03	1.0081E+04
T	1.7776E+01	2.4413E+01	2.7838E+01
RMO	1.6808E+01	1.0199E+02	1.1498E+02
H	-7.9210E-01	2.7397E+00	-2.9009E+00
A	5.3884E+00	8.1946E+00	8.8174E+00
S	1.8894E+00	2.0426E+00	2.1099E+00
Z	1.7441E+00	2.1049E+00	2.2799E+00
GAME	9.3677E-01	9.2454E-01	9.7721E-01
U	1.9449E+01	2.2185E+00	2.1749E+00

SPECIES	MOLE FRACTIONS		
E-	2.0031E-04	1.0757E-03	7.0279E-03
O	2.2414E-01	4.1207E-01	4.9108E-01
O+	1.9173E-07	2.4113E-04	4.6144E-04
D++	1.2811E-37	1.7727E-17	4.8767E-16
D-	8.0009E-07	3.6294E-04	4.8571E-04
O2	1.9274E-01	1.6497E-02	1.1337E-02
O2+	2.8394E-04	4.2194E-05	4.5016E-05
O2-	2.5997E-07	1.7401E-04	3.0707E-04
S	8.7426E-04	4.2080E-07	1.0972E-07
C+	8.6022E-10	5.3849E-04	1.2347E-03
C++	8.5504E-27	4.2471E-13	6.6766E-12
C-	1.3049E-11	3.2034E-04	1.0212E-04
CO	5.2111E-01	4.0944E-01	3.2845E-01
CO+	2.9119E-07	4.2647E-04	9.7887E-04
CO2	4.3994E-02	2.4811E-03	1.6749E-03
C2	1.6216E-09	1.3491E-03	2.9014E-03

Table I. - Continued.

 $P_1 = 20 \text{ KN/m}^2$
 $P_1 = 2.00E+04 \text{ N/SQ-M, US1} = 7.80E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.824E+02	7.773E+03	1.058E+04
T	1.8740E+01	3.468E+01	3.893E+01
RMD	1.5489E+01	1.007E+01	1.187E+01
H	-9.221E-02	-2.774E+00	-3.179E+00
A	1.8711E-03	8.439E+00	9.110E+00
S	1.923E+00	2.076E+00	2.141E+00
Z	1.806E+00	2.162E+00	2.207E+00
GAME	9.4998E-01	9.221E-01	9.281E-01
U	2.0170E+01	3.704E+00	3.767E+00

SPECIES	MOLE FRACTIONS		
E-	3.8262E-06	1.4621E-03	2.4376E-03
O	7.6850E-01	5.257E-01	5.9388E-01
O+	3.8104E-07	3.219E-06	5.9535E-06
O++	9.4351E-32	7.2110E-17	1.914E-15
H-	1.3107E-09	4.8717E-09	8.7987E-06
H	7.8169E-02	1.333E-02	1.0738E-02
H+	4.0574E-04	7.789E-05	9.4479E-05
H2+	3.184E-07	1.2207E-05	3.7807E-07
C-	2.574E-06	8.206E-07	1.289E-07
C+	4.930E+00	8.242E-04	1.8990E-03
C++	3.8847E-28	1.899E-12	7.825E-11
CO-	5.9716E-11	2.064E-09	1.4898E-06
CO	8.2647E-01	1.3078E-01	2.8051E-01
CO+	1.9413E-04	7.431E-04	1.1159E-03
CO2	2.889E-02	1.959E-02	1.222E-02
C2	7.477E-09	1.889E-03	2.822E-03

 $P_1 = 2.00E+04 \text{ N/SQ-M, US1} = 4.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.963E+02	8.158E+03	1.101E+04
T	1.9892E+01	3.898E+01	4.314E+01
RMD	1.4870E+01	9.500E+01	1.159E+02
H	-1.334E+00	-2.873E+00	-3.457E+00
A	6.901E+00	8.459E+00	9.144E+00
S	1.959E+00	2.111E+00	2.178E+00
Z	1.804E+00	2.123E+00	2.266E+00
GAME	9.4730E-01	9.298E-01	9.239E-01
U	2.082E+01	3.985E+00	3.700E+00

SPECIES	MOLE FRACTIONS		
E-	7.7613E-06	1.435E-03	3.247E-03
O	4.0811E-01	5.290E-01	4.470E-01
O+	1.1981E-06	4.161E-06	7.099E-06
O++	1.1771E-29	2.427E-14	4.818E-14
H-	2.7007E-09	4.748E-09	9.889E-09
H	5.444E-02	1.021E-02	9.229E-02
H+	3.388E-06	7.329E-06	1.035E-06
H2+	3.701E-07	2.895E-07	3.701E-07
C-	9.5410E-07	2.841E-07	4.704E-07
C+	7.364E-04	1.239E-02	2.847E-03
C++	2.910E-28	4.785E-12	7.841E-11
CO-	3.162E-10	8.377E-07	2.074E-06
CO	5.180E-01	1.384E-01	2.531E-01
CO+	2.984E-04	8.871E-04	1.238E-03
CO2	1.709E-02	1.461E-02	1.071E-02
C2	4.087E-08	2.8711E-07	4.284E-07

 $P_1 = 2.00E+04 \text{ N/SQ-M, US1} = 4.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.382E+02	8.263E+03	1.123E+04
T	2.137E+01	3.790E+01	4.184E+01
RMD	1.573E+01	8.642E+01	1.173E+02
H	-1.104E+00	-3.074E+00	-3.847E+00
A	6.358E+00	8.623E+00	9.758E+00
S	1.993E+00	2.166E+00	2.155E+00
Z	1.914E+00	2.281E+00	2.438E+00
GAME	9.878E-01	9.262E-01	9.379E-01
U	2.164E+01	3.462E+00	3.464E+00

SPECIES	MOLE FRACTIONS		
E-	1.765E-06	2.471E-03	4.181E-03
O	4.444E-01	5.425E-01	5.791E-01
O+	3.582E-06	5.267E-06	6.611E-06
O++	1.744E-27	7.220E-14	1.3490E-14
H-	4.348E-09	4.902E-09	1.143E-09
H	3.381E-02	9.289E-02	8.881E-02
H+	5.300E-06	7.903E-06	1.126E-06
H2+	4.177E-07	2.479E-07	3.964E-07
C-	3.324E-07	1.295E-07	1.771E-07
C+	2.794E-04	1.704E-02	3.921E-03
C++	2.898E-28	1.328E-11	8.782E-11
CO-	2.103E-06	1.178E-06	2.642E-06
CO	5.112E-01	1.488E-01	2.778E-01
CO+	9.132E-04	9.881E-04	1.972E-03
CO2	9.904E-02	1.241E-02	7.908E-02
C2	2.850E-07	3.219E-07	4.696E-07

 $P_1 = 2.00E+04 \text{ N/SQ-M, US1} = 6.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.748E+02	8.549E+03	1.154E+04
T	2.3130E+01	3.900E+01	4.262E+01
RMD	1.491E+01	9.327E+01	1.079E+02
H	-1.338E+00	-3.350E+00	-4.077E+00
A	6.721E+00	9.280E+00	1.048E+01
S	2.021E+00	2.182E+00	2.150E+00
Z	1.956E+00	2.350E+00	2.410E+00
GAME	9.986E-01	9.295E-01	9.434E-01
U	2.209E+01	3.528E+00	3.530E+00

SPECIES	MOLE FRACTIONS		
E-	4.642E-05	1.101E-01	5.195E-03
O	4.700E-01	5.602E-01	5.904E-01
O+	1.198E-06	6.479E-06	1.213E-05
O++	3.766E-28	1.974E-15	3.780E-14
H-	8.468E-06	8.074E-06	1.333E-05
H	2.895E-02	8.020E-02	8.072E-02
H+	1.485E-05	8.971E-05	1.220E-04
H2+	4.625E-07	2.657E-05	4.132E-05
C-	1.495E-03	1.499E-01	1.976E-01
C+	2.472E-04	2.258E-03	4.162E-03
C++	3.792E-19	2.255E-11	1.772E-10
CO-	1.795E-08	1.378E-04	3.223E-04
CO	5.743E-01	2.639E-01	1.840E-01
CO+	2.807E-05	1.094E-03	1.404E-03
CO2	4.112E-03	9.799E-04	5.921E-04
C2	2.812E-06	3.122E-03	4.059E-03

 $P_1 = 2.00E+04 \text{ N/SQ-M, US1} = 6.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.157E+02	8.710E+03	1.181E+04
T	2.501E+01	4.008E+01	4.499E+01
RMD	1.438E+01	9.457E+01	1.040E+02
H	-1.488E+00	-3.403E+00	-4.363E+00
A	4.964E+00	9.112E+00	1.034E+01
S	2.007E+00	2.217E+00	2.290E+00
Z	1.984E+00	2.418E+00	2.485E+00
GAME	9.777E-01	9.330E-01	9.404E-01
U	2.272E+01	3.671E+00	3.429E+00

SPECIES	MOLE FRACTIONS		
E-	1.223E-04	2.836E-02	4.449E-02
O	4.876E-01	5.787E-01	6.012E-01
O+	2.499E-06	8.191E-06	1.645E-05
O++	3.976E-22	5.267E-11	1.079E-19
H-	1.488E-06	3.746E-06	1.222E-05
H	1.3719E-02	8.014E-02	7.324E-02
H+	1.3070E-05	9.164E-05	1.3790E-04
H2+	5.404E-07	2.837E-07	4.289E-07
C-	5.967E-03	1.707E-01	2.149E-01
C+	1.944E-04	2.912E-03	5.270E-03
C++	2.770E-17	4.690E-11	7.774E-10
CO-	1.378E-07	2.044E-04	4.087E-04
CO	4.944E-01	2.300E-01	1.221E-01
CO+	7.627E-05	1.180E-03	1.467E-02
CO2	2.741E-03	7.647E-04	4.912E-04
C2	1.800E-05	6.128E-03	4.998E-03

 $P_1 = 2.00E+04 \text{ N/SQ-M, US1} = 6.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.884E+02	9.117E+03	1.220E+04
T	2.844E+01	4.172E+01	4.554E+01
RMD	1.412E+01	8.892E+01	1.015E+02
H	-1.438E+00	-3.848E+00	-4.4670E+00
A	7.120E+00	9.814E+00	1.078E+01
S	2.094E+00	2.281E+00	2.327E+00
Z	2.014E+00	2.487E+00	2.687E+00
GAME	9.495E-01	9.493E-01	9.917E-01
U	2.330E+01	3.718E+00	3.776E+00

SPECIES	MOLE FRACTIONS		
E-	2.609E-04	4.720E-03	8.885E-03
O	4.964E-01	5.878E-01	6.104E-01
O+	5.660E-06	1.026E-05	2.012E-05
O++	9.264E-22	1.449E-14	3.424E-13
H-	2.824E-09	1.083E-03	1.782E-03
H	7.171E-02	7.442E-02	6.639E-02
H+	1.467E-05	1.001E-04	1.472E-04
H2+	6.387E-07	3.047E-06	4.452E-06
C-	1.984E-02	1.902E-01	2.349E-01
C+	7.473E-05	3.707E-03	6.704E-03
C++	5.391E-18	9.757E-11	8.105E-10
CO-	4.227E-07	2.706E-04	4.039E-04
CO	4.761E-01	1.972E-01	1.270E-01
CO+	1.434E-04	1.252E-03	1.719E-03
CO2	1.785E-03	4.942E-04	3.031E-04
C2	7.400E-06	4.444E-02	4.904E-02

Table 1 - Continued

$P_1 = 20 \text{ km/m}^2$

$P_1 = 2.00E+04 \text{ N/SQ-M}, \quad U_{S1} = 7.00E+03 \text{ M/SEC}$

$P_1 = 2.00E+04 \text{ N/SQ-M}, \quad U_{S1} = 7.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.057E+02	9.4081E+03	1.2904E+04
T	2.7914E+01	4.2731E+01	4.7426E+01
RMO	1.4090E+01	8.8742E+01	1.0014E+02
H	-1.7998E+00	-4.1581E+00	-5.0109E+00
A	7.2738E+00	1.0142E+01	1.1206E+01
S	2.1124E+00	2.2800E+00	2.3637E+00
Z	2.0489E+00	2.3543E+00	2.7340E+00
GAME	9.2595E+01	9.4493E+01	9.6840E+01
U	2.4058E+01	3.8314E+00	3.9250E+00

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4814E+02	1.1469E+04	1.5667E+04
T	3.0583E+01	4.7405E+01	5.4879E+01
RMO	1.4284E+01	8.7598E+01	9.7363E+01
H	-2.2962E+00	-5.0837E+00	-6.1823E+00
A	7.7788E+00	1.1277E+01	1.2568E+01
S	2.1958E+00	2.3848E+00	2.4692E+00
Z	2.1731E+00	2.7603E+00	2.9321E+00
GAME	9.1046E+01	9.7092E+01	9.8408E+01
U	2.6150E+01	4.2648E+00	4.4863E+00

SPECIES	MOLE FRACTIONS		
F-	4.4905E-04	5.8010E-03	1.0244E-02
O	5.0615E-02	4.9791E-01	6.1790E-01
O+	8.3727E-11	4.1811E-14	1.7055E-12
OH-	4.2341E-05	1.2591E-03	2.0277E-03
O2	5.5724E-03	5.9210E-03	6.9529E-03
O2+	1.8187E-05	1.1080E-04	1.6534E-04
O2-	7.6187E-07	3.3012E-05	6.7097E-04
C	7.9900E-07	2.6917E-01	2.3082E-01
C+	1.1404E-06	4.6776E-03	8.5216E-03
C++	3.8124E-15	2.0779E-10	2.0292E-09
C-	1.7445E-06	3.2801E-04	6.1336E-04
CO	4.9527E-01	1.6608E-01	9.4632E-02
CO+	2.1214E-04	1.3391E-03	1.5604E-03
CO2	1.2577E-03	4.4259E-04	7.0395E-04
C2	1.8674E-04	4.6259E-03	4.2264E-03

SPECIES	MOLE FRACTIONS		
E-	1.2214E-03	1.1016E-02	2.2085E-02
O	4.3544E-01	6.2087E-01	4.2348E-01
O+	1.8473E-04	2.8222E-03	7.0933E-03
OH-	4.8939E-19	1.3178E-12	8.2004E-11
O2	3.8274E-03	1.9372E-03	3.0532E-03
O2+	1.7322E-05	6.2187E-05	9.9203E-02
O2-	1.2002E-06	2.9884E-05	4.9547E-05
C	8.1461E-02	2.9612E-01	2.7862E-01
C+	7.4148E-04	9.1267E-02	1.7328E-02
C++	1.1684E-13	2.2655E-09	3.4785E-08
C-	1.9529E-05	1.9612E-04	9.9548E-04
CO	3.7529E-03	1.4843E-03	3.6356E-02
CO+	3.8438E-04	1.4843E-03	1.5172E-03
CO2	6.6424E-04	1.6494E-04	4.5531E-05
C2	7.5073E-04	4.2721E-03	2.9291E-03

$P_1 = 2.00E+04 \text{ N/SQ-M}, \quad U_{S1} = 7.20E+03 \text{ M/SEC}$

$P_1 = 2.00E+04 \text{ N/SQ-M}, \quad U_{S1} = 7.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9027E+02	1.0782E+04	1.3798E+04
T	2.8975E+01	4.4017E+01	4.9946E+01
RMO	1.4083E+01	8.8144E+01	9.9184E+01
H	-1.9806E+00	-4.5677E+00	-5.7721E+00
A	7.4374E+00	1.2498E+01	1.3199E+01
S	2.1404E+00	2.3194E+00	2.3948E+00
Z	2.0873E+00	2.4243E+00	2.8048E+00
GAME	9.1417E+01	9.5929E+01	9.7708E+01
U	2.4790E+01	3.8461E+00	4.0873E+00

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.9822E+02	1.2141E+04	1.6682E+04
T	1.1317E+01	4.9404E+01	5.7858E+01
RMO	1.4376E+01	8.7027E+01	9.8490E+01
H	-2.4727E+00	-4.4694E+00	-5.5474E+00
A	7.9484E+00	1.1386E+01	1.3011E+01
S	2.2235E+00	2.4188E+00	2.5028E+00
Z	2.2194E+00	2.8299E+00	2.9851E+00
GAME	9.1037E+01	9.7869E+01	9.8018E+01
U	2.6854E+01	4.4420E+00	4.6921E+00

SPECIES	MOLE FRACTIONS		
F-	6.7420E-04	7.3547E-03	1.3143E-02
O	9.1749E-02	6.0444E-01	6.2124E-01
O+	1.1617E-06	1.6609E-09	1.4762E-03
OH-	4.2812E-20	1.2846E-19	4.4602E-12
O2	5.8210E-03	1.4601E-03	2.3439E-03
O2+	4.7147E-07	4.4082E-05	4.2634E-05
O2-	1.1764E-08	1.2341E-06	1.8779E-06
C	8.9472E-07	4.6882E-05	4.6882E-05
C+	4.6184E-02	2.2672E-01	2.3403E-01
C++	3.2993E-04	5.8877E-07	1.0893E-05
C-	1.4983E-14	4.0716E-10	4.0937E-09
CO	3.4622E-06	4.0670E-04	7.7809E-04
CO+	4.3048E-01	1.3381E-02	7.0917E-02
CO2	2.7912E-04	1.4050E-03	1.8748E-03
CO2	9.7906E-04	3.2780E-04	1.5486E-04
C2	3.4705E-04	4.6711E-03	4.1718E-03

SPECIES	MOLE FRACTIONS		
E-	1.3491E-03	1.2872E-02	2.6337E-02
O	4.9314E-01	6.7913E-01	6.2227E-01
O+	2.2946E-04	2.7963E-03	9.8255E-03
OH-	1.3425E-18	4.4017E-12	3.3196E-10
O2	1.1581E-04	2.2109E-03	3.4014E-03
O2+	3.9422E-03	4.7417E-03	3.3393E-03
O2-	1.8797E-05	1.7348E-04	2.7289E-04
C	1.7616E-06	4.1294E-04	4.8412E-04
C+	1.0023E-03	2.4707E-01	2.8094E-01
C++	2.4904E-15	1.7307E-02	2.3363E-02
C-	1.4993E-05	4.2211E-09	8.7497E-08
CO	3.4493E-01	6.7312E-02	1.3434E-03
CO+	4.3284E-04	1.4962E+03	1.4494E-03
CO2	8.6702E-04	1.0921E-04	2.4152E-05
C2	9.7178E-04	3.8447E-03	2.3196E-03

$P_1 = 2.00E+04 \text{ N/SQ-M}, \quad U_{S1} = 7.40E+03 \text{ M/SEC}$

$P_1 = 2.00E+04 \text{ N/SQ-M}, \quad U_{S1} = 8.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9845E+02	1.0808E+04	1.4699E+04
T	2.9794E+01	4.4628E+01	5.2094E+01
RMO	1.4147E+01	8.7944E+01	9.8242E+01
H	-2.1248E+00	-4.7822E+00	-5.9199E+00
A	7.6031E+00	1.0872E+01	1.2128E+01
S	2.1861E+00	2.3722E+00	2.4444E+00
Z	2.1244E+00	2.4933E+00	2.8721E+00
GAME	9.1204E+01	9.6710E+01	9.8701E+01
U	2.5448E+01	4.1047E+00	4.2744E+00

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0516E+03	1.2038E+04	1.6737E+04
T	3.2014E+01	5.1624E+01	6.0007E+01
RMO	1.4489E+01	8.8271E+01	9.9074E+01
H	-2.8578E+00	-5.7431E+00	-7.0627E+00
A	8.1326E+00	1.2103E+01	1.3407E+01
S	2.2911E+00	2.4481E+00	2.5328E+00
Z	2.2871E+00	2.8824E+00	3.0320E+00
GAME	9.1131E+01	9.8429E+01	9.7841E+01
U	2.7447E+01	4.6745E+00	4.8933E+00

SPECIES	MOLE FRACTIONS		
E-	9.3176E-04	8.8407E-03	1.7025E-02
O	5.2567E-02	6.1470E-01	6.2597E-01
O+	1.4874E-06	2.1408E-03	5.0799E-03
OH-	1.3984E-16	3.8787E-13	1.8341E-11
O2	7.4683E-04	1.6883E-03	2.6920E-03
O2+	4.1869E-03	4.8734E-03	4.4740E-03
O2-	1.6477E-07	1.7800E-04	2.1317E-04
C	1.0474E-06	3.8121E-04	4.4740E-05
C+	4.3477E-02	2.4281E-01	2.3331E-01
C++	5.1745E-04	7.3174E-07	1.2784E-02
C-	4.6843E-14	4.6707E-10	4.6707E-09
CO	6.4724E-05	4.9451E-04	8.9909E-04
CO+	4.0320E-01	1.1000E-01	5.1240E-02
CO2	3.3288E-04	1.4574E-04	1.7013E-03
CO2	7.9885E-04	2.4018E-04	7.8431E-05
C2	5.3874E-04	4.2783E-03	3.7784E-03

SPECIES	MOLE FRACTIONS		
E-	1.9831E-03	1.7485E-02	3.5577E-02
O	5.8442E-01	6.2711E-01	4.1636E-01
O+	2.6835E-04	5.0521E-03	1.2305E-02
OH-	3.3649E-18	1.6473E-11	1.2094E-09
O2	1.3859E-04	2.4098E-03	3.7132E-03
O2+	3.3515E-03	4.1679E-03	2.8019E-03
O2-	1.9526E-05	1.9485E-04	3.0382E-04
C	1.4409E-06	4.1824E-05	4.6882E-04
C+	1.1727E-01	2.7945E-01	2.7945E-01
C++	1.2991E-03	1.4087E-02	2.8722E-02
C-	5.2747E-13	1.2541E-08	2.0485E-07
CO	2.1009E-05	8.8142E-04	1.1868E-03
CO+	3.1857E-01	4.8722E-02	1.8480E-02
CO2	4.7732E-04	1.4778E-03	1.3678E-03
CO2	4.7745E-04	6.8294E-04	1.9076E-04
C2	1.1910E-02	7.2296E-03	1.6046E-03

Table I. - Continued.

$$P_1 = 20 \text{ MN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 8.20E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1094E+03	1.3539E+04	1.8008E+04
T	3.2708E+01	9.4046E+01	6.3997E+01
RMD	1.4584E+01	6.5339E+01	9.5611E+01
H	-2.8388E+00	-6.0847E+00	-7.3862E+00
A	8.2178E+00	1.2506E+01	1.3784E+01
S	2.2794E+00	2.4788E+00	2.5669E+00
Z	2.3173E+00	2.9354E+00	3.0753E+00
GAME	9.1282E-01	9.8277E-01	9.6603E-01
U	2.8261E+01	4.8364E+00	5.0846E+00

P1 = 2.00E+04 N/SQ-M, US1 = 8.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2794E+03	1.5795E+04	2.2094E+04
T	3.4783E+01	6.1801E+01	7.2722E+01
RMD	1.4807E+01	8.2717E+01	9.7128E+01
H	-3.4208E+00	-7.1574E+00	-8.7047E+00
A	8.9036E+00	1.3573E+01	1.4854E+01
S	2.364CF+00	2.4667E+00	2.6579E+00
Z	2.6742E+00	3.0450E+00	3.1938E+00
GAME	9.2118E-01	9.7104E-01	9.5016E-01
U	3.0363E+01	6.4392E+00	6.4968E+00

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	2.3104E-03	2.2018E-02	4.3644E-02
O	5.64C7E-01	6.2674E-02	6.0843E-01
O+	3.2003E-04	6.8147E-03	1.7448E-02
O++	8.1119E-18	6.6444E-11	3.9244E-09
D-	1.6371E-04	2.7924E-02	3.9748E-02
D0	3.1717E-03	3.0213E-03	2.4447E-02
D2-	2.0624E-05	2.1779E-04	3.2344E-04
D2-	1.7243E-06	9.1405E-05	4.4214E-04
C-	1.3913E-01	4.7959E-01	2.7834E-01
C+	1.6441E-03	1.7294E-02	2.5845E-02
C++	1.0294E-12	2.5679E-08	4.4148E-07
C-	2.8236E-05	9.1451E-04	1.2407E-02
CO	2.9081E-01	3.8674E-02	1.2531E-02
CO+	8.1927E-04	1.4387E-02	1.2780E-02
CO2	4.0445E-04	4.1807E-02	9.1875E-04
C2	1.4080E-02	2.7827E-02	1.9448E-02

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	3.8628E-02	4.1084E-02	7.0997E-02
O	3.4083E-01	4.1248E-01	6.7708E-01
O+	4.328E-04	1.852E-02	2.3833E-02
O++	9.4413E-17	2.0499E-09	4.6744E-08
D-	2.4324E-04	3.6708E-02	6.4328E-03
D0	2.7909E-02	2.7427E-02	1.6002E-02
D2-	2.9119E-05	2.8974E-04	4.0879E-04
D2-	2.3040E-04	3.9074E-04	3.4049E-04
C-	1.8583E-01	1.7788E-01	2.6194E-01
C+	2.9477E-03	2.874E-02	2.6194E-02
C++	4.1144E-12	3.0244E-07	2.7577E-04
C-	5.7978E-02	1.1242E-02	1.7247E-02
CO	2.1039E-01	1.4737E-01	6.0790E-01
CO+	6.2612E-04	1.2761E-02	1.0103E-02
CO2	2.3929E-04	5.6481E-06	2.4249E-06
C2	1.9216E-02	1.4330E-02	6.4755E-04

P1 = 2.00E+04 N/SQ-M, US1 = 8.40E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1605E+03	1.4293E+04	1.8984E+04
T	3.3301E+01	9.4611E+01	6.4945E+01
RMD	1.4674E+01	6.44C7E+01	9.5774E+01
H	-3.0277E+00	-4.8247E+00	-7.8179E+00
A	8.5067E+00	1.2884E+01	1.4147E+01
S	2.3073E+00	2.3088E+00	2.4077E+00
Z	2.3684E+00	2.8787E+00	3.1198E+00
GAME	9.1502E-01	9.8307E-01	9.5946E-01
U	2.8943E+01	5.0421E+00	5.2644E+00

P1 = 2.00E+04 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2331E+03	1.4474E+04	2.2392E+04
T	3.4911E+01	6.1924E+01	7.3524E+01
RMD	1.4847E+01	8.2109E+01	9.6003E+01
H	-3.6242E+00	-7.5214E+00	-9.1602E+00
A	9.1143E+00	1.3997E+01	1.5079E+01
S	2.3924E+00	2.4444E+00	2.6488E+00
Z	2.8284E+00	3.1024E+00	3.2798E+00
GAME	9.2512E-01	9.6449E-01	9.4734E-01
U	3.1609E+01	6.2411E+00	5.7873E+00

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	2.7645E-03	2.7644E-02	4.2277E-02
O	3.7219E-01	4.2299E-01	4.5903E-01
O+	3.7959E-04	5.1319E-03	3.2774E-02
O++	1.8899E-17	2.1177E-10	1.1204E-08
D-	1.6059E-04	3.0734E-02	4.1811E-02
D0	3.0149E-02	3.1290E-02	2.1120E-02
D2-	2.1923E-05	2.4189E-04	3.6059E-04
D2-	1.9136E-06	4.0600E-04	4.1787E-04
C-	1.5290E-01	2.8121E-01	7.7204E-01
C+	2.0344E-03	2.0907E-02	3.3940E-02
C++	1.9284E-12	6.8084E-08	8.7164E-07
C-	3.6715E-05	1.0041E-03	1.2669E-02
CO	2.6337E-01	2.6340E-01	1.0148E-02
CO+	8.7791E-04	1.3800E-02	1.2871E-02
CO2	3.4208E-04	2.7348E-02	4.7297E-04
C2	1.6016E-02	2.2613E-02	1.0749E-02

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	4.3730E-03	4.8707E-02	8.0149E-02
O	3.8645E-01	4.8444E-01	6.7493E-01
O+	4.3242E-04	1.8589E-02	2.6849E-02
O++	2.1964E-16	5.244E-09	3.6382E-07
D-	2.8880E-04	3.7918E-02	4.6849E-02
D0	2.5928E-02	2.9394E-02	1.2984E-02
D2-	2.6925E-05	3.1189E-04	4.2101E-04
D2-	2.3001E-06	3.6800E-04	3.7199E-04
C-	2.0144E-01	2.7984E-01	3.8477E-01
C+	3.4844E-02	3.2664E-02	4.4469E-02
C++	1.1374E-11	5.7774E-07	6.0474E-04
C-	7.0992E-02	1.1999E-02	1.2378E-02
CO	1.8809E-01	1.0907E-02	4.8029E-01
CO+	6.4524E-04	1.1807E-02	9.2424E-04
CO2	1.3077E-04	1.1807E-02	1.4317E-04
C2	2.3374E-02	1.1377E-02	5.2201E-04

P1 = 2.00E+04 N/SQ-M, US1 = 8.60E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2168E+03	1.4972E+04	1.9997E+04
T	3.4082E+01	8.9249E+01	6.9897E+01
RMD	1.4745E+01	6.8584E+01	9.4146E+01
H	-3.2270E+00	-6.7018E+00	-8.2733E+00
A	8.7024E+00	1.3238E+01	1.4044E+01
S	2.3349E+00	2.8781E+00	2.4780E+00
Z	2.4211E+00	3.0786E+00	3.1554E+00
GAME	9.1781E-01	9.7748E-01	9.5417E-01
U	2.9664E+01	4.7443E+00	4.4348E+00

P1 = 2.00E+04 N/SQ-M, US1 = 9.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2931E+03	1.7147E+04	2.4289E+04
T	3.6274E+01	6.7107E+01	7.8795E+01
RMD	1.4846E+01	8.1745E+01	9.6809E+01
H	-3.8370E+00	-7.9171E+00	-9.4299E+00
A	9.2314E+00	1.4214E+01	1.5762E+01
S	2.4209E+00	2.6224E+00	2.7124E+00
Z	2.4824E+00	3.1987E+00	3.2715E+00
GAME	9.2982E-01	9.6144E-01	9.4626E-01
U	3.1742E+01	6.7598E+00	6.0034E+00

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	3.2813E-03	3.2999E-02	6.1400E-02
O	4.8208E-01	4.8151E-01	4.8897E-01
O+	4.4961E-04	1.2074E-02	2.7717E-02
O++	4.3019E-17	6.8584E-10	2.8932E-08
D-	2.2091E-04	3.2299E-02	4.3223E-02
D0	2.8486E-03	2.7023E-03	1.8308E-02
D2-	2.3483E-05	2.6144E-04	3.8458E-04
D2-	2.1000E-06	3.8940E-04	3.8815E-04
C-	1.6974E-01	2.8037E-01	2.8711E-01
C+	2.4891E-03	2.4788E-02	3.7841E-02
C++	3.8378E-12	1.4827E-07	1.6084E-06
C-	4.6643E-05	1.0748E-03	1.2703E-03
CO	2.3634E-01	1.9702E-02	7.7687E-02
CO+	5.9373E-04	1.2116E-02	1.0949E-02
CO2	2.8706E-04	1.8899E-02	2.8559E-02
C2	1.7746E-02	1.8074E-02	8.3534E-04

SPECIES	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	9.4228E-02	9.4554E-02	8.9967E-02
O	6.0639E-01	6.0770E-01	6.2186E-01
O+	4.8927E-04	2.1154E-02	4.4489E-02
O++	4.8927E-16	1.3678E-08	2.9012E-07
D-	3.2774E-04	3.8714E-02	4.4912E-02
D0	2.4524E-02	1.7887E-02	1.2224E-02
D2-	2.8914E-05	3.7374E-04	4.3258E-04
D2-	2.6927E-06	3.2799E-04	2.8827E-04
C-	2.3674E-01	3.6889E-01	2.7114E-01
C+	2.0749E-02	3.8474E-02	4.7719E-02
C++	1.0744E-11	1.0744E-07	7.0549E-04
C-	8.9771E-02	1.1471E-02	1.1874E-02
CO	1.4073E-01	6.4843E-02	2.8227E-01
CO+	6.8095E-04	1.0797E-02	8.6477E-04
CO2	1.5904E-04	4.6814E-02	1.1177E-02
C2	2.1077E-02	8.9985E-02	6.0764E-04

Table I. - Continued

$$P_1 = 20 \text{ km/m}^2$$

P1 = 2.00E+04 N/SG-M, US1 = 9.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4543E+03	1.7888E+04	2.9551E+04
T	3.7097E+01	6.9437E+01	6.1007E+01
RHO	1.4858E+01	4.0918E+01	1.4599E+01
M	-4.0444E+00	-8.3026E+00	-1.0098E+01
A	9.4684E+00	1.4527E+01	1.5920E+01
S	2.4493E+00	2.6498E+00	2.7424E+00
Z	2.6390E+00	3.1795E+00	3.3113E+00
GAME	9.9537E-01	9.5486E-01	9.4482E-01
U	3.2411E+01	5.9459E+00	4.0079E+00

SPECIES	MOLE FRACTIONS		
E-	6.2536E-03	6.8446E-02	9.989E-02
O	6.1350E-01	5.8524E-01	5.3888E-01
O+	1.1754E-14	3.0978E-08	5.5458E-07
D-	1.7053E-04	3.0708E-03	4.4549E-04
O2	2.3065E-03	1.5643E-03	1.0477E-03
O2+	3.1121E-05	3.4914E-04	4.4061E-04
O2+	2.8758E-06	3.0527E-07	2.7479E-05
C	2.3103E-01	2.6422E-01	2.470E-01
C+	3.0377E-03	4.0074E-02	3.027E-02
C++	3.7923E-11	1.7638E-04	1.0719E-04
C-	1.0247E-04	1.1628E-07	1.1394E-07
CO	1.3744E-01	4.6879E-02	3.0789E-02
CO+	7.0242E-04	1.0028E-07	7.7050E-04
CO2	1.2797E-04	3.7173E-06	7.7170E-07
C2	2.1367E-03	7.1468E-04	3.1704E-04

P1 = 2.00E+04 N/SG-M, US1 = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6441E+03	1.9905E+04	2.8309E+04
T	4.0004E+01	7.4925E+01	6.9025E+01
RHO	1.4659E+01	7.8808E+01	9.2540E+01
M	-4.7087E+00	-9.9134E+00	-1.1560E+01
A	4.9070E+00	1.3480E+01	1.7021E+01
S	2.5341E+00	3.7201E+00	2.5254E+00
Z	2.9036E+00	3.2817E+00	3.2342E+00
GAME	9.9887E-01	9.4677E-01	9.4704E-01
U	3.6478E+01	6.4230E+00	4.4835E+01

SPECIES	MOLE FRACTIONS		
E-	1.0474E-02	9.2227E-02	7.7940E-01
O	6.2085E-01	4.7110E-01	4.4041E-01
O+	1.8973E-03	4.7792E-02	7.7758E-02
O++	1.9870E-14	2.4547E-07	2.5777E-06
D-	9.2781E-04	4.0418E-03	4.1479E-03
O2	1.4030E-03	1.6613E-02	6.6950E-04
O2+	3.8485E-05	3.8277E-04	3.8274E-04
O2-	3.3100E-06	2.7611E-05	1.9376E-06
C	2.6728E-01	2.4677E-01	1.2966E-01
C+	8.7007E-03	4.6401E-02	6.7893E-02
C++	2.9006E-10	6.7027E-02	2.1741E-02
C-	3.6549E-04	1.0707E-03	9.5267E-04
CO	7.0750E-02	3.4677E-02	1.3884E-02
CO+	3.8826E-04	7.8602E-05	6.6977E-04
CO2	5.2368E-05	9.0067E-07	6.4585E-07
C2	1.9322E-03	3.5440E-04	1.5798E-04

P1 = 2.00E+04 N/SG-M, US1 = 9.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5186E+03	1.8591E+04	2.4285E+04
T	3.7988E+01	7.2113E+01	7.3484E+01
RHO	1.4824E+01	4.0205E+01	9.4044E+01
M	4.2612E+00	8.6994E+00	-1.3774E+01
A	9.8166E+00	1.4840E+01	1.7880E+01
S	2.4777E+00	2.6757E+00	2.7703E+00
Z	2.6945E+00	3.2104E+00	3.3118E+00
GAME	9.9195E-01	9.5118E-01	9.4484E-01
U	3.3126E+01	4.1243E+00	4.1078E+00

SPECIES	MOLE FRACTIONS		
E-	7.3740E-03	7.4299E-02	1.0997E-01
O	6.2007E-01	5.7447E-01	5.2713E-01
O+	1.1028E-03	3.4489E-08	6.1123E-07
D-	2.8758E-04	4.4973E-03	1.0794E-03
O2	4.1771E-04	4.6208E-03	4.3807E-03
O2+	2.1731E-03	1.3744E-03	9.3060E-04
O2+	3.3579E-05	2.6360E-04	4.4780E-04
O2-	3.0450E-06	2.6277E-07	2.6665E-07
C	2.6436E-01	2.4933E-01	2.1797E-01
C+	4.8497E-03	4.3480E-02	5.1313E-02
C++	8.8497E-11	2.6604E-04	1.1747E-04
C-	1.2125E-04	1.1448E-07	1.0854E-07
CO	1.1937E-01	4.2227E-02	2.4881E-02
CO+	7.1918E-04	9.2808E-04	6.9927E-04
CO2	9.7258E-05	1.8577E-06	5.0811E-07
C2	2.1185E-03	9.4970E-04	3.7051E-04

P1 = 2.00E+04 N/SG-M, US1 = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8087E+03	2.1767E+04	3.0258E+04
T	4.3343E+01	8.2945E+01	9.4079E+01
RHO	1.4848E+01	7.8207E+01	8.0394E+01
M	-4.7916E+00	-1.0707E+01	1.2231E+01
A	1.1184E+00	1.7277E+01	1.7984E+01
S	2.5362E+00	2.7651E+00	2.8449E+00
Z	2.9231E+00	3.2780E+00	3.3409E+00
GAME	9.9126E-01	9.6788E-01	9.5270E-01
U	3.6126E+01	6.7737E+00	6.4647E+00

SPECIES	MOLE FRACTIONS		
E-	1.7268E-02	1.7627E-01	1.6722E-01
O	6.2740E-01	4.7097E-01	4.7921E-01
O+	3.2317E-03	4.2689E-02	9.7416E-02
O++	3.4078E-14	9.8974E-07	9.7085E-06
D-	7.0049E-04	9.9747E-04	9.4046E-04
O2	1.3371E+03	7.4877E-03	4.7681E-04
O2+	4.9374E-05	2.8747E-04	4.0818E-04
O2-	3.4989E-06	1.8570E-07	3.3748E-06
C	2.8447E-01	2.5723E-01	2.1586E-01
C+	1.4031E-02	6.4497E-02	4.3224E-02
C++	1.4031E-10	4.6114E-02	1.4031E-02
C-	2.3277E-04	5.4278E-04	8.9375E-04
CO	3.7708E-02	2.8934E-02	9.6188E-02
CO+	7.1988E-04	6.2884E-04	4.3257E-04
CO2	1.0729E-05	2.8307E-07	1.1078E-07
C2	1.4400E-03	7.1022E-04	6.7915E-04

P1 = 2.00E+04 N/SG-M, US1 = 9.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5798E+03	1.9257E+04	2.7379E+04
T	3.8932E+01	7.4519E+01	8.4347E+01
RHO	1.4758E+01	7.9632E+01	9.4404E+01
M	-4.4825E+00	-9.1077E+00	-1.1064E+01
A	1.0083E+01	1.5149E+01	1.4448E+01
S	2.3040E+00	2.7031E+00	2.7940E+00
Z	2.7496E+00	3.2241E+00	3.1654E+00
GAME	9.4974E-01	9.4887E-01	9.4611E-01
U	3.3805E+01	6.2707E+00	6.3435E+00

SPECIES	MOLE FRACTIONS		
E-	6.7497E-03	8.3177E-02	1.2018E-01
O	6.2591E-01	5.6320E-01	5.1104E-01
O+	1.3968E-03	4.0489E-02	4.8819E-02
O++	7.2906E-15	1.2921E-07	1.7634E-04
D-	6.6980E-04	4.0546E-03	4.2791E-03
O2	1.9904E-03	1.2138E-03	8.0465E-04
O2+	5.8339E-05	3.7481E-04	4.4371E-04
O2-	3.1976E-04	2.8977E-05	3.1054E-04
C	2.5933E-01	2.4410E-01	2.4888E-01
C+	7.2616E-03	4.4442E-02	4.4577E-02
C++	1.3042E-10	4.4347E-04	7.2697E-07
C-	1.4224E-04	1.1171E-07	1.0247E-07
CO	9.4713E-02	4.2917E-02	7.0174E-02
CO+	7.3040E-04	8.8648E-04	6.2229E-04
CO2	7.2727E-05	1.2905E-06	3.7177E-07
C2	2.0907E-03	6.6446E-04	1.5837E-04

P1 = 2.00E+04 N/SG-M, US1 = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9788E+03	2.2295E+04	3.1847E+04
T	4.7485E+01	8.8571E+01	1.0231E+02
RHO	1.4970E+01	7.2566E+01	8.4924E+01
M	-4.9027E+00	-1.3443E+01	-1.1812E+01
A	1.2020E+01	1.7070E+01	1.9007E+01
S	2.6688E+00	2.8013E+00	2.5478E+00
Z	3.0333E+00	3.4007E+00	3.4711E+00
GAME	9.9880E-01	9.4879E-01	9.4722E-01
U	3.7728E+01	7.1527E+00	6.7427E+00

SPECIES	MOLE FRACTIONS		
E-	2.9776E-02	1.4104E-01	1.8454E-01
O	6.3703E-01	4.8525E-01	4.7204E-01
O+	6.7057E-03	8.7907E-02	1.1389E-01
O++	8.0795E-12	3.2234E-06	2.7941E-05
D-	8.9859E-04	3.6578E-03	7.7416E-03
O2	9.2849E-04	4.4927E-04	7.1746E-04
O2+	4.2769E-06	7.7409E-06	3.6338E-06
O2-	1.8883E-06	1.3222E-07	6.5107E-06
C	2.6507E-01	2.4180E-01	2.2180E-01
C+	2.3112E-02	6.2671E-02	4.8803E-02
C++	1.4225E-08	7.7857E-02	1.7939E-02
C-	3.0417E-04	8.0227E-04	6.5547E-04
CO	1.4046E-02	1.2879E-02	7.7884E-02
CO+	6.4701E-04	4.9637E-04	3.2187E-04
CO2	4.2444E-06	1.6781E-07	6.8833E-08
C2	8.9487E-04	1.2311E-04	4.8180E-04

Table I. - Continued.

$P_1 = 20 \text{ kN/m}^2$

$P_1 = 2.00E+04 \text{ N/50-M}$, $U_1 = 1.17E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.146E+03	2.3612E+04	3.3703E+04
T	5.2420E+01	9.2866E+01	1.0900E+02
RHO	1.3179E+01	6.9700E+01	8.0788E+01
H	6.3407E+00	1.2783E+01	1.5579E+01
A	1.2725E+01	1.7924E+01	2.0105E+01
S	2.7308E+00	2.9251E+00	3.0298E+00
Z	2.1121E+00	2.9889E+00	3.8014E+00
GAME	9.3992E-01	9.8799E-01	9.7466E-01
U	3.9323E+01	7.4644E+00	7.6601E+00

SPECIES	MOLE FRACTIONS		
E-	4.8086E-02	1.4611E-01	2.1207E-01
O	4.3172E-01	4.7911E-01	3.8133E-01
O+	1.3095E-02	1.2117E-01	1.4090E-01
O++	1.4249E-10	9.1912E-04	7.1322E-05
N-	1.0742E-03	3.1896E-02	2.6177E-02
N2	6.3572E-04	3.8211E-04	2.0235E-04
O2+	7.6979E-05	3.4738E-04	3.0946E-04
O2-	2.8052E-06	4.4007E-06	5.4273E-06
F	7.3290E-01	2.0870E-01	1.8805E-01
C+	3.9781E-02	6.7789E-02	2.4778E-04
C++	9.4673E-08	7.1377E-07	4.2178E-04
C-	3.3377E-04	7.0144E-04	7.4178E-04
CO	7.0900E-07	8.0702E-04	1.4178E+04
CO+	5.6378E-07	2.8427E-04	2.3975E-04
CO2	1.9208E-04	7.4377E-04	1.0887E-08
C2	4.1391E-04	7.7779E-07	2.7766E-05

$P_1 = 2.00E+04 \text{ N/50-M}$, $U_1 = 1.30E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7421E+03	2.7868E+04	4.0693E+04
T	6.4957E+01	1.2055E+02	1.3292E+02
RHO	1.2464E+01	6.3299E+01	7.2364E+01
H	-8.2942E+00	-1.6509E+01	-2.0235E+01
A	1.4529E+01	2.0844E+01	2.3858E+01
S	2.9015E+00	3.1046E+00	3.2202E+00
Z	3.3869E+00	3.9433E+00	5.2055E+00
GAME	9.5951E-01	9.8333E-01	1.0122E+00
U	4.4244E+01	8.7225E+00	9.1959E+00

SPECIES	MOLE FRACTIONS		
E-	1.1648E-01	2.4007E-01	2.9134E-01
O	5.3962E-01	3.4390E-01	2.7012E-01
O+	4.7222E-02	1.8010E-01	1.9994E-01
O++	3.9065E-08	1.7618E-04	8.5003E-04
N-	1.2942E-03	1.9850E-03	1.2711E-03
N2	2.6447E-04	1.2120E-04	4.6674E-05
O2+	1.0864E-04	2.9279E-06	1.1637E-05
O2-	1.7679E-06	6.0642E-02	1.4648E-01
C	2.2245E-01	1.7113E-01	6.7829E-02
C+	7.0443E-02	6.9278E-04	1.5639E-04
C++	3.9170E-05	3.4901E-04	7.3997E-04
C-	5.9310E-04	1.9874E-04	4.7173E-05
CO	1.2658E-03	1.7001E-04	1.2373E-05
CO+	3.5891E-04	7.2722E-09	4.8386E-06
CO2	1.0285E-07	1.7683E-02	
C2	1.1906E-04		

$P_1 = 2.00E+04 \text{ N/50-M}$, $U_1 = 1.20E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3424E+03	2.4733E+04	3.8777E+04
T	5.6917E+01	9.5405E+01	1.2649E+02
RHO	1.2830E+01	6.7902E+01	7.7845E+01
H	7.2091E+00	1.3579E+01	1.7014E+01
A	1.2340E+01	1.6870E+01	2.1294E+01
S	2.7895E+00	2.8247E+00	3.0979E+00
Z	2.2077E+00	3.7007E+00	3.9789E+00
GAME	9.7402E-01	9.4144E-01	9.8711E-01
U	4.0942E+01	7.8437E+00	8.1248E+00

SPECIES	MOLE FRACTIONS		
E-	6.9816E-02	1.9947E-01	2.3926E-01
O	5.9492E-01	4.1472E-01	3.4262E-01
O+	2.2303E-02	1.2005E-01	1.6171E-01
O++	1.4277E-09	2.3589E-04	1.7317E-04
N-	1.1047E-03	2.7911E-02	2.3979E-02
N2	4.3739E-04	2.4663E-04	1.2680E-04
O2+	9.0119E-04	1.1448E-04	7.4490E-04
O2-	2.8217E-06	6.9730E-04	3.4340E-06
C	2.7804E-01	1.9812E-01	1.7419E-01
C+	4.8511E-02	7.2275E-02	7.6203E-02
C++	4.2079E-07	1.3354E-04	4.9787E-04
C-	3.7569E-04	3.8559E-04	4.0881E-04
CO	3.8542E-05	2.5897E-04	3.0765E-04
CO+	4.8438E-04	1.5647E-04	1.7007E-04
CO2	5.3266E-07	3.4727E-08	7.7272E-09
C2	3.0727E-04	4.2647E-04	1.7436E-04

$P_1 = 2.00E+04 \text{ N/50-M}$, $U_1 = 1.37E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9949E+03	2.9774E+04	4.7647E+04
T	6.2048E+01	1.1879E+02	1.4175E+02
RHO	1.2363E+01	6.1524E+01	7.0333E+01
H	-9.3824E+00	-1.7855E+01	-2.1972E+01
A	1.5114E+01	2.1928E+01	2.4320E+01
S	2.9599E+00	3.1611E+00	3.2802E+00
Z	3.4816E+00	4.0704E+00	4.3800E+00
GAME	9.5579E-01	9.5231E-01	1.0179E+00
U	4.5913E+01	9.2727E+00	9.7799E+00

SPECIES	MOLE FRACTIONS		
E-	1.3998E-01	2.4362E-01	3.1543E-01
O	5.0934E-01	3.1029E-01	2.7808E-01
O+	1.2363E-02	2.7835E-01	2.1848E-01
O++	1.7468E-07	2.4709E-04	9.4449E-04
N-	1.2977E-03	1.6204E-03	1.6976E-03
N2	2.0657E-04	7.9278E-04	2.7907E-05
O2+	1.1352E-04	1.9740E-04	1.2210E-04
O2-	1.4900E-06	1.0750E-06	6.4930E-07
C	2.0433E-01	1.5034E-01	1.3301E-01
C+	7.9193E-04	8.4907E-02	9.2301E-02
C++	7.7878E-06	7.1669E-04	2.6091E-07
C-	3.4164E-04	3.1244E-04	1.6207E-04
CO	8.2344E-04	1.2357E-04	1.8207E-04
CO+	7.0673E-04	1.2649E-04	1.9098E-04
CO2	5.1478E-08	3.7197E-09	5.2841E-10
C2	7.8710E-05	9.4374E-06	2.7461E-06

$P_1 = 2.00E+04 \text{ N/50-M}$, $U_1 = 1.25E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3378E+03	2.4771E+04	3.7988E+04
T	6.1077E+01	7.0725E+01	1.7445E+02
RHO	1.2409E+01	6.4904E+01	7.6078E+01
H	-7.9744E+00	-1.5721E+01	-1.8780E+01
A	1.3944E+01	1.9009E+01	2.7749E+01
S	2.8447E+00	3.0688E+00	3.1884E+00
Z	3.2928E+00	2.8701E+00	4.0824E+00
GAME	9.6587E-01	9.7170E-01	1.0018E+00
U	4.2488E+01	8.2635E+00	8.5792E+00

SPECIES	MOLE FRACTIONS		
E-	9.2937E-02	3.1789E-01	2.4882E-01
O	5.5840E-01	3.7878E-01	3.0729E-01
O+	3.3878E-02	1.4087E-01	1.8178E-01
O++	8.8271E-09	4.6704E-04	3.9624E-04
N-	1.2565E-03	2.3782E-02	1.6540E-03
N2	3.4329E-04	1.8100E-04	7.7649E-04
O2+	1.0900E-04	2.7677E-04	7.0507E-04
O2-	2.0747E-06	4.4473E-04	2.0984E-04
F	2.3989E-01	1.8349E-01	1.6327E-01
C+	4.0725E-02	7.6726E-02	8.3097E-02
C++	1.3587E-06	2.4222E-04	8.5885E-04
C-	3.7624E-04	4.0704E-04	3.7484E-04
CO	2.0498E-03	3.1644E-04	1.1316E-04
CO+	4.1845E-04	2.2879E-04	1.2079E-04
CO2	2.2102E-07	1.5849E-08	3.1423E-09
C2	1.8727E-04	2.6089E-04	8.6907E-04

$P_1 = 2.00E+04 \text{ N/50-M}$, $U_1 = 1.40E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1746E+03	3.1669E+04	4.6826E+04
T	7.2213E+01	1.2646E+02	1.5080E+02
RHO	1.2286E+01	6.7908E+01	6.8748E+01
H	-1.0166E+01	-1.9252E+01	-2.3788E+01
A	1.3705E+01	2.3041E+01	2.6374E+01
S	3.0091E+00	3.2186E+00	3.3391E+00
Z	3.8747E+00	4.2005E+00	4.5302E+00
GAME	9.8619E-01	1.2066E+00	1.0182E+00
U	4.7580E+01	9.7444E+00	1.0384E+01

SPECIES	MOLE FRACTIONS		
E-	1.6320E-01	2.8629E-01	2.7806E-01
O	4.7814E-01	2.7807E-01	2.0932E-01
O+	7.7947E-02	1.9521E-01	2.2601E-01
O++	1.2732E-09	9.9449E-04	7.1274E-03
N-	4.0250E-07	1.2907E-03	7.3041E-04
N2	1.6209E-04	5.7411E-04	1.6747E-05
O2+	1.1505E-04	1.6074E-04	9.1203E-05
O2-	1.2627E-06	1.1715E-04	7.7976E-07
C	1.9107E-01	1.4743E-01	1.2006E-01
C+	8.6417E-02	8.8940E-02	9.6250E-02
C++	1.9475E-05	1.1809E-07	4.1305E-03
C-	3.1519E-04	2.4758E-04	1.3827E-04
CO	5.5608E-04	7.4483E-04	2.3024E-04
CO+	2.6044E-04	9.3903E-04	4.1289E-05
CO2	2.7274E-08	1.5114E-09	2.2489E-10
C2	9.7827E-05	9.6890E-04	1.7895E-04

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Table I. - Continued.

$P_1 = 20 \text{ kN/m}^2$

$P_1 = 2.00E+04 \text{ N/SQ-M, USI} = 1.4E+04 \text{ N/SF}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4052E+03	3.3400E+04	4.0048E+04
T	7.5702E+01	1.3287E+02	1.3260E+02
PHO	1.2222E+01	5.8402E+01	4.7139E+01
M	-1.0977E+01	-7.0704E+01	-3.1259E+01
A	1.6307E+01	2.4187E+01	2.7014E+01
S	3.0817E+00	2.2697E+00	2.3040E+00
Z	2.6810E+00	4.3719E+00	4.1749E+00
GAME	9.5432E+01	1.0729E+02	1.0549E+02
U	4.9264E+01	1.0714E+01	1.7071E+01

$P_1 = 2.00E+04 \text{ N/SQ-M, USI} = 1.4E+04 \text{ N/SF}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8877E+03	3.7447E+04	4.0822E+04
T	8.2616E+01	1.3788E+02	1.3766E+02
PHO	1.2088E+01	5.7731E+01	4.4891E+01
M	1.2484E+01	2.3722E+01	-2.0070E+01
A	1.7542E+01	2.4262E+01	2.9477E+01
S	3.1644E+00	3.2729E+00	3.0319E+00
Z	3.8925E+00	4.0024E+00	4.9574E+00
GAME	9.5852E+01	1.0181E+02	1.0056E+02
U	4.2609E+01	1.1480E+01	1.7079E+01

SPECIES ----- MOLE FRACTIONS -----

F-	1.8600E-01	2.0787E-01	2.7863E-02
O	4.4444E-01	2.4800E-01	1.0483E-01
O+	4.4444E-02	2.2727E-01	2.2727E-01
O++	1.0498E-06	1.0119E-10	4.2411E-02
H-	1.1818E-02	1.0744E-02	4.0044E-04
H0	1.2711E-04	3.2871E-02	1.0742E-02
H+	1.1478E-04	1.2841E-04	4.6488E-02
H2	1.0703E-04	3.1987E-02	2.2473E-02
F	1.7803E-01	1.3567E-01	1.0831E-01
F+	4.2564E-02	4.2848E-02	9.0767E-02
F++	2.8403E-03	1.8422E-01	1.1023E-01
C-	2.8703E-04	1.6489E-04	1.0488E-04
C0	3.8098E-04	4.7409E-01	1.4107E-02
C+	2.1995E-04	4.8717E-02	2.0247E-04
C0+	1.4844E-04	4.9171E-10	1.0768E-10
C2	2.4635E-02	3.6489E-04	9.7494E-12

SPECIES ----- MOLE FRACTIONS -----

F-	2.3002E-01	3.4714E-01	3.9900E-01
O	3.8304E-01	1.9907E-01	1.4475E-01
O+	1.2857E-02	2.7431E-01	2.4629E-01
O++	5.4289E-06	3.0494E-02	1.1947E-02
H-	1.0749E-03	4.2178E-02	7.4161E-04
H0	7.6482E-05	1.3111E-02	4.2687E-04
H+	1.0620E-04	7.9077E-02	3.0791E-02
H2	6.5350E-07	2.7007E-01	8.0094E-08
F	1.5419E-01	1.1544E-01	8.7738E-02
F+	1.0110E-01	4.9733E-02	1.0244E-01
F++	6.1353E-05	4.2487E-02	1.1344E-02
C-	2.2009E-04	1.2029E-04	4.6330E-04
C0	1.8717E-04	1.8879E-04	4.7794E-04
C+	1.5744E-04	3.6747E-02	1.1982E-04
C0+	4.0124E-09	1.3317E-10	2.4815E-11
C2	1.5669E-12	1.3164E-06	3.8005E-07

$P_1 = 2.00E+04 \text{ N/SQ-M, USI} = 1.4E+04 \text{ N/SF}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4423E+03	2.8870E+04	4.7435E+04
T	7.0379E+01	1.4013E+02	1.4888E+02
PHO	1.2117E+01	4.4875E+01	4.0078E+01
M	1.1818E+01	-2.5185E+01	2.3702E+01
A	1.4925E+01	2.7737E+01	2.0702E+01
S	2.1132E+00	2.3218E+00	2.4643E+00
Z	2.7878E+00	4.4444E+00	4.0753E+00
GAME	9.5498E+01	1.0779E+02	1.0702E+02
U	4.9498E+01	1.0889E+01	1.7079E+01

$P_1 = 2.00E+04 \text{ N/SQ-M, USI} = 1.4E+04 \text{ N/SF}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1357E+03	2.5877E+04	4.0218E+04
T	8.4117E+01	1.4473E+02	1.8477E+02
PHO	1.2078E+01	5.4200E+01	4.2937E+01
M	-1.2580E+01	-2.7708E+01	-2.1611E+01
A	1.8221E+01	2.7237E+01	3.0721E+01
S	3.7140E+00	2.7237E+00	3.0721E+00
Z	4.0032E+00	4.7209E+00	4.0766E+00
GAME	9.6316E+01	1.0174E+02	1.0024E+02
U	4.4277E+01	1.2040E+01	1.2541E+01

SPECIES ----- MOLE FRACTIONS -----

F-	2.0830E-01	3.7811E-01	3.7714E-01
O	4.1466E-01	2.2217E-01	1.6366E-01
O+	1.1118E-01	2.2203E-01	2.4792E-01
O++	2.4803E-06	1.8177E-10	4.7009E-02
H-	1.1222E-03	8.0447E-04	4.2411E-04
H0	9.9134E-04	2.1707E-04	6.4131E-04
H+	1.0117E-04	1.0117E-04	7.7684E-02
H2	8.2441E-07	4.7494E-02	1.2711E-02
F	1.5565E-01	1.2429E-01	9.7442E-01
F+	4.9141E-02	4.6730E-02	1.0172E-01
F++	5.9141E-06	2.8770E-02	1.0172E-01
C-	2.5744E-04	1.7288E-04	1.0099E-02
C0	2.4541E-04	2.5744E-04	1.2684E-04
C+	1.8432E-04	4.0147E-02	2.1387E-04
C0+	8.2379E-09	3.2147E-10	4.6677E-11
C2	2.4320E-02	2.1127E-04	7.6688E-07

SPECIES ----- MOLE FRACTIONS -----

F-	2.5114E-01	3.4464E-01	4.1140E-01
O	3.5184E-01	1.7499E-01	1.2846E-01
O+	1.4621E-01	2.4124E-01	2.4727E-01
O++	1.1249E-05	4.8107E-02	1.6407E-02
H-	9.6175E-04	4.0904E-04	2.7182E-04
H0	5.8629E-05	8.8444E-04	2.0242E-06
H+	9.9132E-05	4.1749E-04	3.0258E-02
H2	5.0878E-07	1.5910E-02	5.4598E-08
F	1.4325E-01	1.0714E-01	7.8649E-02
F+	1.0506E-01	1.0224E-01	1.0244E-01
F++	1.3020E-04	6.0157E-02	1.4479E-02
C-	2.0122E-04	9.5502E-04	4.7378E-04
C0	1.3072E-04	1.2187E-04	3.8107E-06
C+	1.2487E-04	2.7147E-02	1.1144E-04
C0+	2.2885E-09	7.6125E-11	1.3089E-11
C2	1.1437E-02	1.3959E-07	2.0405E-07

Table L - Continued.

$$P_1 = 50 \text{ kN/m}^2$$

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 1.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5780E+01	6.7533E+01	1.1241E+02
T	2.5812E+00	3.4570E+00	4.0727E+00
RMD	6.1029E+00	1.9532E+01	2.7599E+01
H	9.4419E-01	9.0798E-01	8.8129E-01
A	1.5478E+00	1.7779E+00	1.9255E+00
S	1.0897E+00	1.1008E+00	1.1229E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.2819E-01	9.1822E-01	9.1127E-01
U	3.0950E+00	9.6609E-01	8.7897E-01

SPECIES	MOLE FRACTIONS		
E-	3.0618E-33	9.0742E-44	3.1838E-33
O	3.8570E-15	2.0624E-12	1.2087E-10
O+	2.4095E-38	1.3371E-34	9.3941E-32
O++	0.	0.	0.
D-	9.3535E-99	2.8438E-48	5.7575E-39
O2	4.3922E-04	4.3992E-04	4.4002E-04
O2+	1.7597E-18	1.7597E-18	1.7597E-18
O2-	3.0356E-31	4.9637E-42	3.6813E-34
C	1.4926E-34	1.3109E-45	1.3198E-37
C+	8.2340E-05	1.8701E-56	5.0453E-49
C++	0.	0.	0.
C-	2.1436E-99	1.9434E-82	1.3067E-66
CO	2.2851E-12	2.1999E-09	2.0627E-07
CO+	3.3334E-37	7.3036E-33	1.0002E-29
CO2	9.9956E-01	9.9956E-01	9.9956E-01
C2	9.1343E-19	7.9554E-66	5.2893E-54

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 1.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2846E+01	1.2169E+02	1.9027E+02
T	3.1957E+00	4.5033E+00	5.2620E+00
RMD	7.1505E+00	2.7027E+01	3.6156E+01
H	9.1903E-01	8.6219E-01	8.2786E-01
A	1.7137E+00	2.0230E+00	2.1829E+00
S	1.1223E+00	1.1458E+00	1.1698E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.1904E-01	9.0877E-01	9.0517E-01
U	3.8201E+00	1.0100E+00	9.3952E-01

SPECIES	MOLE FRACTIONS		
E-	2.4695E-43	8.4893E-28	4.4168E-24
O	3.0150E-13	8.3520E-10	2.6310E-08
O+	6.9097E-35	3.3178E-30	4.7991E-28
O++	0.	0.	0.
D-	4.9717E-48	5.8860E-31	6.9492E-27
O2	4.3922E-04	4.4067E-04	4.7664E-04
O2+	1.7597E-18	1.7597E-18	1.7597E-18
O2-	4.0046E-42	3.6190E-27	6.3472E-24
C	3.2945E-43	1.0113E-30	2.4299E-27
C+	4.3160E-56	1.1941E-42	1.4978E-39
C++	0.	2.4348E-99	9.0352E-93
C-	1.5682E-81	9.2368E-53	2.9878E-46
CO	5.2634E-10	1.5003E-06	7.3506E-05
CO+	4.5733E-33	2.7967E-27	3.0292E-25
CO2	9.9956E-01	9.9956E-01	9.9956E-01
C2	3.5775E-63	1.3464E-43	9.3778E-39

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 1.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1278E+01	1.9413E+02	2.9189E+02
T	3.0892E+00	5.6937E+00	6.5925E+00
RMD	8.0418E+00	3.4091E+01	4.4224E+01
H	8.8922E-01	8.0790E-01	7.6480E-01
A	1.8839E+00	2.2675E+00	2.3292E+00
S	1.1595E+00	1.1903E+00	1.2157E+00
Z	1.0000E+00	1.0000E+00	1.0012E+00
GAME	9.1255E-01	9.0285E-01	8.9681E-01
U	4.5382E+00	1.0730E+00	1.0071E+00

SPECIES	MOLE FRACTIONS		
E-	2.8184E-36	3.7560E-21	1.3022E-17
O	7.1618E-11	1.1913E-07	1.9067E-06
O+	3.0274E-32	1.6691E-27	2.7090E-24
O++	0.	0.	2.2158E-93
D-	2.2340E-40	1.3605E-23	1.3968E-19
O2	4.3922E-04	5.9653E-04	1.9868E-03
O2+	1.7597E-18	1.7521E-18	3.1720E-17
O2-	1.1712E-35	3.2350E-21	1.6801E-17
C	1.3652E-38	2.5169E-25	5.2933E-21
C+	4.1317E-50	1.0142E-38	1.4708E-32
C++	0.	4.8552E-87	1.6268E-76
C-	1.5181E-68	2.4148E-40	2.2974E-34
CO	1.0759E-07	3.1348E-04	2.2968E-03
CO+	4.0825E-30	2.6318E-24	1.1491E-21
CO2	9.9956E-01	9.9999E-01	9.9611E-01
C2	2.1912E-95	5.6661E-35	9.6209E-30

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 1.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1024E+01	2.8597E+02	4.1687E+02
T	4.6820E+00	6.9802E+00	7.9307E+00
RMD	8.8001E+00	4.0876E+01	5.2139E+01
H	8.5508E-01	7.4506E-01	6.9291E-01
A	2.0574E+00	2.4998E+00	2.6590E+00
S	1.1959E+00	1.2334E+00	1.2598E+00
Z	1.0000E+00	1.0023E+00	1.0074E+00
GAME	9.0753E-01	8.9324E-01	8.8495E-01
U	5.2490E+00	1.1313E+00	1.0642E+00

SPECIES	MOLE FRACTIONS		
E-	2.2824E-26	9.3869E-17	8.4239E-15
O	3.8846E-09	5.7607E-06	4.7351E-05
O+	5.6732E-30	1.9750E-23	3.7718E-20
O++	0.	2.4976E-88	1.1860E-79
D-	1.1258E-29	1.1767E-18	4.0876E-16
O2	4.4431E-04	2.6945E-03	7.7326E-03
O2+	1.7597E-18	2.1870E-16	2.6565E-14
O2-	1.1559E-26	1.2191E-16	1.7742E-14
C	1.9575E-29	4.4763E-20	3.9198E-17
C+	1.7402E-41	3.4451E-31	4.5749E-27
C++	0.	2.1624E-72	3.8404E-65
C-	1.9793E-50	8.1353E-33	1.2725E-28
CO	8.7888E-06	4.5208E-03	1.4679E-02
CO+	1.4618E-27	9.6983E-21	6.7406E-18
CO2	9.9956E-01	9.9278E-01	9.7752E-01
C2	7.6911E-42	8.1503E-29	1.4241E-24

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 1.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2098E+01	3.9890E+02	5.6413E+02
T	5.5116E+00	8.2405E+00	9.1495E+00
RMD	9.4504E+00	4.7846E+01	6.0238E+01
H	8.1627E-01	8.7389E-01	6.1248E-01
A	2.2914E+00	2.7100E+00	2.8642E+00
S	1.2313E+00	1.2754E+00	1.3028E+00
Z	1.0002E+00	1.0107E+00	1.0232E+00
GAME	9.0222E-01	8.8178E-01	8.7630E-01
U	5.9547E+00	1.1783E+00	1.1064E+00

SPECIES	MOLE FRACTIONS		
E-	6.4878E-22	2.9271E-14	6.1400E-13
O	1.3441E-17	9.3427E-05	3.9131E-04
O+	3.0935E-27	1.7748E-19	2.6374E-17
O++	0.	1.4984E-74	2.4423E-68
D-	7.6705E-25	1.8911E-15	8.6730E-14
O2	6.0024E-04	1.0960E-02	2.2740E-02
O2+	1.7403E-18	9.3311E-19	2.5840E-12
O2-	2.4491E-22	6.2377E-14	1.8856E-12
C	1.6613E-25	1.7817E-16	1.5382E-14
C+	4.6793E-38	5.2722E-28	3.0306E-23
C++	5.4894E-93	4.2975E-61	3.1297E-56
C-	3.5649E-40	3.1576E-28	1.2330E-24
CO	3.0076E-04	2.1144E-02	4.5011E-02
CO+	1.8310E-24	2.9774E-17	2.3800E-15
CO2	9.9908E-01	9.6780E-01	9.3186E-01
C2	1.7117E-36	4.4667E-24	4.9996E-21

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 2.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4522E+01	5.3684E+02	7.3784E+02
T	6.4113E+00	9.3877E+00	1.0244E+01
RMD	1.0050E+01	5.5370E+01	6.8641E+01
H	7.2877E-01	5.9302E-01	5.2318E-01
A	2.3575E+00	2.9068E+00	3.0641E+00
S	1.2656E+00	1.3171E+00	1.3499E+00
Z	1.0014E+00	1.0289E+00	1.0494E+00
GAME	8.9959E-01	8.7476E-01	8.7398E-01
U	6.6645E+00	1.2117E+00	1.1414E+00

SPECIES	MOLE FRACTIONS		
E-	9.0788E-18	1.4094E-12	1.1758E-11
O	2.7369E-06	5.9302E-04	1.6145E-03
O+	7.0121E-25	9.1690E-17	2.4090E-15
O++	2.4751E-96	3.1575E-67	1.4917E-59
D-	3.7012E-20	2.3149E-13	3.4157E-12
O2	1.6375E-03	2.7948E-02	2.5835E-02
O2+	1.5681E-17	5.8766E-12	6.1101E-11
O2-	4.0102E-18	4.2467E-12	4.6066E-11
C	1.3531E-21	4.6773E-14	9.3158E-13
C+	2.5961E-34	1.7961E-22	1.0147E-20
C++	6.1350E-79	6.4146E-55	7.3506E-49
C-	2.9566E-37	7.6390E-24	4.8667E-22
CO	4.7979E-03	5.5818E-02	9.2488E-02
CO+	1.8863E-22	6.8975E-15	1.7430E-13
CO2	9.9576E-01	9.1585E-01	8.6005E-01
C2	1.9789E-31	2.3243E-20	1.2541E-18

Table L - Continued.

$$P_1 = 50 \text{ KN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 2.20E+03 N/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 2.80E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8354E+01	7.0037E+02	9.4582E+02	P	1.2845E+02	1.4166E+03	1.8446E+03
T	7.3024E+00	1.0434E+01	1.1249E+01	T	9.5352E+00	1.3370E+01	1.4345E+01
RHO	1.0469E+01	6.3510E+01	7.7369E+01	RHO	1.2807E+01	8.9187E+01	1.0390E+02
M	7.2487E-01	5.0337E-01	4.2401E-01	M	5.2512E-01	1.7898E-01	6.3669E-02
A	2.5449E+00	3.1027E+00	3.2696E+00	A	2.5509E+00	3.7678E+00	3.9769E+00
S	1.2990E+00	1.3591E+00	1.3894E+00	S	1.3577E+00	1.4878E+00	1.5241E+00
Z	1.0058E+00	1.0569E+00	1.0849E+00	Z	1.0515E+00	1.1880E+00	1.2375E+00
GAME	8.8529E-01	8.7298E-01	8.7447E-01	GAME	8.6409E-01	8.8430E-01	8.9000E-01
U	7.3779E+00	1.2416E+00	1.1790E+00	U	9.5515E+00	1.3738E+00	1.3426E+00

P1 = 5.00E+04 N/SQ-M, US1 = 2.40E+03 N/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 3.00E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3423E+01	9.0033E+02	1.1946E+03	P	1.4796E+02	1.7296E+02	2.2418E+03
T	8.1263E+00	1.1422E+01	1.2271E+01	T	1.0155E+01	1.4379E+01	1.9473E+01
RHO	1.1346E+01	7.2125E+01	8.0406E+01	RHO	4.8665E-01	9.6661E+01	1.1133E+02
M	6.7242E-01	4.0443E-01	3.1442E-01	M	3.4023E+00	3.9930E+00	-7.8358E-02
A	2.6842E+00	3.3054E+00	2.4337E+00	A	1.4312E+00	1.5315E+00	4.2592E+00
S	1.3310E+00	1.4015E+00	1.2126E+00	S	1.0779E+00	1.2241E+00	1.3014E+00
Z	1.0154E+00	1.0935E+00	1.1212E+00	Z	8.6790E-01	8.9126E-01	8.9948E-01
GAME	8.7811E-01	8.7471E-01	1.2236E+00	GAME	1.0279E+01	1.4394E+00	1.4237E+00
U	8.0901E+00	1.2762E+00		U			

P1 = 5.00E+04 N/SQ-M, US1 = 2.60E+03 N/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 3.20E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1033E+02	1.1398E+03	1.4961E+03	P	1.8983E+02	2.0734E+03	2.6883E+03
T	8.0655E+00	1.2392E+01	1.3207E+01	T	1.0764E+01	1.5439E+01	1.6689E+01
RHO	1.2071E+01	8.0800E+01	9.5438E+01	RHO	1.4178E+01	1.0300E+02	1.1737E+02
M	6.1488E-01	2.9623E-01	1.9432E-01	M	4.1567E-01	-8.1892E-02	-2.3097E-01
A	2.8206E+00	3.3194E+00	3.7220E+00	A	3.2171E+00	4.2871E+00	4.5604E+00
S	1.3646E+00	1.4444E+00	1.4785E+00	S	1.4655E+00	1.3753E+00	1.6163E+00
Z	1.0309E+00	1.1376E+00	1.1797E+00	Z	1.1093E+00	1.3051E+00	1.3703E+00
GAME	8.7031E-01	8.7869E-01	8.8376E-01	GAME	8.6919E-01	8.9942E-01	9.0940E-01
U	8.8237E+00	1.3197E+00	1.2776E+00	U	1.1005E+01	1.7173E+00	1.5128E+00

Table 1. - Continued.

$$P_1 = 50 \text{ kN/m}^2$$

$P_1 = 3.00E+04 \text{ N/SQ-M}$, $U_{S1} = 3.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5105E+02	2.4500E+03	3.1699E+03
T	1.1315E+01	1.6569E+01	1.8021E+01
RHD	1.4777E+01	1.0791E+02	1.2103E+02
H	3.4408E-01	-2.2519E-01	-3.9487E-01
A	2.3948E+00	4.3421E+00	4.8942E+00
S	1.4999E+00	1.6190E+00	1.8624E+00
Z	1.1426E+00	1.3702E+00	1.4638E+00
GAME	6.7153E-01	9.0870E-01	9.2000E-01
U	1.1729E+01	1.6086E+00	1.6169E+00

SPECIES	MOLE FRACTIONS		
E-	5.0583E-10	1.2544E-07	3.8911E-07
O	1.2860E-02	8.3507E-02	1.2120E-01
O+	3.3686E-13	4.4899E-09	2.5744E-08
O++	6.0140E-55	2.0542E-37	1.9443E-34
D	1.4316E-10	2.2914E-07	8.1727E-07
O2	1.1237E-01	1.8700E-01	1.8650E-01
O2+	1.3297E+09	7.9242E-07	9.6362E-11
O2-	6.8771E-10	6.8351E-07	2.2971E-06
C	7.3904E-11	4.0358E-07	1.3100E-06
C+	8.6932E-18	7.7063E-12	2.0159E-06
C++	9.8079E-49	1.9385E-30	6.2431E-28
C-	3.8977E-19	6.5492E-13	6.2866E-12
CO	2.3679E-01	4.5687E-01	4.9359E-01
CO+	6.4838E-12	4.1609E-08	1.9346E-07
CO2	6.3769E-01	2.7262E-01	1.9870E-01
C2	2.5590E-16	1.1081E-10	1.0844E-09

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 4.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6363E+02	3.6598E+03	4.8528E+03
T	1.3022E+01	2.0527E+01	2.2994E+01
RHD	1.6108E+01	1.1367E+02	1.2531E+02
H	8.5955E-02	-7.0479E-01	-9.5905E-01
A	3.8158E+00	5.5355E+00	6.1016E+00
S	1.6006E+00	1.7474E+00	1.7987E+00
Z	1.2633E+00	1.5840E+00	1.6842E+00
GAME	8.8296E-01	9.4241E-01	9.6135E-01
U	1.3882E+01	1.9701E+00	2.0471E+00

SPECIES	MOLE FRACTIONS		
E-	8.9849E-09	2.2576E-06	7.9481E-06
O	4.5889E-02	2.0933E-01	2.7979E-01
O+	2.8693E-11	3.2129E-07	1.9271E-06
O++	1.9160E-47	5.7122E-30	1.2129E-26
D	4.2714E-09	4.6603E-06	1.5587E-05
O2	1.6677E-01	1.5960E-01	1.2666E-01
O2+	2.4434E-08	9.1746E-06	2.3250E-05
O2-	1.1426E-08	4.2733E-06	9.7959E-06
C	4.0159E-09	2.2011E-05	1.3163E-04
C+	4.1058E-15	4.0549E-09	6.6998E-08
C++	9.3541E-40	3.4135E-24	2.2499E-21
C-	2.0206E-16	3.1287E-10	4.9610E-09
CO	3.7673E-01	5.2796E-01	5.2441E-01
CO+	3.2035E-10	1.6916E-06	6.4921E-06
CO2	4.1261E-01	1.0307E-01	6.0941E-02
C2	6.3804E-14	2.8641E-08	2.7072E-07

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 3.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1460E+02	2.8886E+03	3.8988E+03
T	1.1879E+01	1.7784E+01	3.9496E+01
RHD	1.1502E+01	1.1132E+02	1.2461E+02
H	2.5993E-01	-3.7687E-01	-5.7089E-01
A	3.3024E+00	4.8494E+00	5.2611E+00
S	1.9370E+00	1.6624E+00	1.7084E+00
Z	1.1806E+00	1.4389E+00	1.5216E+00
GAME	8.7468E-01	9.1901E-01	9.3306E-01
U	1.2450E+01	1.7139E+00	1.7427E+00

SPECIES	MOLE FRACTIONS		
E-	1.4388E-09	3.4685E-07	1.1029E-06
O	2.0333E-02	1.1852E-01	1.6792E-01
O+	1.6765E-12	2.0679E-08	1.1573E-07
O++	1.0530E-51	9.5040E-35	1.2368E-31
D	5.0307E-10	6.9048E-07	2.4123E-06
O2	1.1299E-01	1.8680E-01	1.7514E-01
O2+	3.9381E-09	1.9763E-06	5.5217E-06
O2-	1.8518E-09	1.1157E-06	2.8612E-06
C	3.1263E-10	1.6474E-06	8.5129E-06
C+	7.9009E-17	6.9594E-11	9.2959E-10
C++	9.7347E-48	3.1682E-28	1.2948E-25
C-	3.6702E-18	5.8310E-12	7.6748E-11
CO	2.8359E-01	4.9150E-01	5.1763E-01
CO+	2.7229E-11	1.5599E-07	7.3406E-07
CO2	5.8167E-01	2.0317E-01	1.3928E-01
C2	1.8680E-15	7.8060E-10	8.0718E-09

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 4.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9308E+02	4.1329E+03	5.4735E+03
T	1.3618E+01	2.2095E+01	2.3131E+01
RHD	1.6385E+01	1.1278E+02	1.2344E+02
H	-7.2658E-03	-8.8070E-01	-1.1724E+00
A	3.9854E+00	5.9167E+00	6.5770E+00
S	1.6426E+00	1.7886E+00	1.8424E+00
Z	1.3137E+00	1.6583E+00	1.7644E+00
GAME	8.8759E-01	9.5540E-01	9.7553E-01
U	1.4592E+01	2.1230E+00	2.2321E+00

SPECIES	MOLE FRACTIONS		
E-	2.0514E-08	5.4389E-06	2.1181E-05
O	6.0998E-02	2.6136E-01	3.3717E-01
O+	1.0418E-10	1.1033E-06	6.7671E-06
O++	1.4681E-45	9.8711E-28	3.0020E-24
D	1.1312E-09	1.0662E-07	3.7289E-05
O2	1.7810E-01	1.3595E-01	9.6190E-02
O2+	5.4921E-08	1.7152E-05	4.0344E-05
O2-	2.4173E-08	7.2006E-06	1.3722E-05
C	1.2770E-08	7.4822E-05	5.0871E-04
C+	2.5489E-14	2.7549E-08	5.3411E-07
C++	6.4147E-37	2.7278E-22	2.6076E-19
C-	1.2521E-15	1.9945E-09	3.8286E-08
CO	4.1653E-01	5.3243E-01	5.2619E-01
CO+	9.7376E-10	5.0201E-06	2.6585E-05
CO2	3.4637E-01	7.0243E-02	3.7829E-02
C2	3.1799E-13	1.5744E-07	2.4579E-06

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 3.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3946E+02	3.2638E+03	4.2588E+03
T	1.2443E+01	1.9098E+01	2.1138E+01
RHD	1.5747E+01	1.1322E+02	1.2578E+02
H	1.7522E-01	-9.3679E-01	-7.5873E-01
A	3.6315E+00	5.1801E+00	5.6624E+00
S	1.5705E+00	1.7053E+00	1.7539E+00
Z	1.2219E+00	1.5104E+00	1.6022E+00
GAME	8.7831E-01	9.3026E-01	9.4670E-01
U	1.2148E+01	1.8341E+00	1.8847E+00

SPECIES	MOLE FRACTIONS		
E-	3.7245E-09	9.0573E-07	2.9967E-06
O	3.0520E-02	1.6091E-01	2.2184E-01
O+	7.2920E-12	8.5537E-08	5.0357E-07
O++	2.4721E-44	2.4339E-32	4.9759E-29
D	1.5579E-09	1.8787E-06	6.4660E-06
O2	1.1514E-01	1.7729E-01	1.5428E-01
O2+	1.0153E-08	4.4658E-06	1.1991E-05
O2-	4.4752E-09	2.3013E-06	5.7370E-06
C	1.1741E-09	6.2041E-06	3.4031E-05
C+	6.0058E-16	5.5654E-10	8.1584E-09
C++	1.2701E-40	3.6184E-26	1.9911E-23
C-	2.9014E-17	4.5119E-11	6.4206E-10
CO	3.3348E-01	5.1492E-01	5.2983E-01
CO+	9.7568E-11	5.3387E-07	2.5780E-06
CO2	4.8535E-01	1.4484E-01	9.3989E-02
C2	1.1587E-14	4.9223E-09	5.5844E-08

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $U_{S1} = 4.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2186E+02	4.5695E+03	6.1153E+03
T	1.4232E+01	2.3840E+01	2.7618E+01
RHD	1.6579E+01	1.1070E+02	1.2032E+02
H	-1.0024E-01	-1.0043E+00	-1.2398E+00
A	4.1647E+00	6.3236E+00	7.0627E+00
S	1.6790E+00	1.8287E+00	1.8849E+00
Z	1.3637E+00	1.7315E+00	1.8377E+00
GAME	8.9358E-01	9.6876E-01	9.8306E-01
U	1.5249E+01	2.2946E+00	2.4381E+00

SPECIES	MOLE FRACTIONS		
E-	4.4781E-08	1.2901E-05	5.7501E-05
O	6.2340E-02	3.1378E-01	3.8819E-01
O+	3.5343E-10	3.4876E-06	2.1318E-05
O++	3.8193E-43	1.3583E-25	4.8058E-22
D	2.7310E-08	2.2867E-06	8.3271E-05
O2	1.8469E-01	1.0887E-01	6.7662E-02
O2+	1.6533E-07	2.9142E-05	6.1466E-05
O2-	4.7577E-08	1.1135E-05	2.3454E-05
C	3.8349E-08	2.4880E-04	1.9535E-03
C+	1.6513E-13	1.7700E-07	3.9831E-06
C++	4.9869E-35	1.8881E-20	2.8862E-17
C-	6.6719E-15	1.2140E-08	2.8082E-07
CO	4.5107E-01	5.3060E-01	5.1925E-01
CO+	2.7812E-09	1.4109E-05	7.7743E-05
CO2	2.8190E-01	4.6404E-02	2.2602E-02
C2	1.4562E-12	8.3140E-07	1.6859E-05

Table I. - Continued.

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 4.60E+03 N/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 5.20E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5178E+02	5.0009E+03	6.7665E+03	P	4.4909E+02	6.2513E+03	8.6279E+03
T	1.4879E+01	2.5808E+01	3.0314E+01	T	1.7049E+01	3.2524E+01	3.6767E+01
RHD	1.5540E+01	1.9742E+02	1.1751E+02	RHD	1.6594E+01	9.8035E+01	1.1395E+02
M	-2.0915E-01	-1.2555E-03	-1.6362E+00	M	-5.4508E-01	-1.8749E+00	-2.3815E+00
A	4.3594E+00	6.7489E+00	7.4841E+00	A	4.9959E+00	7.7859E+00	8.3866E+00
S	1.7154E+00	1.8675E+00	1.9255E+00	S	1.8242E+00	1.9606E+00	2.0359E+00
Z	1.4163E+00	1.8005E+00	1.8996E+00	Z	1.5874E+00	1.9606E+00	2.0359E+00
GAME	8.9572E-01	9.8019E-01	9.7270E-01	GAME	9.2171E-01	9.5667E-01	9.2894E-01
U	1.6001E+01	2.4853E+00	2.6475E+00	U	1.8082E+01	3.0654E+00	3.0852E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	9.4031E-08	3.0756E-05	1.5041E-04	E-	7.2681E-07	3.3996E-04	9.2748E-04
O	1.0828E-01	3.6281E-01	4.2722E-01	O	2.1315E-01	4.5891E-01	4.9129E-01
O+	1.1278E-09	1.0194E-05	5.6184E-05	O+	2.8267E-08	1.1260E-04	2.8519E-04
D+	3.5576E-41	4.6835E-05	4.4990E-20	D+	1.0151E-33	1.0667E-16	1.1907E-16
D-	6.1945E-04	1.4822E-23	1.7298E-04	D-	5.2413E-07	2.8401E-04	6.7719E-04
O2	1.8597E-01	8.1900E-02	4.4462E-02	O2	1.2714E-01	3.0789E-02	2.3062E-02
O2+	2.3493E-07	4.4743E-05	8.1384E-05	O2+	1.4779E-06	8.7550E-05	1.2389E-04
O2-	8.7620E-08	1.6032E-05	3.2658E-05	O2-	3.7725E-07	1.8016E-02	8.5209E-05
C	1.0949E-07	8.2281E-04	6.7596E-03	C	2.1173E-06	1.8016E-02	5.3624E-02
C+	7.6613E-13	1.0909E-06	2.6173E-05	C+	8.4456E-11	9.6432E-05	4.7452E-04
C++	2.2577E-33	1.1411E-18	1.2904E-15	C++	9.3471E-29	2.4249E-14	1.2277E-12
C-	1.3197E-14	7.2594E-08	1.9415E-06	C-	3.0558E-12	8.0182E-06	5.4210E-05
CO	4.7940E-01	5.2459E-01	5.0544E-01	CO	5.2688E-01	4.8258E-01	4.2192E-01
CO+	7.5472E-05	3.7707E-05	1.9645E-04	CO+	1.2198E-07	3.7095E-04	8.4074E-04
CO2	2.2615E-01	2.9682E-02	1.3381E-02	CO2	1.0282E-01	6.0097E-03	4.8356E-03
C2	6.1835E-12	4.6049E-06	9.9159E-09	C2	3.4703E-16	3.6901E-04	1.8150E-03
P1 = 5.00E+04 N/SQ-M, US1 = 4.80E+03 N/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 5.40E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8302E+02	5.4231E+03	7.4084E+03	P	4.8351E+02	6.6621E+03	9.1972E+03
T	1.5540E+01	2.8017E+01	3.2837E+01	T	1.7877E+01	3.4410E+01	3.8565E+01
RHD	1.7730E+01	1.0397E+02	1.1552E+02	RHD	1.6420E+01	9.6420E+01	1.1327E+02
M	-7.1606E-01	-1.4941E+00	-1.8796E+00	M	-6.8610E-01	-2.0976E+00	-2.8410E+00
A	4.5533E+00	7.1615E+00	7.8098E+00	A	5.2357E+00	8.0437E+00	8.7474E+00
S	1.7518E+00	1.9049E+00	1.9637E+00	S	1.8600E+00	2.0093E+00	2.0710E+00
Z	1.4715E+00	1.8617E+00	1.9529E+00	Z	1.6477E+00	2.0080E+00	2.1165E+00
GAME	6.6433E-01	9.8325E-01	9.5115E-01	GAME	9.3061E-01	9.3641E-01	9.2675E-01
U	1.6699E+01	2.4909E+00	2.8272E+00	U	1.8765E+01	3.2024E+00	3.1833E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.9075E-07	7.3826E-05	3.3158E-04	E-	1.3765E-06	5.8340E-04	1.3194E-03
O	1.3895E-01	4.0447E-01	4.5407E-01	O	2.5505E-01	4.7689E-01	5.0710E-01
O+	3.4052E-09	2.6683E-05	1.1529E-04	O+	7.8001E-08	1.7977E-04	3.9648E-04
D+	9.3914E-40	1.1220E-21	1.4442E-18	D+	8.0421E-34	1.0541E-17	5.5790E-16
D-	1.3248E-07	9.2295E-05	3.1149E-04	D-	5.3217E-07	4.2278E-04	2.6609E-02
O2	1.8166E-01	5.8384E-02	3.3579E-02	O2	1.3832E-01	2.6894E-02	8.8762E-04
O2+	4.5203E-07	6.1559E-05	9.6969E-05	O2+	2.5170E-06	9.7489E-05	1.3822E-04
O2-	1.5157E-07	2.1819E-05	4.3289E-05	O2-	5.4379E-07	4.2987E-05	7.6209E-05
C	2.8950E-07	2.6627E-03	1.7814E-02	C	5.5474E-06	3.3130E-02	7.4676E-02
C+	3.6871E-12	6.2062E-06	9.4768E-05	C+	4.0022E-10	2.3018E-04	7.8723E-04
C++	5.4667E-32	5.3417E-17	2.7026E-14	C++	3.8293E-27	1.7913E-13	4.3521E-12
C-	1.6213E-13	4.2372E-07	8.7058E-06	C-	1.8789E-11	2.1329E-09	9.6405E-05
CO	3.0188E-01	5.1552E-01	4.8411E-01	CO	5.3115E-01	4.5626E-01	4.8616E-01
CO+	1.9554E-08	9.3915E-05	3.8804E-04	CO+	2.4702E-07	5.6304E-04	1.0598E-03
CO2	1.7771E-01	1.8569E-02	8.8518E-03	CO2	7.9471E-02	3.8552E-03	3.8036E-08
C2	2.4574E-11	2.4350E-05	3.8795E-04	C2	1.4007E-09	8.6470E-04	2.7936E-03
P1 = 5.00E+04 N/SQ-M, US1 = 5.00E+03 N/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 3.40E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1545E+02	5.8378E+03	8.0292E+03	P	5.1981E+02	7.0610E+03	9.7354E+03
T	1.6248E+01	3.0343E+01	3.4959E+01	T	1.8781E+01	3.8041E+01	3.9852E+01
RHD	1.6655E+01	1.0053E+02	1.1456E+02	RHD	1.6199E+01	9.5184E+01	1.1223E+02
M	-4.2858E-01	-1.6604E+00	-2.1276E+00	M	-7.5161E-01	-2.3285E+00	-2.9086E+00
A	4.7683E+00	7.5077E+00	8.0995E+00	A	5.4948E+00	8.3024E+00	8.9096E+00
S	1.7881E+00	1.9407E+00	2.0002E+00	S	1.8953E+00	2.0430E+00	2.1061E+00
Z	1.5224E+00	1.9137E+00	2.0068E+00	Z	1.7086E+00	2.0583E+00	2.1764E+00
GAME	9.1372E-01	9.7093E-01	9.3602E-01	GAME	9.4078E-01	9.2921E-01	9.2737E-01
U	1.7153E+01	2.8928E+00	2.9671E+00	U	1.9442E+01	3.3143E+00	3.2749E+00
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	3.7722E-07	1.6936E-04	5.9558E-04	E-	2.5828E-06	8.8844E-04	1.7791E-03
O	1.7411E-01	4.3607E-01	4.7407E-01	O	2.9847E-01	4.9274E-01	5.2217E-01
O+	1.0017E-08	6.0243E-05	1.9247E-04	O+	2.1065E-07	1.9247E-04	5.2574E-04
D+	2.0151E-37	5.1843E-20	1.7685E-17	D+	4.1625E-32	6.2711E-17	1.1317E-15
D-	2.7040E-07	1.7074E-04	4.8922E-04	D-	1.7359E-06	5.7890E-04	1.1157E-03
O2	1.7189E-01	4.1288E-02	2.6891E-02	O2	1.1657E-01	2.1313E-02	1.8815E-02
O2+	8.3453E-07	7.8139E-05	5.4131E-02	O2+	4.1266E-06	1.0750E-04	1.5383E-04
O2-	2.4448E-07	2.8386E-05	4.8922E-04	O2-	3.3978E-07	5.0613E-05	8.7263E-05
C	8.0269E-07	7.7425E-03	1.1033E-04	C	1.4613E-05	5.1342E-02	9.6410E-02
C+	1.8124E-11	2.8596E-05	2.4278E-04	C+	1.8787E-09	4.3615E-04	1.1870E-03
C++	3.1214E-30	1.6432E-15	2.4567E-13	C++	1.1249E-25	8.1669E-13	1.2678E-11
C-	7.3195E-13	2.1513E-06	2.5214E-05	C-	5.2612E+11	4.4120E-01	1.5257E-04
CO	5.1735E-01	5.0231E-01	4.5542E-01	CO	5.3108E-01	4.2541E-01	3.4949E-01
CO+	4.9835E-08	2.0526E-04	6.1251E-04	CO+	7.1538E-07	7.5885E-04	1.2680E-03
CO2	1.3668E-01	1.1802E-02	6.3496E-03	CO2	5.3848E-02	4.5058E-03	3.0249E-03
C2	9.6778E-11	1.1137E-04	9.7493E-04	C2	5.3974E-09	1.5689E-03	8.0166E-03

Table L - Continued

$P_1 = 50 \text{ kN/m}^2$

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $US1 = 5.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5691E+02	7.4355E+03	1.0231E+04
T	1.9792E+01	3.7496E+01	4.1277E+01
RMO	1.5903E+01	9.3904E+01	1.1069E+02
H	-9.2139E+01	-2.3667E+00	-3.1841E+00
A	5.7761E+00	4.5859E+00	9.2721E+00
S	1.9300E+00	2.0766E+00	2.1415E+00
Z	1.7654E+00	2.1117E+00	2.2401E+00
GAME	9.5272E+01	9.2695E+01	9.2980E+01
U	2.0112E+01	3.4117E+00	3.3756E+00

SPECIES	MOLE FRACTIONS		
E-	4.8831E-06	1.2900E-03	2.3165E-03
O	3.4179E-01	5.0757E-01	5.3458E-01
O+	5.6723E-07	3.5302E-04	6.8438E-04
O++	2.5259E-30	2.7226E-16	7.1105E-15
D-	3.0177E-06	7.4838E-04	1.3601E-03
O2	9.3281E-02	1.8970E-02	1.7365E-02
O2+	6.5170E-04	1.1809E-04	1.7064E-04
O2-	9.5217E-07	5.8197E-05	9.7774E-05
C	3.4982E-05	7.1182E-02	1.1820E-01
C+	9.4063E-09	7.1451E-04	1.6802E-03
C++	4.0876E-24	2.7537E-12	3.2429E-11
C-	2.2184E-10	7.7185E-05	2.2263E-04
CO	5.2779E-01	3.9204E-01	3.1266E-01
CO+	1.7959E-06	9.4811E-04	1.4619E-03
CO2	3.7077E-02	1.8596E-03	2.4067E-03
C2	2.2040E-08	2.4023E-03	4.7913E-03

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $US1 = 6.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7377E+02	8.2097E+03	1.1334E+04
T	2.3995E+01	4.1308E+01	4.5470E+01
RMO	1.4564E+01	8.7693E+01	1.0205E+02
H	-1.3980E+00	-3.3190E+00	-4.0543E+00
A	4.7749E+00	9.3830E+00	1.0229E+01
S	1.0284E+00	2.1785E+00	2.4492E+00
Z	1.9254E+00	2.2884E+00	2.4426E+00
GAME	9.9351E-01	9.3136E-01	9.4385E-01
U	2.2058E+01	3.6743E+00	3.6744E+00

SPECIES	MOLE FRACTIONS		
E-	4.5055E-05	2.7148E-03	4.5951E-03
O	4.4961E-01	5.4843E-01	5.7530E-01
O+	1.1376E-05	7.5402E-04	1.4091E-03
O++	1.2916E-24	8.3908E-15	1.7190E-13
D-	1.6339E-05	1.3160E-03	2.1788E-03
O2	3.1159E-02	1.4840E-02	1.3701E-02
O2+	1.8848E-05	1.3313E-04	2.2635E-04
O2-	1.5925E-05	7.8074E-05	1.2222E-04
C	1.2762E-03	1.3287E-01	1.8066E-01
C+	2.0142E-06	2.0086E-03	3.8486E-03
C++	5.5555E-19	4.1855E-11	3.5844E-10
C-	3.1129E-08	2.1692E-04	5.1066E-04
CO	5.0894E-01	2.8869E-01	2.0763E-01
CO+	3.0984E-05	1.4386E-03	1.9228E-03
CO2	8.8857E-03	1.8323E-03	1.1318E-03
C2	3.0855E-06	4.8816E-03	6.7586E-03

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $US1 = 6.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.9497E+02	7.7718E+03	1.0673E+04
T	2.0929E+01	3.8834E+01	4.2677E+01
RMO	1.5534E+01	9.2303E+01	1.0845E+02
H	-1.0560E+00	-2.8116E+00	-3.3488E+00
A	6.8895E+00	8.8328E+00	9.5890E+00
S	1.9639E+00	2.1103E+00	2.1732E+00
Z	1.8277E+00	2.1682E+00	2.3004E+00
GAME	9.6691E-01	9.2659E-01	9.3354E-01
U	2.0772E+01	3.5018E+00	3.4798E+00

SPECIES	MOLE FRACTIONS		
E-	9.5422E-06	1.8697E-03	2.9512E-03
O	3.8307E-01	5.2176E-01	5.5035E-01
O+	1.5384E-06	4.6267E-04	8.7862E-04
O++	1.8580E-28	6.5901E-16	2.1808E-14
D-	5.1978E-06	9.2890E-04	1.6211E-03
O2	7.0007E-02	1.7246E-02	1.6881E-02
O2+	9.8952E-06	1.2931E-04	1.8656E-04
O2-	1.1679E-06	6.5483E-05	1.0745E-04
C	1.1558E-04	9.1726E-02	1.3978E-01
C+	5.1081E-08	1.0664E-03	2.2804E-03
C++	1.8248E-22	7.6508E-12	7.6353E-11
C-	1.0115E-09	1.2061E-04	3.0664E-04
CO	5.2240E-01	3.5796E-01	2.7627E-01
CO+	4.4622E-06	1.1263E-03	1.6389E-03
CO2	2.4279E-02	2.8583E-03	1.8986E-03
C2	9.9607E-08	3.2797E-03	5.6668E-03

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $US1 = 6.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.1473E+02	8.5169E+03	1.1627E+04
T	2.2843E+01	4.2524E+01	4.6955E+01
RMO	1.4107E+01	8.5180E+01	9.8548E+01
H	-1.4850E+00	-3.3823E+00	-4.3601E+00
A	7.0817E+00	9.6737E+00	1.0588E+01
S	2.0556E+00	2.2127E+00	2.2855E+00
Z	1.9906E+00	2.3513E+00	2.5127E+00
GAME	9.8423E-01	9.3534E-01	9.5012E-01
U	2.2845E+01	3.7640E+00	3.7803E+00

SPECIES	MOLE FRACTIONS		
E-	1.0571E-04	3.3881E-03	5.8867E-03
O	4.7048E-01	5.6077E-01	5.8827E-01
O+	2.7631E-05	9.3101E-04	1.7823E-03
O++	8.6323E-22	2.2493E-14	4.7288E-13
D-	2.9466E-05	1.5262E-03	2.4953E-03
O2	1.9472E-02	1.3566E-02	1.2560E-02
O2+	2.2756E-05	1.6825E-04	2.4734E-04
O2-	1.8629E-06	8.3570E-05	1.2748E-04
C	4.3319E-03	1.5288E-01	1.9966E-01
C+	1.1941E-05	2.6179E-03	4.8722E-03
C++	2.4454E-17	8.8071E-11	7.4456E-10
C-	1.8880E-07	3.0988E-04	6.3155E-04
CO	5.0024E-01	2.5524E-01	1.7583E-01
CO+	7.3343E-05	1.3725E-03	2.0294E-03
CO2	9.1891E-03	1.4942E-03	8.4761E-03
C2	1.8070E-05	5.5145E-03	6.9711E-03

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $US1 = 6.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3394E+02	8.0567E+03	1.1039E+04
T	2.2338E+01	4.0094E+01	4.4063E+01
RMO	1.5089E+01	9.0224E+01	1.0595E+02
H	-1.1948E+00	-3.0625E+00	-3.7599E+00
A	4.4253E+00	9.1049E+00	9.8060E+00
S	1.9548E+00	2.1443E+00	2.2131E+00
Z	1.8865E+00	2.2272E+00	2.3735E+00
GAME	9.8264E-01	9.2837E-01	9.3828E-01
U	2.1421E+01	3.5883E+00	3.5754E+00

SPECIES	MOLE FRACTIONS		
E-	1.9055E-05	2.1943E-03	3.6991E-03
O	4.1592E-01	5.3390E-01	5.6327E-01
O+	4.2131E-06	5.0194E-04	1.1155E-03
O++	1.4011E-28	2.9824E-16	6.2399E-16
D-	9.0708E-06	1.1180E-03	1.8936E-03
O2	4.8586E-02	1.2951E-02	1.4877E-02
O2+	1.4118E+05	1.4101E-04	2.0711E-04
O2-	1.3790E-06	7.2172E-05	1.1507E-04
C	3.6670E-04	1.1241E-01	1.6663E-01
C+	3.0661E-07	1.4956E-03	2.9594E-03
C++	9.0120E-21	1.8667E-11	1.6827E-10
C-	5.2018E-05	1.7402E-04	4.0278E-04
CO	5.1592E-01	3.2288E-01	2.4120E-01
CO+	1.1745E-05	1.2904E-03	1.7931E-03
CO2	1.5135E-02	2.2427E-03	1.4794E-03
C2	5.1538E-07	4.1258E-03	6.3134E-03

$P_1 = 5.00E+04 \text{ N/SQ-M}$, $US1 = 6.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5727E+02	8.8274E+03	1.2053E+04
T	2.7581E+01	4.3810E+01	4.8631E+01
RMO	1.8790E+01	8.3409E+01	9.5913E+01
H	-1.4237E+00	-3.8560E+00	-4.6844E+00
A	7.2940E+00	9.9793E+00	1.0768E+01
S	2.0432E+00	2.2463E+00	2.3214E+00
Z	1.9916E+00	2.4157E+00	2.5846E+00
GAME	9.5822E-01	9.4022E-01	9.5697E-01
U	2.3337E+01	3.8645E+00	3.9184E+00

SPECIES	MOLE FRACTIONS		
E-	2.2256E-06	4.1406E-03	7.0643E-03
O	4.8453E-01	5.7228E-01	5.9606E-01
O+	5.4230E-05	1.1631E-03	2.2831E-03
O++	2.4554E-21	6.0034E-14	1.2780E-12
D-	5.0004E-05	1.7620E-03	2.8393E-03
O2	1.5163E-02	1.2651E-02	1.1476E-02
O2+	2.4440E-05	1.8187E-04	2.7292E-04
O2-	1.1954E-06	8.9439E-05	1.3355E-04
C	1.1640E-02	1.7225E-01	2.1757E-01
C+	4.8615E-05	3.3450E-03	6.1334E-03
C++	5.6637E-16	1.8275E-10	1.5951E-09
C-	8.3616E-07	3.9548E-04	7.7213E-04
CO	4.8674E-01	2.2291E-01	1.4569E-01
CO+	1.4838E-04	1.8979E-03	2.1158E-03
CO2	3.3023E-03	1.1453E-03	6.1775E-04
C2	7.4887E-05	6.0172E-03	6.9607E-03

Table I. - Continued.

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.0178E+02	9.2538E+03	1.2648E+04
T	2.9028E+01	4.5210E+01	5.0536E+01
RHD	1.3652E+01	8.2495E+01	9.4288E+01
H	-1.7990E+00	-4.1477E+00	-5.0299E+00
A	7.4190E+00	1.0301E+01	1.1370E+01
S	2.1133E+00	2.2793E+00	2.3805E+00
Z	2.0236E+00	2.4812E+00	2.6944E+00
GAME	9.3729E-01	9.4994E-01	9.6376E-01
U	2.4004E+01	3.9789E+00	4.0638E+00

SPECIES	MOLE FRACTIONS		
E-	3.9335E-04	5.0678E-03	8.8077E-03
O	4.9564E-01	5.8286E-01	6.0425E-01
O+	6.6850E-05	1.4602E-02	2.9613E-03
O++	2.7313E-20	1.6400E-13	4.2473E-12
D-	7.5773E-05	2.0330E-03	3.2467E-03
O2	1.0019E-02	1.0407E-02	1.0407E-02
O2+	2.5833E-05	2.0086E-04	3.0418E-04
O2-	2.5894E-06	9.6618E-05	1.3990E-04
C	2.3322E-02	1.9077E-01	2.3373E-01
C+	1.2824E-04	4.2170E-03	7.6726E-02
C++	4.9385E-15	3.7956E-10	3.5038E-09
C-	2.5071E-04	4.9659E-04	9.3202E-04
CC	4.4751E-01	1.9193E-01	1.8115E-01
CO+	2.3324E-04	1.8139E-03	2.1904E-03
CO2	2.3542E-03	8.9174E-04	4.3800E-04
C2	2.0274E-04	6.3721E-03	6.7211E-03

P1 = 5.00E+04 N/SQ-M, US1 = 7.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4544E+02	1.0948E+04	1.5100E+04
T	3.2126E+01	5.0198E+01	5.7764E+01
RHD	1.3746E+01	8.1499E+01	9.1812E+01
H	-2.2949E+00	-5.0810E+00	-6.1446E+00
A	7.9431E+00	1.1380E+01	1.2551E+01
S	2.1971E+00	2.3749E+00	2.4588E+00
Z	2.1409E+00	2.6760E+00	2.8472E+00
GAME	9.1731E-01	9.6543E-01	9.7319E-01
U	2.6076E+01	4.4066E+00	4.5893E+00

SPECIES	MOLE FRACTIONS		
E-	1.1315E-03	9.2690E-03	1.7478E-02
O	5.2990E-01	6.0765E-01	6.1665E-01
O+	2.0334E-04	2.9905E-03	6.8433E-03
O++	2.2238E-18	3.8740E-12	1.5889E-10
D-	1.7290E-04	3.0930E-03	4.7335E-03
O2	3.0407E-05	9.4137E-03	7.4650E-03
O2+	4.0178E-06	1.1747E-04	4.2961E-04
O2-	7.0968E-02	2.3836E-01	2.6760E-01
C	6.2102E-04	7.9879E-03	1.4362E-02
C+	2.1083E-12	3.4693E-09	4.0996E-08
C-	1.6743E-05	8.8983E-04	1.4798E-03
CC	3.9136E-01	1.1129E-01	5.5641E-02
CO+	4.5778E-04	2.0735E-03	2.2078E-03
CO2	1.2214E-03	3.7147E-04	1.2801E-04
C2	9.5590E-04	6.2939E-03	4.8199E-03

P1 = 5.00E+04 N/SQ-M, US1 = 7.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4809E+02	9.7878E+03	1.3380E+04
T	3.1218E+01	4.8399E+01	5.3116E+01
RHD	1.3633E+01	8.2055E+01	9.3245E+01
H	-1.6570E+00	-4.4386E+00	-5.3831E+00
A	7.5886E+00	1.0647E+01	1.1795E+01
S	2.1427E+00	2.3117E+00	2.3912E+00
Z	2.0557E+00	2.5470E+00	2.7229E+00
GAME	9.2504E-01	9.5231E-01	9.6952E-01
U	2.4687E+01	4.1078E+00	4.2263E+00

SPECIES	MOLE FRACTIONS		
E-	6.0570E-04	6.1935E-03	1.1044E-02
O	5.0951E-01	5.9240E-01	6.1059E-01
O+	1.2259E-04	1.8440E-03	3.8492E-03
O++	1.6337E-19	4.6226E-13	1.3876E-11
D-	1.0510E-04	2.3399E-03	3.7101E-03
O2	8.3262E-03	1.1008E-02	9.4342E-03
O2+	2.7236E-05	2.2324E-04	3.4122E-04
O2-	3.0294E-06	1.0400E-04	1.4974E-04
C	3.1787E-02	2.0818E-01	2.4775E-01
C+	2.5286E-04	5.1270E-03	9.5443E-03
C-	2.3565E-14	7.9044E-10	7.9027E-09
CC	5.5375E-04	4.1363E-04	1.1108E-03
CO+	4.4423E-01	1.6269E-01	9.3645E-02
CO2	3.1707E-04	1.9218E-03	2.2329E-03
C2	1.8174E-03	6.8201E-04	3.0005E-04
C2	4.0260E-04	6.9480E-03	6.2555E-03

P1 = 5.00E+04 N/SQ-M, US1 = 7.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.5626E+02	1.1582E+04	1.6043E+04
T	3.2964E+01	5.2193E+01	6.0593E+01
RHD	1.3800E+01	8.1037E+01	9.1273E+01
H	-2.4875E+00	-5.3853E-01	-6.5446E+00
A	8.1259E+00	1.1780E+01	1.3058E+01
S	2.2243E+00	2.4063E+00	2.4515E+00
Z	2.1850E+00	2.7363E+00	2.9008E+00
GAME	9.1661E-01	9.7097E-01	9.7012E-01
U	2.6775E+01	4.5759E+00	4.7790E+00

SPECIES	MOLE FRACTIONS		
E-	1.4456E-03	1.1418E-02	2.1820E-02
O	5.3574E-01	6.1310E-01	6.1615E-01
O+	2.9029E-04	3.8571E-03	9.0288E-03
O++	6.3923E-18	1.1737E-11	5.2352E-10
D-	2.1145E-04	3.4582E-03	5.2465E-03
O2	4.1274E-03	8.3753E-03	6.5720E-03
O2+	3.2305E-05	3.0940E-04	4.7822E-04
O2-	4.5594E-06	1.2241E-04	1.5139E-04
C	8.6209E-02	2.9079E-01	2.7312E-01
C+	8.8327E-04	9.7682E-03	1.7213E-02
C-	1.3025E-13	7.4075E-09	9.0583E-08
CC	3.3118E-05	1.0456E-03	1.6433E-03
CO+	3.0419E-01	8.9314E-02	4.2330E-02
CO2	5.3883E-04	2.1492E-03	2.7411E-03
C2	1.0295E-03	2.6115E-04	8.1350E-05
C2	1.2701E-03	5.8672E-03	4.0229E-03

P1 = 5.00E+04 N/SQ-M, US1 = 7.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9602E+02	1.0339E+04	1.4206E+04
T	3.1218E+01	4.8399E+01	5.3116E+01
RHD	1.3674E+01	8.1766E+01	9.2463E+01
H	-2.1230E+00	-4.7453E+00	-5.7568E+00
A	7.7838E+00	1.1012E+01	1.2227E+01
S	2.1700E+00	2.3437E+00	2.4253E+00
Z	2.0590E+00	2.6125E+00	2.7877E+00
GAME	9.1989E-01	9.5900E-01	9.7300E-01
U	2.5379E+01	4.2505E+00	4.4030E+00

SPECIES	MOLE FRACTIONS		
E-	8.5245E-04	7.5788E-03	1.3849E-02
O	5.1546E-01	6.0074E-01	6.1400E-01
O+	1.6113E-04	2.3433E-03	5.1545E-03
O++	6.7409E-19	1.3297E-12	4.6835E-11
D-	1.3749E-04	2.6610E-03	4.2122E-03
O2	7.3038E-03	1.0218E-02	8.4340E-03
O2+	2.8723E-05	2.4684E-04	3.8339E-04
O2-	2.5058E-06	1.1114E-04	1.4899E-04
C	5.4017E-02	2.2619E-01	2.5915E-01
C+	4.1787E-04	6.5125E-03	1.1782E-02
C+	7.8622E-14	1.6562E-09	1.8050E-08
C-	1.0274E-05	7.4597E-04	1.2975E-03
CC	4.1859E-01	1.3559E-01	7.2711E-02
CO+	3.9599E-04	2.0095E-03	2.2304E-03
CO2	1.4702E-03	3.0542E-04	1.5885E-04
C2	6.5507E-04	6.5221E-03	5.3944E-03

P1 = 5.00E+04 N/SQ-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0885E+03	1.2233E+04	1.7022E+04
T	3.2770E+01	5.4348E+01	6.3535E+01
RHD	1.3510E+01	8.0492E+01	9.0862E+01
H	-2.6124E+00	-5.7176E+00	-6.9554E+00
A	8.3125E+00	1.2170E+01	1.3445E+01
S	2.2515E+00	2.4370E+00	2.5235E+00
Z	2.2310E+00	2.7945E+00	2.9486E+00
GAME	9.1712E-01	9.7481E-01	9.6488E-01
U	2.7474E+01	4.7585E+00	4.9669E+00

SPECIES	MOLE FRACTIONS		
E-	1.7915E-03	1.4462E-02	2.6888E-02
O	5.0543E-01	6.1372E-01	6.1348E-01
O+	3.0322E-04	4.9854E-03	1.1747E-02
O++	1.6647E-17	3.5643E-11	1.6226E-09
D-	2.5355E-04	3.8813E-03	5.7241E-03
O2	5.7459E-03	7.7402E-03	5.7672E-03
O2+	3.4423E-05	3.4405E-04	5.2730E-04
O2-	5.1300E-06	1.2594E-04	1.4859E-04
C	1.0594E-01	2.6681E-01	2.7608E-01
C+	1.1441E-03	1.1829E-02	2.0215E-02
C+	1.0453E-12	1.5731E-08	1.9048E-07
C-	3.5526E-05	1.2036E-03	1.7763E-03
CC	3.6354E-01	7.0712E-02	3.2292E-02
CO+	6.0375E-04	2.1138E-03	2.0471E-03
CO2	8.7422E-04	1.7909E-04	5.1174E-05
C2	1.9941E-03	5.2940E-03	3.2793E-03

Table I. - Continued.

$$P_1 = 50 \text{ kN/m}^2$$

$P_1 = 5.00E+04 \text{ N/SQ-M, } U_{S1} = 8.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1020E+03	1.2901E+04	1.8024E+04
T	3.4548E+01	5.6603E+01	6.6518E+01
RMD	1.3998E+01	7.9887E+01	9.0580E+01
M	-2.8365E+00	-6.0582E+00	-7.3742E+00
A	6.5033E+00	1.2550E+01	1.3813E+01
S	5.7258E+06	2.4670E+00	2.5545E+00
Z	2.2787E+00	2.8500E+00	2.9914E+00
GAME	9.1850E-01	9.7534E-01	9.9893E-01
U	2.8174E+01	4.9438E+00	5.1433E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.1796E-03	1.7288E-02	3.2572E-02
C	5.5493E-01	6.1843E-01	6.0901E-01
O+	3.6262E-04	6.4631E-03	1.4987E-02
O++	4.0821E-17	1.0766E-10	4.6275E-09
D-	2.9885E-04	4.3120E-03	6.1438E-03
O2	3.4328E-03	6.9292E-03	5.0640E-03
O2+	3.6766E-09	3.0101E-04	5.7481E-04
O2-	5.7258E-06	1.2697E-04	1.4386E-04
C	1.2240E-01	2.6834E-01	2.7169E-01
C+	1.4670E-03	1.4171E-02	2.3234E-02
C++	2.0821E-12	3.3066E-08	3.7923E-07
C-	4.8077E-05	1.3565E-03	1.4720E-03
CO	3.0901E-01	5.5378E-02	2.4872E-02
CO+	6.6467E-04	2.0879E-03	1.9353E-03
CO2	7.4452E-04	1.2024E-04	3.3288E-05
C2	1.5106E-03	4.6346E-03	2.6356E-03

$P_1 = 5.00E+04 \text{ N/SQ-M, } U_{S1} = 8.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1398E+03	1.2577E+04	1.9049E+04
T	3.5317E+01	5.9117E+01	6.9528E+01
RMD	1.4072E+01	7.9242E+01	9.0397E+01
M	-2.0261E+00	-6.4087E+00	-7.8042E+00
A	6.6954E+00	1.2915E+01	1.4173E+01
S	2.3061E+00	2.4964E+00	2.5850E+00
Z	2.2277E+00	2.8987E+00	3.0308E+00
GAME	9.2050E-01	9.7338E-01	9.9331E-01
U	2.8073E+01	5.1352E+00	5.3221E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.4137E-03	2.1150E-02	3.8818E-02
C	5.6496E-01	6.1823E-01	6.0902E-01
O+	4.3328E-04	8.2922E-03	1.8766E-02
O++	9.5961E-17	3.1828E-10	1.2164E-09
U-	3.4821E-04	4.7350E-03	6.4964E-03
O2	5.1624E-03	6.1625E-03	4.4500E-03
O2+	3.9344E-05	4.1948E-04	6.1929E-04
O2-	6.3437E-06	1.2635E-04	1.3770E-04
C	1.3918E-01	2.7346E-01	2.6194E-01
C+	1.8363E-03	1.6742E-02	2.7178E-02
C++	3.9611E-12	6.8100E-08	7.6178E-07
C-	6.2947E-05	1.4957E-03	1.9368E-03
CO	2.8193E-01	4.3104E-02	1.9346E-02
CO+	7.2233E-04	2.0341E-03	1.8127E-03
CO2	6.9309E-04	7.9592E-05	2.1731E-05
C2	2.2108E-03	3.9495E-03	2.0978E-03

$P_1 = 5.00E+04 \text{ N/SQ-M, } U_{S1} = 8.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2129E+03	1.4262E+04	2.0082E+04
T	3.4087E+01	6.1669E+01	7.2515E+01
RMD	1.4134E+01	7.8991E+01	9.0281E+01
M	-3.2202E+00	-6.7632E+00	-8.2412E+00
A	6.9610E+00	1.3262E+01	1.4520E+01
S	2.3355E+00	2.5259E+00	2.6147E+00
Z	2.3781E+00	2.9927E+00	3.0675E+00
GAME	9.2322E-01	9.6929E-01	9.4862E-01
U	2.5970E+01	5.3255E+00	5.4878E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.1020E-03	2.5640E-02	4.5482E-02
C	5.7318E-01	6.1623E-01	6.0902E-01
O+	5.1430E-04	1.0571E-02	2.2987E-02
O++	2.1826E-16	8.9994E-10	2.9458E-09
D-	4.0175E-04	5.1332E-03	6.7731E-03
O2	4.9177E-03	5.4615E-03	3.9183E-03
O2+	4.2170E-05	4.3037E-04	6.5011E-04
O2-	6.9736E-06	1.2401E-04	1.3050E-04
C	1.5654E-01	2.7637E-01	2.6483E-01
C+	2.2981E-03	1.9523E-02	2.9006E-02
C++	7.3139E-12	1.3553E-07	1.2601E-06
C-	8.0279E-05	1.6131E-03	1.9549E-03
CO	2.5914E-01	3.3561E-02	1.5233E-02
CO+	7.7619E-04	1.9981E-03	1.6860E-03
CO2	5.3591E-04	5.2508E-05	1.4458E-05
C2	2.4637E-03	3.2963E-03	1.6639E-03

$P_1 = 5.00E+04 \text{ N/SQ-M, } U_{S1} = 8.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2702E+03	1.4954E+04	2.1121E+04
T	3.6888E+01	6.4279E+01	7.5481E+01
RMD	1.4182E+01	7.7996E+01	9.0185E+01
M	-3.1430E+00	-7.1278E+00	-8.6864E+00
A	9.1096E+00	1.3595E+01	1.4877E+01
S	2.3610E+00	2.5537E+00	2.6438E+00
Z	2.4295E+00	2.9827E+00	3.1027E+00
GAME	9.2645E-01	9.6400E-01	9.4503E-01
U	3.0266E+01	5.5103E+00	5.6467E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.6545E-03	3.0711E-02	5.2514E-02
C	5.8183E-01	6.1264E-01	6.0774E-01
O+	6.1014E-04	1.3295E-02	2.7655E-02
O++	4.8896E-18	2.4011E-09	6.6121E-08
D-	4.5982E-04	5.4922E-03	6.9742E-03
O2	4.6370E-03	4.8350E-03	3.4933E-03
O2+	4.5261E-05	4.9652E-04	6.9337E-04
O2-	7.6146E-06	1.2026E-04	1.2252E-04
C	1.7277E-01	2.7746E-01	2.7274E-01
C+	2.7406E-03	2.2369E-02	3.1648E-02
C++	1.3207E-11	2.5845E-07	2.1218E-06
C-	1.0019E-04	1.7037E-03	1.9486E-03
CO	2.2909E-01	2.8267E-02	1.2113E-02
CO+	8.2617E-04	1.8562E-03	1.5588E-03
CO2	4.5043E-04	3.4816E-05	9.7762E-06
C2	2.7206E-03	2.7110E-03	1.3175E-03

$P_1 = 5.00E+04 \text{ N/SQ-M, } U_{S1} = 9.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3289E+03	1.5647E+04	2.2199E+04
T	3.7672E+01	6.6911E+01	7.8385E+01
RMD	1.4213E+01	7.7668E+01	9.0133E+01
M	-3.4223E+00	-7.5004E+00	-9.1403E+00
A	9.3286E+00	1.3917E+01	1.5222E+01
S	2.3885E+00	2.5816E+00	2.6720E+00
Z	2.4419E+00	3.0196E+00	3.1363E+00
GAME	9.3028E-01	9.5899E-01	9.4236E-01
U	3.0959E+01	5.6898E+00	5.8019E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.2854E-03	3.6294E-02	5.9739E-02
C	5.9012E-01	6.0769E-01	6.0789E-01
O+	7.2413E-04	1.6462E-02	3.2641E-02
O++	1.0921E-15	3.9957E-09	1.3757E-07
D-	5.2284E-04	5.8016E-03	7.1127E-03
O2	4.4435E-03	4.2820E-03	3.0511E-03
O2+	4.8644E-05	5.3278E-04	7.2132E-04
O2-	8.2502E-06	1.1942E-04	1.1624E-04
C	1.8845E-01	2.7712E-01	2.6942E-01
C+	3.2945E-03	2.5216E-02	3.4069E-02
C++	1.0019E-11	4.7025E-07	3.3975E-06
C-	1.0019E-04	1.7056E-03	1.9198E-03
CO	2.0380E-01	2.0723E-02	9.7523E-03
CO+	9.7213E-04	1.7640E-03	1.4362E-03
CO2	5.7480E-04	2.3331E-05	6.7470E-06
C2	2.9132E-03	2.2087E-03	1.0470E-03

$P_1 = 5.00E+04 \text{ N/SQ-M, } U_{S1} = 9.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3880E+03	1.6340E+04	2.3188E+04
T	3.8507E+01	6.9544E+01	8.1337E+01
RMD	1.4225E+01	7.6932E+01	8.9877E+01
M	-3.8300E+00	-7.8808E+00	-9.4018E+00
A	9.5525E+00	1.4232E+01	1.5581E+01
S	2.4180E+00	2.6091E+00	2.7007E+00
Z	2.5350E+00	3.0541E+00	3.1708E+00
GAME	9.3479E-01	9.5366E-01	9.4106E-01
U	3.1645E+01	5.8607E+00	5.9500E+00

SPECIES ----- MOLE FRACTIONS -----

E-	5.0128E-03	4.2319E-02	6.7510E-02
C	5.8799E-01	6.0161E-01	6.0922E-01
O+	8.6164E-04	2.0057E-02	3.8166E-02
O++	2.4444E-15	1.4004E-09	2.7639E-07
D-	5.1131E-04	6.0566E-03	7.1578E-03
O2	4.2295E-03	3.7960E-03	2.6790E-03
O2+	5.2350E-05	5.6618E-04	7.4257E-04
O2-	8.8863E-06	1.0976E-04	1.0511E-04
C	2.0351E-01	2.7373E-01	2.6615E-01
C+	2.8002E-03	2.8002E-02	3.6409E-02
C++	4.1929E-11	8.1084E-07	5.3187E-06
C-	1.4848E-04	1.7998E-03	1.8081E-03
CO	1.7538E-01	1.6497E-02	7.8403E-03
CO+	9.1362E-04	1.6904E-03	1.3128E-03
CO2	3.0789E-04	1.5839E-05	4.6443E-06
C2	3.0544E-03	1.7894E-03	8.2537E-04

Table I. - Continued.

$$p_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 9.40E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4496E+03	1.7026E+04	2.4203E+04
T	3.9387E+01	7.2158E+01	8.4279E+01
RHO	1.4217E+01	7.6430E+01	8.7612E+01
H	-4.0425E+00	-5.2688E+00	-1.0072E+01
A	9.7882E+00	1.8544E+01	1.5938E+01
S	2.4436E+00	2.6361E+00	2.7266E+00
Z	2.5886E+00	3.0872E+00	3.2047E+00
GAME	9.3991E-01	9.4952E-01	9.4051E-01
U	3.2326E+01	6.0261E+00	6.0973E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	5.8612E-03	4.8709E-02	7.5424E-02
O	6.0537E-01	5.9459E-01	5.5902E-01
O+	1.0299E-02	2.4048E-02	4.3946E-02
O++	3.5327E-15	3.0627E-18	3.2308E-07
O-	6.6578E-04	6.2913E-03	7.1471E-03
O2	6.0102E-03	3.3689E-03	2.3936E-03
O2+	5.4419E-05	5.9583E-04	7.5668E-04
O2-	5.4980E-06	1.0353E-04	9.4043E-05
C	2.1785E-01	2.7359E-01	2.6268E-01
C+	4.6774E-03	3.0679E-02	3.8554E-02
C++	7.4686E-11	1.3569E-06	6.0144E-06
C-	1.7724E-04	1.8084E-03	1.8027E-03
CO	1.2556E-01	1.3254E-02	6.3575E-03
CO+	1.5007E-04	1.5649E-03	1.1946E-03
CO2	2.4869E-04	1.0906E-03	3.2435E-04
C2	3.1378E-03	1.4460E-03	6.3335E-04

P1 = 5.00E+04 N/SQ-M, US1 = 9.60E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5116E+03	1.7701E+04	2.5196E+04
T	4.3246E+01	7.4764E+01	8.7199E+01
RHO	1.4487E+01	7.5897E+01	8.9210E+01
H	-4.2950E+00	-5.4665E+00	-1.0551E+01
A	1.0039E+01	1.4856E+01	1.6301E+01
S	2.4711E+00	2.6629E+00	2.7962E+00
Z	2.6424E+00	3.1194E+00	3.2364E+00
GAME	9.4582E-01	9.4626E-01	9.4082E-01
U	3.2018E+01	6.1811E+00	6.2435E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.8643E-03	5.5465E-02	8.3597E-02
O	6.1218E-01	5.8673E-01	5.4829E-01
O+	1.2390E-03	2.8440E-02	5.0038E-02
O++	1.2819E-14	6.3402E-08	9.4921E-07
O-	7.4681E-04	6.3893E-03	7.0738E-03
O2	3.7725E-03	2.9888E-03	2.0612E-03
O2+	6.6455E-05	6.2121E-04	7.6377E-04
O2-	1.0070E-05	3.0829E-05	8.6938E-05
C	2.3156E-01	2.7090E-01	2.5980E-01
C+	5.5499E-02	3.3244E-02	4.0570E-02
C++	1.9458E-10	2.1722E-06	1.1764E-05
C-	2.0921E-04	1.7958E-03	1.7259E-03
CO	1.5337E-01	1.0719E-02	6.1714E-03
CO+	9.8080E-04	1.4372E-03	1.0867E-03
CO2	1.9726E-04	7.5869E-04	2.2810E-04
C2	3.1579E-03	1.1655E-03	5.1766E-04

P1 = 5.00E+04 N/SQ-M, US1 = 9.80E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5746E+03	1.8387E+04	2.6173E+04
T	4.1302E+01	7.7345E+01	9.0127E+01
RHO	1.4141E+01	7.5359E+01	8.8706E+01
H	-4.4822E+00	-9.0673E+00	-1.1039E+01
A	1.0299E+01	1.5167E+01	1.6671E+01
S	2.4580E+00	2.6896E+00	2.7934E+00
Z	2.6551E+00	3.1511E+00	3.2737E+00
GAME	9.5234E-01	9.4389E-01	9.4189E-01
U	3.3657E+01	6.3322E+00	6.3908E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	8.0473E-03	6.2490E-02	9.2006E-02
O	6.1824E-01	5.7821E-01	5.3708E-01
O+	1.4491E-03	3.3194E-02	5.6410E-02
O++	3.3261E-14	1.2431E-07	1.6608E-06
O-	8.3435E-04	6.4716E-03	6.9451E-03
O2	3.9209E-03	2.6524E-03	1.7993E-03
O2+	6.5621E-05	6.4189E-04	7.6359E-04
O2-	1.0536E-05	8.9934E-05	7.8006E-05
C	2.4369E-01	2.6783E-01	2.5517E-01
C+	4.6368E-03	3.5664E-02	4.1747E-02
C++	2.4236E-10	3.3567E-06	1.8868E-05
C-	2.4448E-04	1.7649E-03	1.6404E-03
CO	1.1300E-01	8.7323E-03	4.2169E-03
CO+	1.0049E-03	1.3301E-03	9.8313E-04
CO2	1.5336E-04	9.3422E-04	1.6106E-04
C2	3.1132E-03	9.3979E-04	4.1028E-04

P1 = 5.00E+04 N/SQ-M, US1 = 1.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6389E+03	1.8982E+04	2.7071E+04
T	4.2437E+01	7.9899E+01	9.3044E+01
RHO	1.4050E+01	7.4642E+01	8.7918E+01
H	-4.7098E+00	-9.4766E+00	-1.1532E+01
A	1.0594E+01	1.5481E+01	1.7046E+01
S	2.5257E+00	2.7157E+00	2.8106E+00
Z	2.7487E+00	3.1829E+00	3.3094E+00
GAME	9.4031E-01	9.4235E-01	9.4369E-01
U	3.4369E+01	6.4790E+00	6.5301E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	9.5327E-03	6.8909E-02	1.0066E-01
O	6.2370E-01	5.6907E-01	5.2545E-01
O+	1.6438E-03	3.8245E-02	6.3028E-02
O++	7.6052E-14	2.3247E-07	2.8077E-06
O-	9.3204E-04	6.4946E-03	6.7604E-03
O2	3.2824E-03	2.3486E-03	1.5630E-03
O2+	7.1403E-05	6.5679E-04	7.5611E-04
O2-	1.1021E-05	2.6447E-05	6.9214E-05
C	2.5522E-01	2.6447E-01	2.5117E-01
C+	7.8230E-03	3.7967E-02	4.6316E-02
C++	9.5939E-10	5.0263E-06	2.3759E-05
C-	2.8395E-04	1.7179E-03	1.5487E-03
CO	9.3186E-02	7.1443E-03	3.4413E-03
CO+	1.0215E-03	1.2254E-03	8.8603E-04
CO2	2.1486E-04	3.7868E-04	1.1390E-04
C2	6.9558E-03	7.5707E-04	3.2322E-04

P1 = 5.00E+04 N/SQ-M, US1 = 1.05E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8035E+03	2.0385E+04	2.9135E+04
T	4.5735E+01	8.6204E+01	1.0045E+02
RHO	1.3723E+01	7.2462E+01	8.5220E+01
H	-5.2851E+00	-1.1272E+01	-1.2809E+01
A	1.1357E+01	1.6276E+01	1.8031E+01
S	2.5926E+00	2.7806E+00	2.8780E+00
Z	2.8736E+00	3.2635E+00	3.4034E+00
GAME	9.8148E-01	9.4169E-01	9.5103E-01
U	3.6022E+01	6.8321E+00	6.9132E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.4944E-02	8.9152E-02	1.2341E-01
O	6.2252E-01	5.4402E-01	4.9649E-01
O+	3.2528E-03	5.2197E-02	8.0628E-02
O++	9.2417E-13	9.3649E-07	9.3517E-06
O-	1.2117E-03	6.3509E-03	6.1146E-03
O2	6.546E-03	1.7181E-03	1.0734E-03
O2+	8.8280E-05	6.7066E-04	7.1074E-04
O2-	1.1607E-05	6.4890E-05	4.9126E-05
C	2.6747E-01	2.5522E-01	2.4049E-01
C+	1.2199E-02	4.3231E-02	4.6743E-02
C++	2.4959E-09	1.2392E-05	5.2466E-05
C-	3.9549E-04	1.9555E-03	1.3088E-03
CO	8.2548E-02	4.3786E-03	2.0656E-03
CO+	1.0250E-03	9.8382E-04	4.7227E-04
CO2	4.8627E-05	1.6463E-04	4.7767E-05
C2	2.4359E-03	4.4188E-04	1.8147E-04

P1 = 9.00E+04 N/SQ-M, US1 = 1.10E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5739E+03	2.1354E+04	3.0869E+04
T	4.9935E+01	9.2437E+01	1.0802E+02
RHO	1.2265E+01	6.9642E+01	8.1527E+01
H	-5.8558E+00	-1.1615E+01	-1.4136E+01
A	1.2164E+01	1.7100E+01	1.9084E+01
S	2.6570E+00	2.8445E+00	2.9446E+00
Z	2.9800E+00	3.3481E+00	3.5051E+00
GAME	9.5439E-01	9.4483E-01	9.6185E-01
U	3.7635E+01	7.1788E+00	7.3114E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.4281E-02	1.0982E-01	1.4745E-01
O	6.3230E-01	5.1635E-01	4.6146E-01
O+	6.1439E-03	6.7882E-02	9.9290E-02
O++	1.4453E-11	3.1113E-04	2.7252E-03
O-	1.5311E-03	5.9264E-03	5.2969E-03
O2	1.8809E-03	1.2348E-03	7.1463E-04
O2+	1.1006E-04	6.5284E-04	6.3599E-04
O2-	1.1279E-05	4.8507E-05	3.2844E-05
C	2.8929E-01	2.4514E-01	2.2899E-01
C+	1.9120E-02	4.7984E-02	5.3135E-02
C++	1.1305E-08	2.7174E-05	1.0788E-04
C-	9.1355E-04	1.3986E-03	1.0721E-03
CO	2.4166E-02	2.7379E-03	1.2330E-03
CO+	9.6357E-04	7.7550E-04	5.0032E-04
CO2	1.6830E-03	7.3188E-07	1.9913E-07
C2	1.8760E-03	2.5888E-04	1.0126E-04

Table I. - Continued.

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 1.15E+04 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1512E+03	2.2684E+04	3.2585E+04	P	2.7359E+03	2.7111E+04	3.9675E+04
T	5.4703E+01	9.8747E+01	1.1597E+02	T	6.8263E+01	1.1946E+02	1.4338E+02
RHO	1.2821E+01	6.6279E+01	7.7298E+01	RHO	1.2146E+01	6.0730E+01	6.9413E+01
M	-6.3382E+00	-1.2474E+01	-1.5530E+01	M	-6.6259E+00	-1.4459E+01	-2.0245E+01
A	1.2878E+01	1.7969E+01	2.0221E+01	A	1.4688E+01	2.0963E+01	2.4089E+01
S	2.7182E+00	2.9008E+00	3.0097E+00	S	2.8866E+00	3.0815E+00	3.1940E+00
Z	3.0673E+00	3.4377E+00	3.6150E+00	Z	3.2996E+00	3.7370E+00	3.9866E+00
GAME	9.8841E-01	9.9111E-01	9.7539E-01	GAME	9.9669E-01	9.8434E-01	1.0152E+00
U	3.9234E+01	7.5384E+01	7.7466E+01	U	4.4143E+01	8.8418E+01	9.3545E+01
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	3.8326E-02	1.3145E-01	1.7242E-01	E-	9.5111E-02	1.9878E-01	2.4828E-01
O	6.2213E-01	4.8674E-01	4.2702E-01	O	5.5838E-01	3.9270E-01	3.2349E-01
O+	2.0236E-10	8.4306E-02	1.1858E-01	O+	4.0781E-02	1.3681E-01	1.7401E-01
G-	1.8310E-03	9.0097E-06	7.2235E-05	O++	5.0495E-08	1.3011E-04	8.7454E-04
O2	1.3478E-03	8.7332E-04	6.4282E-03	G-	2.2670E-03	3.4194E-03	2.2238E-03
O2+	1.3475E-04	6.1210E-04	4.5177E-04	O2	5.8889E-04	2.8117E-04	1.1102E-04
O2-	1.0268E-05	3.4979E-05	2.0944E-05	O2+	1.9408E-04	4.2420E-04	2.8899E-04
C	2.1809E-01	2.3457E-01	2.1655E-01	O2-	6.7849E-06	1.1145E-05	4.5388E-06
C+	2.8394E-02	3.2357E-02	5.7675E-02	C	2.4216E-01	2.0130E-01	1.7655E-01
C+	8.5317E-08	9.4032E-09	2.1121E-04	C+	5.6478E-02	6.4421E-02	7.2202E-02
C-	6.0580E-04	1.3983E-03	8.5919E-04	C++	3.2126E-06	3.3931E-04	1.2679E-03
CC	1.2832E-02	1.7191E-03	7.3098E-04	C-	8.4672E-04	6.5489E-04	4.0774E-04
CO+	8.6537E-04	4.0338E-04	7.3098E-04	CC	2.5858E-03	4.3211E-04	1.4951E-04
CO2	5.5793E-06	9.3103E-07	8.2449E-08	CO+	5.7167E-04	2.6178E-04	1.3481E-04
C2	1.0413E-03	1.9276E-04	3.6931E-05	CO2	4.1669E-07	3.2458E-08	5.9358E-05
				C2	2.4066E-04	3.2711E-05	1.0170E-03
P1 = 5.00E+04 N/SQ-M, US1 = 1.20E+04 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 1.35E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3173E+03	2.3989E+04	3.4610E+04	P	2.6401E+03	2.8890E+04	4.2628E+04
T	5.9463E+01	1.0931E+02	1.2491E+02	T	7.2336E+01	1.2701E+02	1.5331E+02
RHO	1.2497E+01	6.4473E+01	7.4472E+01	RHO	1.2061E+01	5.9159E+01	6.7521E+01
M	-7.2054E+00	-1.3931E+01	-1.7012E+01	M	-7.1791E+00	-1.7802E+01	-2.1986E+01
A	1.3505E+01	1.8899E+01	2.1454E+01	A	1.5254E+01	2.2086E+01	2.5382E+01
S	2.7764E+00	2.9670E+00	3.0731E+00	S	2.5385E+00	3.1533E+00	3.2511E+00
Z	3.1454E+00	3.5323E+00	3.7325E+00	Z	3.3751E+00	3.8450E+00	4.1179E+00
GAME	9.7511E-01	9.6018E-01	9.9039E-01	GAME	9.5243E-01	9.9705E-01	1.0205E+00
U	4.8533E+01	7.9293E+01	8.2334E+01	U	4.5811E+01	9.3549E+01	9.9499E+01
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	5.5775E-02	1.5966E-01	1.9786E-01	E-	1.1536E-01	2.2093E-01	2.7207E-01
O	6.0473E-01	4.5586E-01	3.9192E-01	C	5.3226E-01	3.6192E-01	2.9226E-01
O+	1.9129E-02	1.0165E-01	1.3792E-01	O+	5.3793E-02	1.5356E-01	1.8442E-01
G-	1.8706E-09	2.3646E-05	1.7823E-04	O++	1.7588E-07	2.7497E-04	1.7014E-03
O2	9.4219E-04	6.7280E-03	3.5959E-03	C-	2.2770E-03	2.8261E-03	1.7284E-03
O2+	1.3846E-04	5.5894E-04	4.5449E-04	O2	6.2331E-04	1.8749E-04	8.8140E-05
O2-	9.0582E-06	2.4550E-05	1.2886E-05	O2+	2.0445E-04	3.5729E-04	2.2471E-04
C	2.6779E-01	2.2572E-01	2.0361E-01	O2-	5.7515E-06	7.2700E-06	2.6912E-06
C+	3.8466E-02	3.6448E-02	6.2351E-02	C	2.2891E-01	1.8987E-01	1.6312E-01
C+	3.8283E-07	1.0493E-04	3.9927E-04	C+	6.3746E-02	6.8471E-02	7.7014E-02
C-	6.2397E-04	4.7113E-04	3.9927E-04	C++	7.1504E-06	5.7673E-04	2.0837E-03
CO	6.8552E-03	1.0868E-03	6.7710E-04	C-	6.1305E-04	5.3033E-04	3.1850E-04
CO+	7.6010E-04	4.6472E-04	2.6462E-04	CO	1.4918E-03	2.7379E-04	9.0224E-05
CO2	2.0714E-06	1.9184E-07	3.4030E-08	CO+	4.9205E-04	2.0124E-04	9.5707E-05
C2	6.3535E-04	9.0862E-05	3.1649E-05	CO2	2.1318E-07	1.5219E-08	2.6106E-07
				C2	1.7248E-04	1.9917E-05	5.9772E-06
P1 = 5.00E+04 N/SQ-M, US1 = 1.25E+04 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 1.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5321E+03	2.5470E+04	3.6983E+04	P	3.1689E+03	3.0697E+04	4.3689E+04
T	6.3981E+01	1.1219E+02	1.3373E+02	T	7.6344E+01	1.3498E+02	1.6330E+02
RHO	1.2284E+01	6.2509E+01	7.1685E+01	RHO	1.1982E+01	5.7437E+01	6.5818E+01
M	-7.9014E+00	-1.5169E+01	-1.8582E+01	M	-1.0162E+01	-1.9192E+01	-2.3800E+01
A	1.4097E+01	1.9856E+01	2.2766E+01	A	1.5850E+01	2.3213E+01	2.6621E+01
S	2.8324E+00	3.0251E+00	3.1249E+00	S	2.9543E+00	3.1888E+00	3.3068E+00
Z	3.2218E+00	3.6319E+00	3.8578E+00	Z	3.4632E+00	3.9595E+00	4.2510E+00
GAME	9.6405E-01	9.7152E-01	1.0047E+00	GAME	9.5062E-01	1.0082E+00	1.0209E+00
U	4.2488E+01	8.3601E+01	8.7687E+01	U	4.7481E+01	9.9075E+01	1.0595E+02
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	7.5016E-02	1.7613E-01	2.2348E-01	E-	1.3215E-01	2.4320E-01	2.9473E-01
O	5.8294E-01	4.2439E-01	3.5686E-01	C	5.0434E-01	3.3141E-01	2.6343E-01
O+	2.9061E-02	1.1928E-01	1.5878E-01	O+	6.8200E-02	1.8970E-01	2.4021E-01
G-	1.1391E-08	5.7286E-05	4.1218E-04	O++	5.2860E-07	5.5295E-04	3.0305E-03
O2	2.9521E-03	4.0609E-03	2.8460E-03	O-	2.2275E-03	2.2888E-03	1.3459E-03
O2+	7.5434E-04	4.1774E-04	1.7942E-04	O2	3.6525E-04	1.2244E-04	4.2676E-05
O2-	1.7880E-04	4.9283E-04	3.6618E-04	O2+	2.0958E-04	2.9313E-04	1.7312E-04
C	7.8800E-06	1.6790E-05	7.6780E-06	O2-	4.8552E-06	4.5991E-06	1.6163E-06
C+	2.5610E-01	2.1266E-01	1.9011E-01	C	2.1415E-01	1.7796E-01	1.5007E-01
C+	4.7988E-02	6.0410E-02	8.7260E-02	C+	7.0051E-02	7.2759E-02	8.1460E-02
C+	1.2356E+06	1.9164E-04	7.3002E-04	C-	1.4446E-05	5.5690E-04	3.2278E-03
C-	8.6360E-04	6.0295E-04	9.2610E-04	C++	3.6930E-04	4.2403E-04	2.4820E-04
CO	4.0337E+03	6.8585E-04	2.5220E-04	CO	1.1500E-02	1.7196E-04	5.3712E-05
CO+	6.6130E-04	3.6400E-04	1.8857E-04	CO+	4.1931E-04	1.4945E-04	6.8696E-05
CO2	8.8164E-07	7.0238E-08	1.4009E-08	CO2	1.1278E-07	7.0628E-09	1.2009E-09
C2	4.0234E-04	5.4437E-05	1.7751E-05	C2	1.1519E-04	1.2100E-05	3.6197E-06

Table I. - Continued.

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 1.45E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3976E+03	3.2583E+04	4.8901E+04
T	8.6295E+01	1.4301E+02	1.7315E+02
RHO	1.1921E+01	5.5930E+01	6.4430E+01
H	-1.0913E+01	-2.0631E-01	-2.5680E+01
A	1.6462E+01	2.4328E+01	7.7802E-01
S	3.0423E+00	3.2395E+00	3.3604E+00
Z	3.5495E+00	4.0737E+00	4.3834E+00
GAME	9.5082E-01	1.0159E+00	1.0184E+00
U	4.9153E+01	1.0477E+01	1.1198E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.5668E-01	2.4422E-01	3.1595E-01
C	4.7587E-01	3.0317E-01	2.3739E-01
O+	8.3287E-02	1.8406E-01	2.1246E-01
O+	1.3843E-06	1.0275E-03	4.9490E-03
O-	2.1406E-03	1.8435E-03	1.0588E-03
O2	2.8847E-04	8.0612E-05	2.7387E-05
O2+	2.0970E-04	2.3804E-04	1.3328E-04
O2-	4.0166E-06	2.9230E-06	9.9783E-07
C	2.0431E-01	1.6635E-01	1.3779E-01
C+	7.5433E-02	7.6931E-02	8.5253E-02
C+	2.6736E-05	1.5095E-03	4.7030E-03
C-	5.2036E-04	3.4020E-04	1.9722E-04
CO	8.6078E-04	1.1012E-04	3.5525E-05
CO+	3.5558E-04	1.1162E-04	4.9942E-05
CO2	6.1597E-08	3.4420E-09	5.8555E-10
C2	7.8137E-05	7.5462E-06	2.2759E-06

P1 = 5.00E+04 N/SQ-M, US1 = 1.55E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2752E+03	3.8418E+04	5.5506E+04
T	8.8137E+01	1.5948E+02	1.9197E+02
RHO	1.1793E+01	5.3025E+01	6.2254E+01
H	-1.2679E+01	-2.3647E+01	-2.9811E+01
A	1.7732E+01	2.6468E+01	3.0045E+01
S	3.1419E+00	3.3385E+00	3.4638E+00
Z	3.7214E+00	4.3087E+00	4.6443E+00
GAME	9.5561E-01	1.0200E+00	1.0125E+00
U	5.2492E+01	1.1674E+01	1.2267E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.9720E-01	3.0413E-01	3.5428E-01
C	4.1722E-01	2.5164E-01	1.9291E-01
O+	1.1489E-01	2.0792E-01	2.2623E-01
O+	7.2410E-06	2.9576E-03	1.0588E-02
O-	1.6760E-03	1.1840E-03	6.7948E-04
O2	1.7655E-04	3.5204E-05	1.2155E-05
O2+	1.9671E-04	1.5172E-04	7.9619E-05
O2-	2.6122E-06	1.1797E-06	4.1452E-07
C	1.8227E-01	1.4351E-01	1.1598E-01
C+	6.3951E-02	8.4798E-02	9.0549E-02
C+	7.7686E-05	3.3455E-03	9.5144E-03
C-	4.1825E-04	2.1968E-04	1.3037E-04
CO	4.0013E-04	4.6581E-05	1.5823E-05
CO+	2.5029E-04	6.2337E-05	2.7512E-05
CO2	1.9846E-08	8.4334E-10	1.6365E-10
C2	3.6671E-05	3.0711E-06	1.0002E-06

P1 = 5.00E+04 N/SQ-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6340E+03	3.4470E+04	5.2158E+04
T	8.4225E+01	1.5116E+02	1.8268E+02
RHO	1.1859E+01	5.4419E+01	6.3259E+01
H	-1.1812E+01	-2.2114E+01	-2.7616E+01
A	1.7089E+01	2.5415E+01	2.8932E+01
S	3.0428E+00	3.2895E+00	3.4127E+00
Z	3.6395E+00	4.1903E+00	4.5138E+00
GAME	9.5274E-01	1.0197E+00	1.0152E+00
U	5.0822E+01	1.1079E+01	1.1718E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.7718E-01	2.8457E-01	3.3565E-01
C	4.4676E-01	2.7651E-01	2.1410E-01
O+	9.9021E-02	1.9886E-01	2.2038E-01
O+	3.2030E-06	1.7956E-03	7.4621E-03
O-	2.6196E-03	1.4778E-03	8.4398E-04
O2	2.2624E-04	5.3102E-05	1.8070E-05
O2+	2.0513E-04	1.9084E-04	1.0297E-04
O2-	3.2632E-06	1.8518E-06	6.3587E-07
C	1.9312E-01	1.5481E-01	1.2648E-01
C+	8.0043E-02	8.1007E-02	8.8273E-02
C+	4.6758E-05	2.2922E-03	6.4698E-03
C-	4.6894E-04	2.7289E-04	1.5935E-04
CO	5.6367E-04	7.1137E-05	2.3426E-05
CO+	2.9909E-04	8.3335E-05	3.6882E-05
CO2	3.4600E-08	1.8718E-09	3.0905E-10
C2	5.3281E-05	4.7748E-06	1.4874E-06

P1 = 5.00E+04 N/SQ-M, US1 = 1.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1301E+03	3.8361E+04	5.8824E+04
T	9.2120E+01	1.6736E+02	2.0103E+02
RHO	1.1715E+01	5.1809E+01	6.1278E+01
H	-1.3574E+01	-2.5226E+01	-3.1657E+01
A	1.8466E+01	2.7454E+01	3.1151E+01
S	3.1567E+00	3.3856E+00	3.5144E+00
Z	3.8270E+00	4.4240E+00	4.7756E+00
GAME	9.4102E-01	1.0180E+00	1.0109E+00
U	5.4152E+01	1.2253E+01	1.2794E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.1714E-01	3.2211E-01	3.7197E-01
C	3.8880E-01	2.2541E-01	1.7356E-01
O+	1.3054E-01	2.1640E-01	2.3027E-01
O+	1.5008E-05	4.5322E-03	1.4288E-02
O-	1.7134E-03	9.5698E-04	5.5115E-04
O2	1.3606E-04	2.3916E-05	8.2993E-06
O2+	1.8489E-04	1.2102E-04	6.1559E-05
O2-	2.0466E-06	7.7203E-07	2.7487E-07
C	1.7244E-01	1.3301E-01	1.0624E-01
C+	8.7519E-02	8.8033E-02	9.2127E-02
C+	1.2258E-04	4.6387E-03	1.0808E-02
C-	3.6803E-04	1.7925E-04	1.0772E-04
CO	2.8424E-04	3.1422E-05	1.0892E-05
CO+	2.0759E-04	4.7295E-05	2.0688E-05
CO2	1.1148E-08	4.4870E-10	9.1356E-11
C2	2.5222E-05	2.0481E-06	6.8802E-07

Table L - Continued.

$$P_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/30-N, US1 = 1.00E+03 N/SEC				P1 = 1.00E+05 N/30-N, US1 = 1.00E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5750E+01	6.7533E+01	1.1241E+02	P	4.1024E+01	2.8584E+02	4.1684E+02
T	2.5012E+00	3.4570E+00	4.0727E+00	T	4.6620E+00	6.9938E+00	7.9731E+00
RMD	6.1029E+00	1.9532E+01	2.7599E+01	RMD	8.3000E+00	4.8786E+01	5.1999E+01
H	9.4419E-01	9.0798E-01	8.0129E-01	H	8.5308E-01	7.9508E-01	6.9271E-01
A	1.5478E+00	1.7797E+00	1.9265E+00	A	2.8274E+00	2.5038E+00	2.5678E+00
S	1.0000E+00	1.1035E+00	1.1262E+00	S	1.8202E+00	1.2190E+00	1.2647E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0000E+00	1.0018E+00	1.0028E+00
GAME	9.2819E-01	9.1622E-01	9.1127E-01	GAME	9.0795E-01	8.9472E-01	8.8715E-01
U	3.0950E+00	9.6609E-01	8.7897E-01	U	9.2490E+00	1.1335E+00	1.0680E+00
SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	1.5208E-33	4.2366E-44	1.5917E-35	E-	1.0986E-26	5.6519E-17	8.3998E-15
O	2.3031E-15	1.4725E-12	8.9463E-11	O	3.7399E-09	8.8300E-06	1.3066E-05
O+	1.4210E-36	9.4625E-35	6.6431E-32	O+	3.8111E-30	1.3459E-23	1.8787E-20
O++	0.	0.	0.	O++	0.	1.2531E-08	1.2044E-79
O-	6.6141E-39	2.0109E-48	4.0987E-39	O-	7.6626E-30	9.5334E-19	2.4138E-16
O2	4.3992E-04	4.3992E-04	4.3999E-04	O2	6.4901E-04	2.2646E-03	6.5328E-03
O2+	1.7597E-18	1.7597E-18	1.7597E-18	O2+	1.3977E-18	1.4001E-16	2.3982E-14
O2-	9.0361E-51	4.9637E-42	3.6807E-36	O2-	1.0967E-36	1.2109E-16	1.8204E-14
C	7.4629E-25	6.5544E-45	6.4002E-38	C	1.0079E-19	2.3548E-20	1.0091E-17
C+	4.1144E-65	9.3505E-7	2.3234E-49	C+	9.2100E-42	1.3592E-31	3.4785E-27
C++	0.	0.	0.	C++	0.	1.0502E-72	3.9905E-45
C-	0.	9.7169E-62	6.2336E-67	C-	9.9188E-51	6.1119E-33	1.1768E-28
CO	1.6158E-12	1.5956E-09	1.4587E-07	CO	6.1968E-06	9.6184E-03	1.2224E-02
CO+	2.3971E-37	5.1649E-33	1.1317E-29	CO+	1.3701E-27	8.2809E-21	6.2916E-19
CO2	9.9956E-01	9.9956E-01	9.9956E-01	CO2	9.9956E-01	9.9956E-01	9.8121E-01
C2	4.5727E-79	3.9777E-66	3.1465E-54	C2	4.1690E-62	2.4247E-29	1.4967E-24
P1 = 1.00E+05 N/30-N, US1 = 1.20E+03 N/SEC				P1 = 1.00E+05 N/30-N, US1 = 1.80E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2846E+01	1.2169E+02	1.9828E+02	P	5.8096E+01	3.9791E+02	5.6466E+02
T	3.1937E+00	4.5039E+00	5.2624E+00	T	5.8120E+00	8.2919E+00	9.2517E+00
RMD	7.1508E+00	2.7026E+01	3.1945E+01	RMD	9.4488E+00	4.7561E+01	5.9827E+01
H	9.1903E-01	8.6219E-01	8.2786E-01	H	8.1627E-01	6.7337E-01	6.1200E-01
A	1.7137E+00	2.0280E+00	2.1827E+00	A	8.2821E+00	2.7198E+00	2.8798E+00
S	4.0044E-02	1.8908E-27	6.8212E-34	S	1.2378E+00	1.2828E+00	1.3107E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0001E+00	1.0000E+00	1.0000E+00
GAME	9.1904E-01	9.0878E-01	9.0530E-01	GAME	8.8361E-01	8.8419E-01	8.7876E-01
U	3.9201E+00	1.0100E+00	9.3959E-01	U	5.9569E+00	1.1851E+00	1.1157E+00
SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	1.2349E-43	4.2074E-28	2.1328E-24	E-	2.0992E-22	1.9709E-14	4.5926E-13
O	2.1319E-18	5.9297E-10	1.8789E-06	O	9.1875E-08	6.5796E-05	2.9307E-04
O+	4.8859E-35	2.3802E-30	3.4531E-28	O+	2.2924E-27	1.7129E-19	2.7951E-17
O++	0.	0.	0.	O++	0.	6.6310E-73	3.4195E-68
O-	3.5155E-48	4.1066E-31	4.6503E-27	O-	4.6484E-23	1.5647E-15	6.8246E-14
O2	4.3992E-04	4.4045E-04	4.6628E-04	O2	5.9831E-04	9.2821E-03	1.9893E-02
O2+	1.7597E-18	1.7597E-18	1.7596E-18	O2+	1.7600E-18	6.9519E-14	2.8177E-12
O2-	9.0361E-51	1.8908E-27	6.8212E-34	O2-	1.8971E-32	6.6378E-14	2.2767E-11
C	1.6483E-49	5.1144E-31	1.2707E-27	C	9.2605E-26	1.6661E-16	1.7564E-14
C+	2.1980E-96	4.8809E-77	8.1431E-40	C+	9.9522E-30	1.9109E-20	4.1484E-23
C++	0.	1.2519E-99	5.1365E-93	C++	7.8797E-93	1.6804E-61	6.9776E-59
C-	7.8611E-82	4.6204E-77	1.0238E-46	C-	1.8822E-45	7.3942E-28	1.7688E-24
CO	3.7218E-10	1.0588E-04	5.2760E-05	CO	2.5097E-04	1.7798E-02	3.9217E-02
CO+	3.2339E-33	2.0282E-27	2.2499E-29	CO+	1.4862E-24	3.1908E-17	2.8916E-15
CO2	9.9956E-01	9.9956E-01	9.9956E-01	CO2	9.9920E-01	9.7289E-01	9.4660E-01
C2	1.7888E-65	6.8632E-44	5.1148E-39	C2	1.0993E-36	1.6394E-23	8.1410E-21
P1 = 1.00E+05 N/30-N, US1 = 1.40E+03 N/SEC				P1 = 1.00E+03 N/30-N, US1 = 2.00E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1278E+01	1.9412E+02	2.9195E+02	P	6.4814E+01	3.9899E+02	7.3808E+02
T	3.8992E+00	5.6950E+00	6.6011E+00	T	6.6200E+00	9.4967E+00	1.0415E+01
RMD	8.0418E+00	3.4889E+01	4.4187E+01	RMD	1.8037E+01	8.4798E+01	6.7868E+01
H	8.8932E-01	8.0790E-01	7.6478E-01	H	7.7288E-01	9.9200E-01	9.2244E-01
A	1.8898E+00	2.2818E+00	2.4356E+00	A	2.8018E+00	2.9829E+00	3.0698E+00
S	1.1638E+00	1.1984E+00	1.2159E+00	S	3.2727E+00	2.2508E+00	1.3343E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	3.8091E+00	1.8252E+00	1.0442E+00
GAME	9.1295E-01	9.0321E-01	8.9784E-01	GAME	8.9488E-01	0.7718E-01	8.7366E-01
U	4.5382E+00	1.0739E+00	1.0082E+00	U	6.0037E+00	1.2250E+00	1.1594E+00
SPECIES MOLE FRACTIONS				SPECIES MOLE FRACTIONS			
E-	1.4499E-36	1.6293E-21	7.6219E-18	E-	6.2572E-10	9.9993E-13	9.3949E-12
O	5.0639E-11	8.1772E-08	1.2077E-06	O	1.0107E-06	4.4899E-04	1.2700E-03
O+	2.1408E-32	2.7345E-27	1.8123E-26	O+	4.8818E-25	7.1886E-17	2.8799E-15
O++	0.	0.	1.4199E-93	O++	9.8836E-97	6.0797E-64	5.1610E-59
O-	1.5943E-40	8.9895E-24	1.0729E-19	O-	5.1792E-20	2.1197E-13	9.8700E-12
O2	4.3992E-04	5.3919E-04	1.3845E-03	O2	1.9607E-03	2.4994E-02	4.1435E-02
O2+	1.7597E-18	1.7597E-18	2.8528E-17	O2+	1.8291E-17	0.0010E-12	7.4435E-11
O2-	9.0361E-51	1.8984E-27	1.2159E-22	O2-	6.9996E-10	4.5833E-12	6.1181E-11
C	6.0272E-39	1.3329E-24	3.5947E-17	C	0.8187E-22	3.9992E-14	1.0778E-12
C+	3.0668E-90	4.2223E-39	9.4298E-33	C+	6.9610E-36	6.0928E-23	1.4985E-20
C++	0.	2.7642E-87	6.6388E-77	C++	1.8098E-79	9.9188E-59	1.8476E-40
C-	7.8608E-89	1.2140E-40	1.7896E-34	C-	2.9738E-34	1.8030E-24	6.4422E-22
CO	7.8641E-08	2.8074E-04	1.8072E-03	CO	1.2162E-05	4.8879E-02	6.3303E-02
CO+	2.8878E-30	2.8973E-24	9.0283E-22	CO+	8.2778E-22	7.1445E-15	1.8421E-13
CO2	9.9956E-01	9.9921E-01	9.9898E-01	CO2	9.9926E-01	9.2824E-01	8.7998E-01
C2	1.0999E-55	3.4769E-34	8.1217E-30	C2	3.0230E-51	1.7491E-20	2.3687E-18

Table I. - Continued.

$$P_1 = 100 \text{ kN/m}^2$$

PI = 1.00E+05 N/SQ-M, US1 = 2.20E+03 N/SEC				PI = 1.00E+09 N/SQ-M, US1 = 2.80E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8326E+01	6.9398E+02	9.4378E+02	P	1.2032E+02	1.3940E+03	1.6332E+03
T	7.3322E+00	1.0606E+02	1.1507E+01	T	9.6922E+00	2.3734E+01	1.4796E+01
RMO	1.0681E+01	4.2438E+01	7.5129E+01	RMO	1.2651E+01	8.6390E+01	1.0082E+02
H	7.2489E-01	5.0373E-01	4.2320E-01	H	5.9220E-01	1.8014E-01	6.2540E-02
A	2.5373E+00	3.1233E+00	1.2947E+00	A	2.9714E+00	9.7818E+00	4.0201E+00
S	1.3069E+00	1.3674E+00	1.3983E+00	S	1.4071E+00	1.4763E+00	1.5330E+00
Z	1.0048E+00	1.0509E+00	1.0774E+00	Z	1.0467E+00	1.1749E+00	1.2230E+00
GAME	8.8761E-01	8.7521E-01	9.7662E-01	GAME	9.7046E-01	6.8639E-01	8.7914E-01
U	7.3752E+00	1.2579E+00	1.1963E+00	U	9.9416E+00	1.3996E+00	1.3490E+00

SPECIES			SPECIES		
	MOLE FRACTIONS			MOLE FRACTIONS	
E-	9.4089E-10	1.7827E-11	9.6100E-11	E-	6.7787E-12
O	2.1768E-05	1.6825E-03	3.7217E-03	O	1.5044E-03
O+	1.9017E-22	7.3195E-15	1.1005E-13	O+	6.3822E-14
O++	5.9879E-03	4.3393E-59	3.6186E-73	O++	1.5789E-04
D-	1.3219E-17	7.6416E-12	4.7847E-11	D-	1.0423E-12
O2	5.1840E-03	4.7159E-02	6.8538E-02	O2	4.3561E-02
O2+	1.0442E-15	1.2855E-10	5.7927E-10	O2+	2.0893E-11
O2-	8.7251E-16	1.0420E-10	7.1591E-10	O2-	1.2646E-11
C	6.3965E-19	2.4034E-12	2.8087E-11	C	2.0424E-13
C+	6.5300E-29	8.9529E-20	2.9666E-16	C+	2.0408E-21
C++	6.2845E-08	2.3976E-49	9.3795E-64	C++	1.1042E-52
CO	1.4184E-30	5.3191E-21	2.0620E-19	CO	8.0979E-23
CO-	9.4542E-03	9.4183E-02	1.3988E-01	CO-	8.7787E-02
CO+	1.2301E-19	3.9749E-13	6.6589E-12	CO+	2.1269E-14
CO2	9.8937E-01	6.5600E-01	7.8776E-01	CO2	8.6715E-01
C2	1.1278E-26	8.4288E-18	2.4447E-16	C2	1.6060E-19

PI = 1.00E+09 N/SQ-M, US1 = 2.40E+03 N/SEC				PI = 1.00E+05 N/SQ-M, US1 = 3.00E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3363E+01	8.9146E+02	1.1903E+03	P	1.4779E+02	1.6982E+03	2.2190E+03
T	8.1935E+00	1.1455E+01	1.2778E+01	T	1.0893E+01	1.4810E+01	1.4003E+01
RMO	1.1271E+01	7.0794E+01	5.4505E+01	RMO	1.3326E+01	9.3343E+01	1.0768E+02
H	6.7227E-01	4.0903E-01	3.1346E-01	H	4.5877E-01	9.4324E-02	-7.9691E-02
A	2.7099E+00	3.3304E+00	3.4197E+00	A	3.1064E+00	4.0321E+00	4.3051E+00
S	1.9409E+00	1.4100E+00	1.4427E+00	S	1.4409E+00	1.5387E+00	1.5768E+00
Z	1.0131E+00	1.0892E+00	1.1189E+00	Z	1.0713E+00	1.2204E+00	1.2842E+00
GAME	8.7800E-01	8.7880E-01	8.8029E-01	GAME	8.7015E-01	8.9336E-01	9.0132E-01
U	8.0929E+00	1.2961E+00	1.2438E+00	U	1.0267E+01	1.4682E+00	1.4334E+00

SPECIES			SPECIES		
	MOLE FRACTIONS			MOLE FRACTIONS	
E-	5.8649E-14	3.4026E-10	6.1333E-10	E-	3.6131E-11
O	1.4031E-04	4.4810E-03	8.5011E-03	O	3.9416E-03
O+	3.6183E-19	1.9160E-13	2.0514E-12	O+	7.8726E-13
O++	6.8308E-77	6.4678E-54	5.4673E-50	O++	4.9939E-59
D-	2.3693E-15	1.0321E-10	6.6123E-10	D-	4.9939E-59
O2	1.3251E-02	7.4403E-02	9.8148E-02	O2	6.1143E-12
O2+	1.1799E-13	1.2249E-09	6.1750E-09	O2+	6.3600E-02
O2-	6.4623E-14	9.9089E-10	4.9641E-09	O2-	1.1798E-10
C	2.9809E-16	4.5711E-11	3.0406E-10	C	7.3639E-11
C+	7.7096E-26	7.1259E-18	1.4090E-16	C+	2.6099E-12
C++	6.6433E-63	4.1483E-44	1.4090E-43	C++	9.3527E-20
CO	1.8974E-27	9.1204E-19	1.5350E-17	CO	1.7590E-48
CO-	2.5776E-02	1.5349E-02	2.0401E-01	CO-	2.0712E-21
CO+	4.1437E-17	7.2747E-12	6.0833E-11	CO+	1.2079E-14
CO2	9.6086E-01	7.6864E-01	8.8934E-01	CO2	3.4106E-01
C2	1.3839E-23	4.9278E-16	1.0178E-14	C2	3.4302E-10

PI = 1.00E+05 N/SQ-M, US1 = 2.60E+03 N/SEC				PI = 1.00E+09 N/SQ-M, US1 = 3.20E+03 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1024E+02	1.1247E+03	1.4895E+03	P	1.6863E+02	2.0338E+03	2.4433E+03
T	8.9763E+00	1.2692E+01	1.3664E+01	T	1.0984E+01	1.5941E+01	1.7305E+01
RMO	1.1996E+01	7.8642E+01	9.2975E+01	RMO	1.3955E+01	9.9157E+01	1.1321E+02
H	6.1503E-01	2.9711E-01	1.9352E-01	H	4.1177E-01	-0.0154E-02	-2.3253E-02
A	2.9372E+00	3.9490E+00	3.7997E+00	A	3.2450E+00	4.3003E+00	4.6159E+00
S	1.3737E+00	1.4530E+00	1.4876E+00	S	1.4790E+00	1.5832E+00	1.5903E+00
Z	1.0272E+00	1.1268E+00	1.1477E+00	Z	1.1002E+00	1.2867E+00	1.3493E+00
GAME	8.7306E-01	8.8079E-01	8.8592E-01	GAME	8.7139E-01	9.0170E-01	9.1182E-01
U	8.6100E+00	1.3627E+00	1.3097E+00	U	1.0992E+01	1.5494E+00	1.4499E+00

SPECIES			SPECIES		
	MOLE FRACTIONS			MOLE FRACTIONS	
E-	7.9284E-13	7.8885E-10	2.9235E-09	E-	1.4845E-10
O	8.4265E-04	9.6944E-03	1.6647E-02	O	6.4036E-03
O+	2.2497E-17	7.8430E-12	2.3247E-11	O+	7.0622E-14
O++	2.9499E-69	1.7447E-49	7.9592E-66	O++	2.9425E-56
D-	7.1834E-14	0.4609E-10	4.3610E-09	D-	4.6015E-11
O2	2.6349E-02	1.0328E-01	1.2734E-01	O2	6.5091E-02
O2+	2.1139E-12	7.6029E-09	3.1103E-08	O2+	9.1402E-10
O2-	1.2923E-12	6.0395E-09	2.4438E-08	O2-	3.2264E-10
C	1.3034E-14	5.1635E-10	3.4059E-09	C	1.8746E-11
C+	1.9005E-23	2.9282E-14	1.8965E-13	C+	1.1551E-18
C++	7.0842E-57	1.9808E-40	1.8965E-37	C++	2.7921E-46
CO	6.0139E-25	2.3544E-17	4.8987E-14	CO	9.7851E-20
CO-	5.2376E-02	2.1544E-01	2.7058E-01	CO-	1.7379E-01
CO+	1.6602E-15	7.9353E-11	5.1591E-10	CO+	2.0238E-12
CO2	9.2232E-01	6.7162E-01	8.0543E-01	CO2	7.3272E-01
C2	2.3183E-21	1.0827E-16	2.1609E-13	C2	3.4840E-17

Table L - Continued

$$P_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/SQ-M, US1 = 3.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9081E+02	2.3968E+03	3.1192E+03
Y	1.1396E+01	1.7185E+01	1.6732E+01
RHO	1.4922E+01	1.0569E+02	1.1722E+02
H	3.4033E-01	-2.2313E-01	-3.9688E-01
A	3.3883E+00	4.5890E+00	4.9581E+00
S	1.5097E+00	1.6284E+00	1.6701E+00
Z	1.1302E+00	1.3488E+00	1.4206E+00
GAME	8.7374E-01	9.1090E-01	9.2806E-01
U	1.1714E+01	1.6440E+01	1.6531E+01

SPECIES	MOLE FRACTIONS		
E-	5.0309E-10	1.2262E-07	3.9326E-07
O	1.1066E-02	7.3399E-02	1.0794E-01
O+	4.7400E-13	8.4983E-09	3.8473E-08
O++	7.0086E-34	1.7133E-34	3.2380E-33
D-	2.0941E-10	3.1430E-07	1.1641E-06
O2	1.0693E-01	1.8566E-01	1.8841E-01
O2+	1.8219E-09	1.1834E-08	3.3900E-04
O2-	1.1265E-09	7.8207E-07	2.2104E-04
C	1.0329E-10	9.6147E-07	2.8835E-04
C+	1.6739E-17	1.4519E-11	1.9071E-10
C++	6.3902E-44	1.1928E-29	5.3049E-27
C-	9.1282E-19	1.4289E-12	1.9192E-11
CO	2.2394E-01	4.4399E-01	4.9417E-01
CO+	1.0681E-11	6.9104E-08	3.3941E-07
CO2	4.9818E-01	2.9701E-01	2.1944E-01
C2	4.0042E-16	2.9413E-10	2.4892E-09

P1 = 1.00E+05 N/SQ-M, US1 = 4.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6725E+02	3.8006E+03	4.7885E+03
Y	1.3427E+01	2.1361E+01	2.4432E+01
RHO	1.9772E+01	1.0845E+02	1.2005E+02
H	6.8108E-02	-7.0148E-01	-9.6197E-01
A	3.8989E+00	8.9996E+00	6.1753E+00
S	1.6188E+00	1.7529E+00	1.8042E+00
Z	1.2520E+00	1.5524E+00	1.6495E+00
GAME	8.8546E-01	9.4419E-01	9.6209E-01
U	1.3862E+01	2.0166E+01	2.0961E+01

SPECIES	MOLE FRACTIONS		
E-	9.5971E-09	2.2619E-06	8.1392E-06
O	3.8978E-02	1.8763E-01	2.5464E-01
O+	4.4280E-11	4.4385E-07	2.6209E-06
O++	6.4463E-47	6.7798E-25	1.2235E-25
O-	6.8894E-09	6.6074E-06	2.5634E-05
O2	1.6901E-01	1.6847E-01	1.3928E-01
O2+	3.5676E-08	1.3176E-05	3.3781E-05
O2-	2.0057E-08	7.4397E-04	1.8134E-04
C	6.1144E-09	2.9343E-05	1.7179E-04
C+	0.9018E-17	6.9936E-09	1.0999E-07
C++	6.7660E-38	2.1826E-23	1.2326E-20
C-	8.4709E-14	6.7080E-10	1.0801E-08
CO	3.4429E-01	5.2398E-01	5.3244E-01
CO+	5.5723E-10	2.6837E-04	1.3207E-04
CO2	4.1972E-01	1.1986E-01	7.3324E-02
C2	1.6926E-13	8.2195E-08	7.7744E-07

P1 = 1.00E+05 N/SQ-M, US1 = 3.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1432E+02	2.7825E+03	3.6731E+03
Y	1.2201E+01	1.8441E+01	2.0313E+01
RHO	1.5017E+01	1.0868E+02	1.1964E+02
H	2.6008E-01	-3.7646E-01	-7.7315E-01
A	3.3174E+00	4.9019E+00	5.3294E+00
S	1.5447E+00	1.6693E+00	1.7195E+00
Z	1.1697E+00	1.4144E+00	1.4948E+00
GAME	8.7695E-01	9.2122E-01	9.3943E-01
U	1.2434E+01	1.7529E+01	1.7846E+01

SPECIES	MOLE FRACTIONS		
E-	1.4774E-09	3.4249E-07	1.1258E-06
O	1.7741E-02	1.0479E-01	1.5041E-01
O+	2.5170E-12	2.8760E-08	1.7549E-07
O++	6.9790E-31	1.1549E-14	1.7888E-10
D-	1.9302E-10	9.3829E-07	3.4788E-04
O2	1.0629E-01	1.8822E-01	1.8048E-01
O2+	3.4907E-09	2.8544E-04	4.1487E-04
O2-	1.3187E-09	1.8421E-04	4.9588E-04
C	4.4260E-10	2.2748E-04	1.1997E-03
C+	1.6991E-16	1.3018E-10	1.7712E-09
C++	1.7197E-41	2.2010E-27	9.8744E-24
C-	9.8163E-18	1.2824E-11	1.7844E-10
CO	2.7803E-01	4.8122E-01	4.1138E-01
CO+	8.1109E-11	2.5754E-07	1.2324E-06
CO2	5.8211E-01	2.2546E-01	1.5730E-01
C2	4.8304E-15	1.7084E-09	1.8998E-09

P1 = 1.00E+05 N/SQ-M, US1 = 4.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9265E+02	4.0214E+03	5.3609E+03
Y	1.4064E+01	2.3018E+01	2.6249E+01
RHO	1.6027E+01	1.0764E+02	1.1839E+02
H	-7.8516E-03	-8.7705E-01	-1.1752E-01
A	4.0327E+00	9.9744E+00	6.6429E+00
S	1.6517E+00	1.7933E+00	1.8471E+00
Z	1.2984E+00	1.6231E+00	1.7240E+00
GAME	8.9063E-01	9.5639E-01	9.7398E-01
U	1.4531E+01	2.1726E+01	2.2817E+01

SPECIES	MOLE FRACTIONS		
E-	2.2030E-08	5.4520E-04	2.1201E-03
O	5.6527E-02	2.8407E-01	3.0929E-01
O+	1.6092E-10	1.4701E-04	8.4111E-04
O++	6.8887E-44	9.6244E-27	2.1369E-23
O-	1.7523E-08	1.9280E-07	5.4414E-06
O2	1.1795E-01	1.8804E-01	1.1143E-01
O2+	8.0830E-08	2.4477E-05	4.8019E-05
O2-	4.3154E-08	1.2946E-07	3.0710E-06
C	1.9508E-08	9.4009E-05	6.1114E-04
C+	5.3818E-14	7.4764E-07	7.4764E-07
C++	4.3298E-34	1.4481E-21	1.0365E-18
C-	3.3634E-19	4.1173E-09	7.3784E-08
CO	4.0904E-01	5.8148E-01	4.3099E-01
CO+	1.6071E-09	7.4707E-07	3.8413E-04
CO2	3.6499E-01	8.4247E-02	4.7864E-02
C2	8.3773E-13	3.2354E-07	4.4302E-04

P1 = 1.00E+05 N/SQ-M, US1 = 3.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3913E+02	3.1896E+03	4.1808E+03
Y	1.2808E+01	1.9841E+01	2.2067E+01
RHO	1.9288E+01	1.0800E+02	1.2055E+02
H	1.7934E-01	-5.3400E-01	-7.4134E-01
A	3.4942E+00	5.2370E+00	5.7377E+00
S	1.5801E+00	1.7115E+00	1.7403E+00
Z	1.2096E+00	1.4825E+00	1.4715E+00
GAME	9.8088E-01	9.3237E-01	9.4863E-01
U	1.3190E+01	1.9769E+01	1.9709E+01

SPECIES	MOLE FRACTIONS		
E-	3.9055E-09	9.0215E-07	3.0760E-04
O	2.6888E-02	1.4422E-01	2.0040E-01
O+	1.1267E-11	1.2122E-07	7.1614E-07
O++	1.9288E-40	3.4476E-31	5.6685E-28
O-	2.3929E-09	2.6388E-04	9.4132E-04
O2	1.6476E-01	1.8244E-01	1.6354E-01
O2+	1.4664E-09	6.4407E-04	1.7824E-04
O2-	6.5972E-09	3.8932E-04	9.9653E-04
C	1.7008E-09	0.4703E-04	4.6971E-04
C+	1.3905E-15	1.0127E-09	1.4621E-08
C++	1.8970E-39	2.8520E-24	1.2615E-23
C-	8.1109E-17	9.0747E-11	1.4390E-09
CO	3.1947E-01	5.0772E-01	4.2686E-01
CO+	1.6931E-10	8.6483E-07	4.1989E-06
CO2	5.0849E-01	1.6840E-01	1.0913E-01
C2	3.1110E-14	1.1071E-08	1.2549E-07

P1 = 1.00E+05 N/SQ-M, US1 = 4.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2132E+02	4.4423E+03	5.9812E+03
Y	1.4726E+01	2.5835E+01	2.8743E+01
RHO	1.8201E+01	1.0766E+02	1.1785E+02
H	-1.8694E-01	-1.0602E+00	-1.4010E+00
A	4.2155E+00	6.3800E+00	7.1123E+00
S	1.6877E+00	1.8327E+00	1.8887E+00
Z	1.3448E+00	1.6924E+00	1.7973E+00
GAME	9.9440E-01	9.6819E-01	9.7919E-01
U	1.5274E+01	2.3459E+01	2.4892E+01

SPECIES	MOLE FRACTIONS		
E-	6.8740E-08	1.2792E-05	5.4492E-05
O	7.4091E-02	2.8769E-01	3.9333E-01
O+	5.4808E-10	6.4209E-06	2.4941E-05
O++	6.8496E-42	1.0124E-24	2.3171E-21
O-	6.8973E-08	3.2817E-05	1.1847E-04
O2	1.6378E-01	1.6237E-01	8.6225E-02
O2+	1.7264E-07	4.1287E-05	8.0999E-04
O2-	8.6447E-08	2.0747E-05	4.6258E-07
C	5.8992E-09	3.0074E-04	2.0743E-03
C+	3.0941E-13	7.4655E-07	4.6633E-06
C++	4.6603E-34	7.8240E-20	6.1226E-17
C-	1.9020E-14	2.3423E-08	4.0339E-07
CO	4.4053E-01	5.8270E-01	4.7334E-01
CO+	4.8725E-09	2.0434E-05	1.0247E-04
CO2	3.0123E-01	5.7926E-02	3.0972E-02
C2	3.8849E-12	1.5945E-06	2.6012E-05

Table L - Continued

$P_1 = 100 \text{ kN/m}^2$

$P_1 = 1.00E+05 \text{ N/SQ-M}$, $U_{S1} = 4.50E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5124E+02	4.8531E+03	8.8008E+03
T	1.8420E+02	2.8402E+01	3.1409E+01
RMO	1.6296E+01	1.0287E+02	1.1314E+02
H	-2.0095E-01	-1.2509E+00	-1.6379E+00
A	4.4110E+00	6.7044E+00	7.5300E+00
S	1.7237E+00	1.0708E+00	1.4286E+00
Z	1.3977E+00	1.7896E+00	1.8547E+00
GAME	9.0273E-01	9.7740E-01	9.7072E-01
U	1.5974E+01	2.9545E+00	2.6666E+00

SPECIES	MOLE FRACTIONS		
E-	1.0362E-07	2.9965E-05	1.3275E-04
O	9.7985E-02	3.3328E-01	3.9990E-01
O+	1.7500E-09	1.2868E-03	6.1172E-05
O++	6.4755E-09	7.8454E-23	1.4718E-19
D-	9.8971E-08	6.0686E-01	2.3628E-04
O2	1.0478E-01	9.8462E-02	6.2134E-02
O2+	3.4935E-07	6.3117E-05	1.0195E-04
O2-	1.6214E-07	3.1004E-05	6.7051E-05
C	1.6894E-07	9.9973E-04	6.3009E-03
C+	1.6174E-12	1.3939E-05	2.3407E-15
C++	2.1015E-32	1.4948E-18	2.6827E-06
C-	7.0535E-14	1.2561E-07	2.6827E-06
CO	4.7110E-01	9.2807E-01	5.1097E-01
CO+	1.3212E-08	5.0842E-05	2.3798E-04
CO2	2.4404E-01	3.9015E-02	1.9691E-02
C2	1.6542E-11	7.5421E-06	1.2592E-04

$P_1 = 1.00E+05 \text{ N/SQ-M}$, $U_{S1} = 4.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8239E+02	5.2856E+03	7.2283E+03
T	1.6192E+01	2.9023E+01	3.3966E+01
RMO	1.6318E+01	9.9676E+01	1.1118E+02
H	-3.1636E-01	-1.4441E+00	-1.8808E+00
A	4.6289E+00	7.1939E+00	7.8705E+00
S	1.7978E+00	1.9074E+00	2.5423E+00
Z	1.5502E+00	1.8285E+00	1.9141E+00
GAME	9.0951E-01	9.7985E-01	9.4276E-01
U	1.6473E+01	2.7346E+00	2.8679E+00

SPECIES	MOLE FRACTIONS		
E-	2.1288E-07	6.6974E-05	2.8170E-04
O	1.2543E-01	3.7917E-01	4.2974E-01
O+	5.2789E-09	2.9449E-03	1.2243E-04
O++	3.4230E-30	4.1708E-21	3.9884E-19
D-	2.1401E-07	1.2822E-04	4.2207E-04
O2	1.8462E-01	7.5350E-02	4.7439E-02
O2+	6.7326E-07	8.7188E-05	1.4403E-04
O2-	2.8598E-07	4.3816E-05	9.9700E-05
C	6.6324E-07	2.6142E-03	1.5371E-02
C+	7.8922E-12	6.4374E-06	8.3049E-05
C++	6.3533E-31	1.1139E-16	4.2146E-14
C-	4.5343E-13	6.2824E-07	1.0940E-05
CO	4.9906E-01	5.2032E-01	4.9200E-01
CO+	7.4172E-08	1.1829E-04	4.3435E-04
CO2	1.8091E-01	2.8031E-02	1.3390E-02
C2	6.6092E-11	3.3432E-05	6.4514E-04

$P_1 = 1.00E+05 \text{ N/SQ-M}$, $U_{S1} = 5.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1475E+02	5.6693E+03	7.8289E+03
T	1.6927E+01	3.1332E+01	3.6218E+01
RMO	1.6270E+01	9.6481E+01	1.0909E+02
H	-4.2031E-01	-1.4549E+00	-2.1293E+00
A	4.8380E+00	7.3477E+00	8.1724E+00
S	1.7994E+00	1.9431E+00	2.0028E+00
Z	1.9068E+00	1.8741E+00	1.9655E+00
GAME	9.1707E-01	9.7016E-01	9.1805E-01
U	1.7364E+01	2.9329E+00	3.0149E+00

SPECIES	MOLE FRACTIONS		
E-	4.2582E-07	1.4981E-04	5.0435E-04
O	1.5928E-01	4.0941E-01	4.5220E-01
O+	1.5387E-08	6.3456E-03	2.0951E-04
O++	3.7523E-30	1.4390E-19	6.7797E-17
D-	4.4214E-07	2.3220E-04	6.5541E-04
O2	1.7700E-01	5.6746E-02	3.8707E-02
O2+	1.2421E-06	1.0991E-04	1.8701E-04
O2-	4.7929E-07	3.0167E-05	1.1380E-04
C	1.2364E-06	6.8958E-03	2.9371E-02
C+	3.7742E-11	2.8163E-05	2.1234E-04
C++	2.9507E-30	2.5408E-15	3.4246E-13
C-	2.0491E-12	2.7217E-06	3.1115E-05
CO	5.1289E-01	5.0645E-01	4.6624E-01
CO+	8.8726E-08	2.3044E-04	7.1984E-04
CO2	1.3103E-01	1.7402E-02	9.7653E-03
C2	2.5789E-10	1.3183E-04	1.1002E-03

$P_1 = 1.00E+05 \text{ N/SQ-M}$, $U_{S1} = 5.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4832E+02	6.0609E+03	8.4067E+03
T	1.7751E+01	3.3361E+01	3.8178E+01
RMO	1.6198E+01	9.3938E+01	1.0915E+02
H	-4.6478E-01	-1.8887E+00	-2.3834E+00
A	5.0643E+00	7.8432E+00	8.4641E+00
S	1.8300E+00	1.9777E+00	2.0381E+00
Z	1.5629E+00	1.9225E+00	2.0178E+00
GAME	9.2916E-01	9.5344E-01	9.3014E-01
U	1.8090E+01	3.1085E+00	3.1365E+00

SPECIES	MOLE FRACTIONS		
E-	6.2914E-07	2.8982E-04	7.9066E-04
O	1.9607E-01	4.3547E-01	4.7093E-01
O+	4.2775E-08	1.1722E-04	3.0781E-04
O++	1.9700E-30	2.6795E-19	4.2940E-16
D-	6.6070E-07	3.8323E-04	9.2218E-04
O2	1.6436E-01	6.4016E-02	3.3414E-02
O2+	2.1924E-06	1.2920E-04	1.8982E-04
O2-	7.4530E-07	7.4090E-05	1.3788E-04
C	3.2179E-06	1.5335E-02	4.6712E-02
C+	1.7110E-10	8.2020E-03	1.1980E-04
C++	3.3532E-14	3.8987E-12	4.8987E-12
C-	6.6203E-12	9.7723E-06	9.74320E-04
CO	9.2624E-01	4.9100E-01	4.3534E-01
CO+	2.0783E-07	4.2448E-04	1.0010E-03
CO2	1.1431E-01	1.2244E-02	7.4933E-03
C2	6.6097E-10	4.0792E-04	2.0684E-03

$P_1 = 1.00E+05 \text{ N/SQ-M}$, $U_{S1} = 5.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8389E+02	6.4525E+03	8.9621E+03
T	1.6636E+01	3.5550E+01	3.9937E+01
RMO	1.5989E+01	9.2181E+01	1.0827E+02
H	-4.8135E-01	-2.0907E+00	-2.6457E+00
A	5.3120E+00	8.1044E+00	8.7401E+00
S	1.8941E+00	2.0112E+00	2.0731E+00
Z	1.6813E+00	1.9490E+00	2.0726E+00
GAME	9.3400E-01	9.3949E-01	9.2710E-01
U	1.8732E+01	3.2543E+00	3.2924E+00

SPECIES	MOLE FRACTIONS		
E-	1.5889E-06	4.0909E-04	1.1374E-03
O	2.3592E-01	4.5569E-01	4.8790E-01
O+	1.1517E-07	1.6813E-04	4.3162E-04
O++	1.0087E-32	2.8025E-17	1.6064E-15
D-	1.4325E-06	5.7088E-04	1.2165E-03
O2	1.4750E-01	3.1121E-02	2.9903E-02
O2+	3.7100E-08	1.4626E-04	2.7415E-04
O2-	1.4037E-08	9.0925E-05	1.6207E-04
C	8.2533E-06	4.5904E-04	1.9944E-04
C+	7.4949E-10	1.9420E-04	1.7994E-04
C++	2.5919E-26	2.4941E-13	6.8102E-12
C-	3.5206E-11	2.5651E-05	1.2190E-04
CO	9.5037E-01	4.6775E-01	4.0176E-01
CO+	4.9932E-07	6.4756E-04	1.2822E-03
CO2	1.0108E-07	9.0991E-03	5.9115E-03
C2	9.5409E-09	9.4497E-04	3.7468E-03

$P_1 = 1.00E+05 \text{ N/SQ-M}$, $U_{S1} = 5.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1892E+02	6.8340E+03	9.4863E+03
T	1.9204E+01	3.7322E+01	4.1579E+01
RMO	1.5762E+01	9.0773E+01	1.0711E+02
H	-7.8122E-01	-2.3207E+00	-2.9141E+00
A	5.9748E+00	8.3735E+00	9.0613E+00
S	1.9007E+00	2.0444E+00	2.1079E+00
Z	1.6802E+00	2.0172E+00	2.1300E+00
GAME	9.4382E-01	9.3130E-01	9.2712E-01
U	1.9407E+01	3.3754E+00	3.1575E+00

SPECIES	MOLE FRACTIONS		
E-	2.9877E-06	7.8205E-04	1.5462E-03
O	2.7737E-01	4.7304E-01	5.0380E-01
O+	3.0205E-07	2.7522E-04	8.8091E-04
O++	6.1993E-31	1.6046E-16	6.3025E-15
D-	2.9307E-06	7.8653E-04	1.5347E-03
O2	1.2744E-01	3.1897E-02	2.7360E-02
O2+	6.0295E-06	1.6319E-04	1.8302E-04
O2-	1.3486E-06	1.0722E-04	1.8988E-04
C	2.1154E-05	4.4028E-02	8.6180E-02
C+	3.4800E-09	3.7449E-04	1.0855E-03
C++	8.2970E-29	1.1474E-12	2.0388E-11
C-	1.6160E-10	5.3804E-05	1.9518E-04
CO	5.3195E-01	4.3964E-01	3.6459E-01
CO+	1.1861E-06	8.8670E-04	1.5425E-03
CO2	6.2942E-02	7.0385E-03	4.7204E-03
C2	1.3139E-08	1.7451E-03	4.5080E-03

Table L - Continued.

$P_1 = 100 \text{ kN/m}^2$

$P_1 = 1.00E+05 \text{ N/SQ-M}, U_{S1} = 5.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.5958E+02	7.1987E+03	9.9735E+03
T	2.0617E+01	8.8919E+01	4.3142E+01
RMD	1.5440E+01	6.9419E+01	1.0595E+02
M	-9.2117E-01	-2.5961E+00	-1.1902E+00
A	9.8592E+00	8.4077E+00	9.7682E+00
S	1.9347E+00	2.0773E+00	2.1426E+00
Z	1.7398E+00	2.0680E+00	2.1899E+00
GAME	9.5487E-02	9.2769E-01	9.2910E-01
U	2.0079E+01	3.4811E+00	3.4978E+00

SPECIES	MOLE FRACTIONS		
E-	5.6320E-06	1.0690E-03	2.0224E-03
O	3.1974E-01	4.8889E-01	5.1878E-01
O+	7.7804E-07	1.7882E-04	7.6064E-04
O++	3.0375E-29	7.2338E-16	2.1302E-14
D-	9.1790E-06	1.0227E-03	1.8741E-03
OZ	1.0544E-01	2.7709E-02	2.5300E-02
OZ+	9.3839E-06	1.8092E-04	2.6030E-04
OZ-	2.0644E-04	1.2381E-04	2.0872E-04
C	3.4847E-05	6.1951E-02	1.0654E-01
C+	1.5945E-08	6.2366E-04	1.5324E-03
C++	2.4597E-23	4.0154E-12	5.2346E-11
C-	5.6882E-10	9.5741E-05	2.8813E-04
CO	5.3022E-01	4.0850E-01	1.3109E-01
CO+	2.4957E-06	1.1258E-03	1.8106E-03
COZ	4.4717E-02	5.5929E-03	7.7821E-03
CZ	4.9815E-08	2.7301E-03	5.7263E-02

$P_1 = 1.00E+05 \text{ N/SQ-M}, U_{S1} = 6.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7284E+02	6.0895E+03	1.1140E+04
T	2.4797E+01	4.3138E+01	4.7748E+01
RMD	1.4308E+01	6.8868E+01	9.7984E+01
M	-1.3375E+00	-3.3301E+00	-4.0636E+00
A	4.8218E+00	9.4789E+00	1.0948E+01
S	2.0315E+00	2.1772E+00	2.2678E+00
Z	1.8964E+00	2.2348E+00	2.3811E+00
GAME	9.8960E-01	9.3092E-01	9.4104E-01
U	2.2027E+01	3.7640E+00	3.7620E+00

SPECIES	MOLE FRACTIONS		
E-	4.5038E-03	2.3698E-03	4.0379E-03
O	4.2964E-01	5.2162E-01	5.5902E-01
O+	1.2020E-03	8.1949E-04	1.5789E-03
O++	4.6019E-24	2.4081E-14	5.1607E-13
D-	2.0538E-03	1.0230E-03	3.0210E-03
OZ	4.2978E-02	2.1548E-02	2.0259E-02
OZ+	2.6527E-05	2.4035E-04	3.6273E-04
OZ-	3.8704E-06	1.6892E-04	2.6503E-04
C	1.2362E-03	1.1941E-01	1.6013E-01
C+	1.9004E-06	1.8329E-03	3.6074E-03
C++	1.0115E-18	0.5879E-11	5.9118E-10
C-	3.1668E-09	3.0599E-04	6.6748E-04
CO	9.1290E-01	9.0909E-01	2.8932E-01
CO+	3.5944E-05	1.7771E-03	2.4468E-03
COZ	1.2888E-02	2.9347E-03	1.8946E-03
CZ	4.1429E-06	3.8540E-03	8.3656E-03

$P_1 = 1.00E+05 \text{ N/SQ-M}, U_{S1} = 6.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.9390E+02	7.5300E+03	1.0415E+04
T	2.1840E+01	4.0394E+01	4.8674E+01
RMD	1.5160E+01	4.7879E+01	1.0354E+02
M	-1.0556E+00	-2.6024E+00	-3.4738E+00
A	6.1598E+00	8.9129E+00	9.6849E+00
S	1.9480E+00	2.1104E+00	2.1776E+00
Z	1.7981E+00	2.1213E+00	2.2515E+00
GAME	9.6729E-01	9.2703E-01	9.3244E-01
U	2.0739E+01	3.5702E+00	3.5373E+00

SPECIES	MOLE FRACTIONS		
E-	1.6793E-03	1.4481E-03	2.5831E-03
O	3.6039E-01	5.0281E-01	5.3303E-01
O+	1.9620E-06	9.0138E-04	9.7954E-04
O++	1.5143E-27	2.6425E-15	9.5401E-14
D-	8.9069E-04	1.2757E-03	2.2388E-03
OZ	6.2923E-02	2.5224E-02	2.3517E-02
OZ+	1.3972E-05	1.9971E-04	2.9830E-04
OZ-	2.0297E-06	1.3990E-04	2.2999E-04
C	1.4895E-08	8.0869E-02	1.2689E-01
C+	1.3817E-08	9.4967E-04	2.1197E-03
C++	7.6547E-22	1.1509E-11	1.5291E-10
C-	2.3680E-09	1.8190E-04	3.9701E-04
CO	5.2563E-01	3.7576E-01	2.9588E-01
CO+	6.3228E-06	1.3569E-03	2.0489E-03
COZ	3.0744E-02	4.5030E-03	3.0131E-03
CZ	1.9955E-07	3.8019E-03	6.8231E-03

$P_1 = 1.00E+05 \text{ N/SQ-M}, U_{S1} = 6.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.1302E+02	6.3321E+03	1.1465E+04
T	2.6969E+01	4.4478E+01	4.9399E+01
RMD	1.3889E+01	6.1646E+01	9.4893E+01
M	-1.0652E+00	-3.3799E+00	-4.3710E+00
A	7.1109E+00	9.7857E+00	1.0899E+01
S	2.0415E+00	2.2102E+00	2.2828E+00
Z	1.9353E+00	2.2944E+00	2.4678E+00
GAME	9.8590E-01	9.3493E-01	9.4735E-01
U	2.2463E+01	3.8995E+00	3.8728E+00

SPECIES	MOLE FRACTIONS		
E-	9.7014E-03	2.9647E-03	4.9813E-03
O	4.5424E-01	5.4447E-01	5.7859E-01
O+	2.7212E-03	1.0272E-03	1.9873E-03
O++	2.0993E-22	0.5930E-14	1.3902E-12
D-	4.9989E-03	2.1231E-03	3.4498E-03
OZ	2.8089E-02	2.8092E-02	1.0724E-02
OZ+	3.1638E-05	2.6043E-04	3.9800E-04
OZ-	4.2904E-04	1.8184E-04	1.8446E-04
C	3.6798E-03	1.3871E-01	1.7973E-01
C+	9.3224E-06	2.4062E-03	4.8634E-03
C++	3.2710E-17	1.4049E-10	1.2215E-09
C-	2.3849E-07	6.0396E-04	6.3077E-04
CO	3.0842E-01	2.7848E-01	1.9689E-01
CO+	7.0048E-06	1.9822E-03	2.6030E-03
COZ	0.0256E-02	2.3527E-03	1.4088E-03
CZ	1.0652E-03	0.7071E-03	8.7342E-03

$P_1 = 1.00E+05 \text{ N/SQ-M}, U_{S1} = 6.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3289E+02	7.8261E+03	1.0802E+04
T	2.3208E+01	4.1789E+01	4.4200E+01
RMD	1.4748E+01	8.6028E+01	1.0098E+02
M	-1.1944E+00	-3.0931E+00	-3.7448E+00
A	6.4889E+00	9.1897E+00	1.0011E+01
S	2.0003E+00	2.1438E+00	2.2129E+00
Z	1.8495E+00	2.1702E+00	2.3159E+00
GAME	0.8022E-01	0.2830E-01	0.3678E-01
U	2.1386E+01	3.6714E+00	3.6882E+00

SPECIES	MOLE FRACTIONS		
E-	2.1404E-03	1.6706E-03	3.2463E-03
O	3.9799E-01	5.1804E-01	5.6649E-01
O+	4.9214E-06	6.6404E-04	1.2471E-03
O++	8.4969E-26	0.3747E-13	1.8776E-13
D-	1.9290E-03	1.8434E-03	2.0181E-03
OZ	6.1500E-02	2.3241E-02	2.1863E-02
OZ+	1.5727E-05	2.1952E-04	3.2977E-04
OZ-	1.2291E-04	1.3902E-04	2.4003E-04
C	6.1537E-04	1.0024E-01	1.4678E-01
C+	9.6634E-07	1.3801E-03	2.7994E-03
C++	2.7911E-20	2.8813E-11	2.7897E-10
C-	1.0818E-01	2.2210E-04	5.2489E-04
CO	9.1979E-01	3.6239E-01	2.6150E-01
CO+	1.5006E-05	1.5790E-03	2.2618E-03
COZ	2.0288E-02	3.4399E-03	2.3780E-03
CZ	6.7235E-07	4.8665E-03	7.7200E-03

$P_1 = 1.00E+05 \text{ N/SQ-M}, U_{S1} = 6.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5027E+02	6.6286E+03	1.1874E+04
T	2.8388E+01	4.5867E+01	5.1124E+01
RMD	1.8940E+01	7.9570E+01	9.2330E+01
M	-1.0784E+00	-3.8499E+00	-4.6958E+00
A	7.2022E+00	1.0072E+01	1.1871E+01
S	2.0902E+00	2.2624E+00	2.3177E+00
Z	1.9688E+00	2.3344E+00	2.5156E+00
GAME	9.6080E-01	9.3995E-01	9.5304E-01
U	2.0808E+01	3.9631E+00	4.0110E+00

SPECIES	MOLE FRACTIONS		
E-	1.9678E-04	3.6304E-03	6.1701E-03
O	4.7156E-01	5.8646E-01	6.8084E-01
O+	5.3091E-03	1.2828E-03	2.5201E-03
O++	5.2388E-21	1.7163E-13	3.8399E-12
D-	7.9495E-05	1.0732E-02	3.9291E-03
OZ	2.0372E-02	1.0732E-02	1.7243E-02
OZ+	3.5042E-05	2.8805E-04	4.1879E-04
OZ-	5.6292E-06	1.9922E-04	2.9233E-04
C	9.3728E-03	1.9725E-01	2.6223E-01
C+	9.5978E-05	9.8868E-03	5.7136E-03
C++	6.2882E-18	2.9894E-10	2.5356E-09
C-	1.0962E-06	1.0142E-03	1.0142E-03
CO	4.9277E-01	2.4499E-01	1.6642E-01
CO+	1.8480E-04	2.1849E-03	2.7320E-03
COZ	5.8993E-03	1.8769E-03	1.0531E-03
CZ	7.6214E-05	7.4041E-03	8.3298E-03

Table I. - Continued.

$$P_1 = 100 \text{ kN/m}^2$$

$P_1 = 1.00E+05 \text{ N/SQ-M.}$ $U_1 = 7.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0022E+02	9.8175E+03	1.2419E+04
T	2.4887E+01	4.7393E+01	5.3080E+01
RMD	1.3386E+01	7.8775E+01	9.0595E+01
M	-1.7944E+00	-4.1302E+00	-5.0338E+00
A	7.5228E+00	1.0395E+01	1.1461E+01
S	2.1180E+00	2.2757E+00	2.3520E+00
Z	2.0009E+00	2.4173E+00	2.5262E+00
GAME	9.4620E-01	9.4400E-01	9.5827E-01
U	2.3907E+01	4.8789E+00	4.1547E+00

SPECIES	MOLE FRACTIONS		
E-	3.4994E-04	4.4370E-03	7.6230E-03
O	4.0453E-01	5.6749E-01	5.8987E-01
O+	8.7241E-04	1.6037E-03	3.2148E-03
O++	6.4790E-20	4.5721E-13	1.0929E-11
D-	1.1500E-04	2.8171E-03	4.4669E-03
O2	1.9514E-02	1.7958E-02	1.5847E-02
O2+	3.8589E-05	3.1810E-04	4.8675E-04
O2-	6.3806E-06	1.0907E-05	5.0629E-06
C	1.9139E-02	1.7931E-01	2.1842E-01
C+	9.8141E-08	3.8942E-03	7.0766E-03
C++	5.8996E-15	5.9545E-10	5.3003E-09
C-	3.2141E-06	6.4922E-04	1.2193E-03
CO	4.7585E-01	2.1401E-01	1.3940E-01
CO+	2.5017E-04	2.2473E-03	2.8373E-03
CO-	3.7893E-03	1.4826E-03	7.7812E-04
CO2	2.1199E-04	7.9267E-03	8.6514E-03

$P_1 = 1.00E+05 \text{ N/SQ-M.}$ $U_1 = 7.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4245E+02	1.0996E+04	1.4705E+04
T	3.3500E+01	5.2535E+01	6.0208E+01
RMD	1.3306E+01	7.7482E+01	8.8198E+01
M	-2.2940E+00	-3.0445E+00	-6.1438E+00
A	8.0625E+00	1.1457E+01	1.2677E+01
S	2.1990E+00	2.3696E+00	2.4522E+00
Z	2.1528E+00	2.6031E+00	2.7899E+00
GAME	9.2272E-01	9.5991E-01	9.6399E-01
U	2.8021E+01	4.5019E+00	4.6546E+00

SPECIES	MOLE FRACTIONS		
E-	1.0456E-03	7.8729E-03	1.4375E-02
O	5.1452E-01	5.9382E-01	6.0920E-01
O+	2.1754E-04	3.1802E-03	6.8237E-03
O++	6.6643E-10	9.0949E-12	2.8024E-10
D-	2.6602E-04	4.1743E-03	6.3726E-03
O2	1.0029E-02	1.4319E-02	1.1912E-02
O2+	4.6616E-05	4.3679E-04	6.7049E-04
O2-	9.8293E-06	2.5957E-05	3.5841E-04
C	2.2328E-02	2.3280E-01	2.5938E-01
C+	9.5989E-06	7.2708E-03	1.2978E-02
C++	3.1810E-13	4.9388E-09	4.8757E-08
C-	2.3412E-06	1.1563E-03	1.9052E-03
CO	4.0477E-01	1.3312E-01	7.4614E-02
CO+	5.6481E-04	2.4707E-03	2.9189E-03
CO-	1.9407E-03	6.6799E-04	2.6693E-04
CO2	1.1189E-03	8.1550E-03	6.6921E-03

$P_1 = 1.00E+05 \text{ N/SQ-M.}$ $U_1 = 7.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4836E+02	9.4899E+03	1.3093E+04
T	3.1202E+01	4.8959E+01	5.5253E+01
RMD	1.2690E+01	7.8176E+01	8.9491E+01
M	-1.9562E+00	-4.4251E+00	-5.3029E+00
A	7.4981E+00	1.0736E+01	1.1888E+01
S	2.1453E+00	2.3075E+00	2.3862E+00
Z	2.0357E+00	2.4797E+00	2.6488E+00
GAME	9.3300E-01	9.4944E-01	9.6231E-01
U	2.4643E+01	4.2077E+00	4.3115E+00

SPECIES	MOLE FRACTIONS		
E-	5.4682E-04	5.4018E-03	9.4282E-03
O	4.9575E-01	5.7746E-01	5.9675E-01
O+	1.2690E-04	2.0100E-03	6.1263E-03
O++	4.2864E-19	1.2279E-12	3.2097E-11
D-	1.6044E-04	3.2286E-03	5.0843E-03
O2	1.2786E-02	1.6465E-02	1.6499E-02
O2+	6.1127E-05	5.5309E-04	5.4226E-04
O2-	7.4521E-06	2.2547E-04	3.1975E-04
C	3.2070E-02	1.9237E-01	2.3286E-01
C+	2.0904E-04	4.8687E-03	8.6788E-03
C++	3.1810E-13	1.6108E-09	1.1172E-08
C-	7.4812E-06	1.8108E-04	1.4428E-04
CO	4.5640E-01	1.8500E-01	1.1462E-01
CO+	3.5125E-04	2.4484E-03	2.9080E-03
CO-	2.9090E-03	1.1947E-03	5.4329E-04
CO2	4.4082E-04	8.2379E-03	8.2069E-03

$P_1 = 1.00E+05 \text{ N/SQ-M.}$ $U_1 = 7.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.9409E+02	1.1199E+04	1.5593E+04
T	3.2886E+01	5.4528E+01	6.2964E+01
RMD	1.3451E+01	7.7138E+01	8.7788E+01
M	-2.3127E+00	-4.3673E+00	-6.5400E+00
A	8.2504E+00	1.1829E+01	1.3064E+01
S	2.2275E+00	2.4000E+00	2.4843E+00
Z	2.1556E+00	2.6624E+00	2.8225E+00
GAME	9.2100E-01	9.6306E-01	9.6139E-01
U	2.6716E+01	4.6648E+00	4.8325E+00

SPECIES	MOLE FRACTIONS		
E-	1.3437E-03	9.6795E-03	1.7607E-02
O	5.2657E-01	5.9996E-01	6.0650E-01
O+	2.7077E-04	4.0101E-03	8.7086E-03
O++	1.9862E-17	2.4861E-11	6.0172E-10
D-	3.2586E-04	6.6998E-03	7.0356E-03
O2	1.3231E-02	1.3231E-02	1.7068E-02
O2+	4.8794E-05	4.0465E-04	7.3970E-04
O2-	1.1130E-05	2.6770E-04	3.4137E-04
C	7.9451E-02	2.3571E-01	2.6308E-01
C+	7.6098E-04	8.7690E-03	1.4792E-02
C++	7.7351E-13	9.8830E-09	9.8434E-08
C-	3.9089E-09	1.3528E-03	2.1132E-03
CO	1.1084E-01	5.9338E-02	1.9383E-02
CO+	6.3403E-04	2.3857E-03	2.8947E-03
CO-	1.6359E-03	4.9176E-04	1.8118E-04
CO2	1.5205E-03	7.7688E-03	5.7798E-03

$P_1 = 1.00E+05 \text{ N/SQ-M.}$ $U_1 = 7.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9425E+02	1.0022E+04	1.3664E+04
T	3.2396E+01	5.0680E+01	5.7636E+01
RMD	1.3399E+01	7.7800E+01	8.8743E+01
M	-2.1228E+00	-4.7302E+00	-5.7996E+00
A	7.3782E+00	1.1091E+01	1.2274E+01
S	2.1792E+00	2.3387E+00	2.4198E+00
Z	2.0732E+00	2.3419E+00	2.7105E+00
GAME	9.2900E-01	9.5491E-01	9.6438E-01
U	2.5229E+01	4.3490E+00	4.4794E+00

SPECIES	MOLE FRACTIONS		
E-	7.7962E-04	6.5844E-03	1.1859E-02
O	5.0629E-01	5.8628E-01	6.0195E-01
O+	1.6792E-04	2.5255E-03	5.3110E-03
O++	1.9071E-10	3.3901E-12	9.5122E-11
D-	2.1090E-04	3.6820E-03	5.7070E-03
O2	1.1127E-02	1.5399E-02	1.3184E-02
O2+	4.3747E-05	3.9274E-04	6.0416E-04
O2-	8.6015E-06	2.8121E-04	3.3049E-04
C	4.8952E-02	2.0828E-01	2.4526E-01
C+	3.4863E-04	5.4600E-03	1.0821E-02
C++	1.1197E-13	2.4912E-09	2.3505E-08
C-	1.4052E-05	9.7082E-04	1.6703E-03
CO	4.3052E-01	1.5793E-01	9.2951E-02
CO+	4.5019E-04	2.9721E-03	2.9366E-03
CO-	2.3621E-03	8.8799E-04	3.8761E-04
CO2	7.8932E-04	8.3176E-03	7.5904E-03

$P_1 = 1.00E+05 \text{ N/SQ-M.}$ $U_1 = 8.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0681E+03	1.1823E+04	1.6521E+04
T	3.2178E+01	5.8660E+01	6.5772E+01
RMD	1.3521E+01	7.6745E+01	8.7488E+01
M	-2.6502E+00	-4.8997E+00	-6.9471E+00
A	8.4421E+00	1.2700E+01	1.3644E+01
S	2.2524E+00	2.4299E+00	2.5157E+00
Z	2.1947E+00	2.7190E+00	2.8710E+00
GAME	9.2115E-01	9.6616E-01	9.5718E-01
U	2.7412E+01	4.8324E+00	5.0093E+00

SPECIES	MOLE FRACTIONS		
E-	1.8761E-03	1.1742E-02	2.1353E-02
O	5.2443E-01	6.0457E-01	6.0998E-01
O+	3.8078E-04	5.0544E-03	1.0992E-02
O++	5.3279E-17	4.7794E-11	2.1886E-09
D-	3.9066E-04	9.7488E-03	7.6222E-03
O2	6.6477E-03	1.2141E-02	9.5878E-03
O2+	9.3308E-05	5.5998E-04	6.0881E-04
O2-	1.2496E-05	2.7690E-04	3.3971E-04
C	9.6194E-02	2.4680E-01	2.6864E-01
C+	1.8045E-04	1.0448E-03	1.7091E-03
C++	1.6945E-12	1.9597E-08	1.9138E-07
C-	9.1052E-05	1.8595E-03	2.2933E-03
CO	3.9117E-01	9.1299E-02	4.7501E-02
CO+	7.8851E-04	2.7636E-03	2.7566E-03
CO-	1.5906E-03	3.5929E-04	1.2269E-04
CO2	1.9469E-03	7.1880E-03	4.8763E-03

Table L - Continued.

$$P_1 = 100 \text{ kN/m}^2$$

 $P_1 = 1.00E+05 \text{ N/50-M, USI} = 8.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0995E+03	1.2439E+04	1.7479E+04
T	3.6031E+01	5.8922E+01	6.8618E+01
RMD	1.3581E+01	7.6279E+01	8.7286E+01
M	-2.8952E+00	-6.0387E+00	-7.3639E+00
A	8.6381E+00	1.2544E+01	1.3809E+01
S	2.2742E+00	2.8995E+00	2.9644E+00
Z	2.2495E+00	2.7721E+00	2.9130E+00
GAME	9.2224E-01	9.6643E-01	9.5243E-01
U	2.8109E+01	5.0147E+00	5.1818E+00

SPECIES	MOLE FRACTIONS		
E-	2.0463E-03	1.4206E-02	2.5582E-02
D	5.4608E-01	6.0759E-01	6.0386E-01
O+	5.9919E-04	6.3999E-03	1.2480E-02
O++	1.3318E-16	1.0223E-10	5.6342E-09
O-	4.6072E-04	5.8076E-03	8.2342E-03
OZ	8.1657E-02	1.1065E-02	8.5688E-03
OZ+	9.7174E-02	3.6906E-04	8.7564E-04
OZ-	1.3922E-02	2.8275E-04	3.3375E-04
C	1.2192E-01	2.3595E-01	2.7280E-01
C+	1.3323E-03	1.2345E-02	1.9377E-02
C++	3.4531E-12	3.8239E-08	3.5666E-07
C-	6.9686E-02	1.7494E-03	2.4313E-03
CO	3.2408E-01	7.4572E-02	3.7078E-02
CO+	8.0201E-04	2.7930E-03	2.6277E-03
COZ	1.1866E-03	2.5252E-04	8.3310E-05
CZ	2.3686E-03	8.4749E-03	6.0415E-03

 $P_1 = 1.00E+05 \text{ N/50-M, USI} = 8.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1541E+03	1.3110E+04	1.8449E+04
T	3.6879E+01	6.1303E+01	7.1633E+01
RMD	1.3651E+01	7.5708E+01	8.7154E+01
M	-3.0248E+00	-6.3884E+00	-7.7898E+00
A	8.8938E+00	1.2917E+01	1.4169E+01
S	2.3660E+00	2.4887E+00	2.3785E+00
Z	2.4227E+00	2.6213E+00	2.9518E+00
GAME	9.2412E-01	9.4449E-01	9.4748E-01
U	2.8805E+01	5.1920E+00	5.3487E+00

SPECIES	MOLE FRACTIONS		
E-	2.4594E-03	1.7106E-02	3.0259E-02
D	5.5550E-01	6.0901E-01	6.0039E-01
O+	4.7784E-04	7.9977E-03	1.6766E-02
O++	3.1547E-16	4.7870E-10	1.7617E-09
O-	5.3642E-04	6.3616E-03	8.7321E-03
OZ	7.7300E-02	1.0039E-02	7.6487E-03
OZ+	6.1413E-02	6.4478E-04	9.3809E-04
OZ-	1.5397E-02	2.8604E-04	3.2482E-04
C	1.2921E-01	2.6314E-01	2.7643E-01
C+	1.6843E-03	1.4373E-02	2.1649E-02
C++	6.6721E-12	7.3030E-08	6.8286E-07
C-	9.1770E-05	1.9317E-07	2.5258E-07
CO	2.9729E-01	6.0578E-02	3.0501E-02
CO+	6.7943E-04	2.7087E-03	2.4792E-03
COZ	1.0128E-03	1.7740E-04	5.6959E-05
CZ	2.7742E-03	5.4922E-03	3.3606E-03

 $P_1 = 1.00E+05 \text{ N/50-M, USI} = 8.60E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2101E+03	1.3768E+04	1.9436E+04
T	3.7177E+01	6.3795E+01	7.4609E+01
RMD	1.3702E+01	7.5281E+01	8.7067E+01
M	-3.2189E+00	-6.7222E+00	-8.2247E+00
A	9.0458E+00	1.3260E+01	1.4517E+01
S	2.3328E+00	2.8173E+00	2.6060E+00
Z	2.3412E+00	2.8667E+00	2.9921E+00
GAME	9.2664E-01	9.6135E-01	9.4400E-01
U	2.9900E+01	5.3792E+00	5.5097E+00

SPECIES	MOLE FRACTIONS		
E-	2.9223E-03	2.0464E-02	3.5322E-02
D	5.6463E-01	6.0891E-01	5.9578E-01
O+	5.6914E-04	6.0988E-03	1.2023E-02
O++	6.1012E-16	1.2211E-09	5.0931E-08
O-	7.3917E-03	8.0493E-03	9.1451E-03
OZ	6.6443E-02	7.0034E-04	8.8202E-04
OZ+	1.6910E-02	2.8340E+04	3.1119E-04
OZ-	1.6501E-01	2.6950E-01	2.7539E-01
C	2.0870E-03	1.6526E-02	2.3804E-02
C++	1.2435E-11	1.3617E-07	1.0768E-06
C-	1.7499E-04	2.0919E-03	2.5779E-03
CO	2.7001E-01	4.9015E-02	2.4619E-02
CO+	9.5272E-04	2.4280E-03	2.2190E-03
COZ	6.6182E-04	1.2349E-04	3.9262E-05
CZ	3.1499E-03	4.8991E-03	2.6813E-03

 $P_1 = 1.00E+05 \text{ N/50-M, USI} = 8.80E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2672E+03	1.4434E+04	2.0427E+04
T	3.8568E+01	6.6222E+01	7.7894E+01
RMD	1.3743E+01	7.4358E+01	8.6977E+01
M	-3.6176E+00	-7.1060E+00	-8.6676E+00
A	9.2591E+00	1.3586E+01	1.4866E+01
S	2.3597E+00	2.8492E+00	2.6390E+00
Z	2.3909E+00	2.9076E+00	3.0268E+00
GAME	9.2974E-01	9.5717E-01	9.4102E-01
U	3.0192E+01	5.5507E+00	5.6653E+00

SPECIES	MOLE FRACTIONS		
E-	3.4438E-03	2.4240E-02	4.0749E-02
D	5.7944E-01	6.0741E-01	5.9023E-01
O+	6.7603E-04	1.2149E-02	2.4063E-02
O++	1.6220E-15	2.9444E-09	6.6201E-08
O-	7.0040E-04	7.3358E-03	9.4457E-03
OZ	7.0540E-03	8.1982E-03	6.0741E-03
OZ+	7.1040E-05	7.3426E-04	1.0430E-03
OZ-	1.9445E-05	2.7895E-04	2.9563E-04
C	1.6173E-01	2.7211E-01	2.7533E-01
C+	2.3470E-03	1.8695E-02	2.5898E-02
C++	2.2589E-11	2.4341E-07	1.7590E-06
C-	1.4703E-04	2.2214E-03	2.5912E-03
CO	2.4494E-01	3.9829E-02	1.9073E-02
CO+	1.0216E-03	2.5268E-03	2.1534E-03
COZ	7.2923E-04	8.6424E-05	2.7307E-05
CZ	3.4835E-03	4.1516E-03	2.1612E-03

 $P_1 = 1.00E+05 \text{ N/50-M, USI} = 9.00E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2296E+03	1.5103E+04	2.1421E+04
T	3.9637E+01	6.8911E+01	8.0993E+01
RMD	1.3788E+01	7.4400E+01	8.4834E+01
M	-3.6207E+00	-7.4777E+00	-9.1194E+00
A	9.4800E+00	1.3960E+01	1.4217E+01
S	2.3865E+00	2.8729E+00	2.6635E+00
Z	2.4414E+00	2.9455E+00	3.0599E+00
GAME	9.3940E-01	9.5275E-01	9.4900E-01
U	3.0883E+01	5.7229E+00	5.8167E+00

SPECIES	MOLE FRACTIONS		
E-	4.0355E-03	2.8440E-02	4.4515E-02
D	5.8188E-01	6.0468E-01	5.8387E-01
O+	6.0233E-04	1.4761E-02	2.8234E-02
O++	3.5894E-15	6.8040E-09	1.3444E-07
O-	8.0166E-04	7.8242E-03	9.6832E-03
OZ	6.7301E-03	7.3390E-03	5.3995E-03
OZ+	7.6593E-05	8.0578E-04	1.0829E-03
OZ-	1.9983E-05	2.7147E-04	2.7807E-04
C	1.7719E-01	2.7429E-01	2.7440E-01
C+	3.0739E-03	2.0881E-02	2.7748E-02
C++	8.0119E-11	4.2160E-07	2.7740E-06
C-	1.0061E-04	2.3182E-03	2.4780E-03
CO	2.1975E-01	3.2392E-02	1.4768E-02
CO+	1.0058E-03	2.4061E-03	1.9869E-03
COZ	6.1210E-04	6.0480E-05	1.9133E-05
CZ	3.7642E-03	3.4714E-03	1.7343E-03

 $P_1 = 1.00E+05 \text{ N/50-M, USI} = 9.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3052E+03	1.5769E+04	2.2410E+04
T	4.0336E+01	7.1533E+01	8.3604E+01
RMD	1.3777E+01	7.3996E+01	8.6490E+01
M	-3.8284E+00	-7.8971E+00	-9.5979E+00
A	9.7095E+00	1.4222E+01	1.4571E+01
S	2.4194E+00	2.6003E+00	2.6916E+00
Z	2.4927E+00	2.9807E+00	3.0920E+00
GAME	9.3763E-01	9.4861E-01	9.4788E-01
U	3.1971E+01	5.8917E+00	5.9650E+00

SPECIES	MOLE FRACTIONS		
E-	4.7126E-03	3.8039E-02	5.2999E-02
D	6.0901E-01	6.0087E-01	5.7845E-01
O+	9.3126E-04	1.7724E-02	3.2725E-02
O++	7.9219E-15	1.4972E-09	2.6071E-07
O-	9.0493E-04	8.2009E-03	9.8274E-03
OZ	6.4105E-03	6.5823E-03	4.7872E-03
OZ+	8.2593E-05	8.3427E-04	1.1139E-03
OZ-	2.1508E-05	2.6149E-04	2.9894E-04
C	1.9210E-01	2.7844E-01	2.7830E-01
C+	3.6748E-03	2.3032E-02	2.9537E-02
C++	7.1289E-11	7.0523E-07	4.2414E-06
C-	2.1842E-04	2.3818E-03	2.5221E-03
CO	1.9537E-01	2.6426E-02	1.3292E-02
CO+	1.1447E-03	2.2725E-03	1.8230E-03
COZ	5.0938E-04	4.2507E-05	1.3487E-05
CZ	3.9026E-03	2.8794E-03	1.3875E-03

Table I. - Continued.

P₁ = 100 kN/m²

P1 = 1.00E+05 N/SQ-M, US1 = 9.40E+03 M/SEC

Table with 4 columns: Variable (P, T, RMO, H, A, S, Z, GAME, U), MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK.

SPECIES MOLE FRACTIONS

Table with 4 columns: Species (E-, O, O+, O-, OZ, OZ+, OZ-, C, C+, C++, C-, CO, CO+, COZ, CZ), MOLE FRACTIONS.

P1 = 1.00E+05 N/SQ-M, US1 = 1.00E+04 M/SEC

Table with 4 columns: Variable (P, T, RMO, H, A, S, Z, GAME, U), MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK.

SPECIES MOLE FRACTIONS

Table with 4 columns: Species (E-, O, O+, O-, OZ, OZ+, OZ-, C, C+, C++, C-, CO, CO+, COZ, CZ), MOLE FRACTIONS.

P1 = 1.00E+05 N/SQ-M, US1 = 9.60E+03 M/SEC

Table with 4 columns: Variable (P, T, RMO, H, A, S, Z, GAME, U), MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK.

SPECIES MOLE FRACTIONS

Table with 4 columns: Species (E-, O, O+, O-, OZ, OZ+, OZ-, C, C+, C++, C-, CO, CO+, COZ, CZ), MOLE FRACTIONS.

P1 = 1.00E+05 N/SQ-M, US1 = 1.05E+04 M/SEC

Table with 4 columns: Variable (P, T, RMO, H, A, S, Z, GAME, U), MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK.

SPECIES MOLE FRACTIONS

Table with 4 columns: Species (E-, O, O+, O-, OZ, OZ+, OZ-, C, C+, C++, C-, CO, CO+, COZ, CZ), MOLE FRACTIONS.

P1 = 1.00E+05 N/SQ-M, US1 = 9.80E+03 M/SEC

Table with 4 columns: Variable (P, T, RMO, H, A, S, Z, GAME, U), MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK.

SPECIES MOLE FRACTIONS

Table with 4 columns: Species (E-, O, O+, O-, OZ, OZ+, OZ-, C, C+, C++, C-, CO, CO+, COZ, CZ), MOLE FRACTIONS.

P1 = 1.00E+05 N/SQ-M, US1 = 1.10E+04 M/SEC

Table with 4 columns: Variable (P, T, RMO, H, A, S, Z, GAME, U), MOVING SHOCK, STANDING SHOCK, REFLECTED SHOCK.

SPECIES MOLE FRACTIONS

Table with 4 columns: Species (E-, O, O+, O-, OZ, OZ+, OZ-, C, C+, C++, C-, CO, CO+, COZ, CZ), MOLE FRACTIONS.

Table I - Continued.

P₁ = 100 kN/m²

P₁ = 1.00E+05 N/SQ-M, US1 = 1.15E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1478E+03	2.2205E+04	3.1958E+04
T	5.6350E+01	1.0224E+02	1.2092E+02
RMO	1.2506E+01	6.5181E+01	7.5630E+01
M	-0.5345E+00	-1.2722E+01	-1.9515E+01
A	1.2791E+01	1.7989E+01	2.0290E+01
S	2.7096E+00	2.8925E+00	3.4854E+00
Z	3.0109E+00	3.3244E+00	3.7680E+01
GAME	9.6428E-01	0.4978E-01	9.7808E-01
U	3.9127E+01	7.5759E+00	7.7813E+00

SPECIES	MOLE FRACTIONS		
E-	3.1822E-02	1.0669E-01	1.4305E-01
O	4.2321E-01	5.1134E-01	4.6023E-01
O+	1.0293E-02	7.1897E-02	1.0177E-01
O++	2.6592E-10	8.5079E-06	6.7065E-05
C-	2.6678E-07	7.7964E-03	6.4390E-03
O2	2.3693E-03	1.6202E-03	8.5780E-04
O2+	2.0664E-04	9.2774E-04	8.2701E-04
O2-	2.6180E-05	9.2317E-05	5.5943E-04
C	2.8194E-01	2.9142E-01	2.3520E-01
C+	2.3739E-02	4.2392E-02	4.7590E-02
C++	8.6229E-08	4.2977E-09	1.6664E-04
C-	8.8221E-04	1.6420E-03	1.2231E-03
CO	1.9881E-02	3.0488E-02	1.2994E-02
CO+	1.1899E-03	8.4299E-04	5.0799E-04
CO2	1.4657E-05	1.0215E-06	2.5492E-07
C2	1.7271E-03	2.4914E-04	9.7218E-04

P₁ = 1.00E+05 N/SQ-M, US1 = 1.20E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3397E+03	2.3523E+04	3.4022E+04
T	6.1374E+01	1.0938E+02	1.3037E+02
RMO	1.2290E+01	6.2990E+01	7.2730E+01
M	-1.3587E+01	-1.8905E+01	-1.7005E+01
A	1.2791E+01	1.8925E+01	2.1953E+01
S	2.7672E+00	2.9544E+00	3.0799E+00
Z	3.0940E+00	3.4143E+00	3.5811E+00
GAME	9.7214E-01	9.5975E-01	9.9302E-01
U	4.0791E+01	7.9492E+00	8.2937E+00

SPECIES	MOLE FRACTIONS		
E-	4.5977E-02	1.2624E-01	1.6647E-01
O	0.1009E-01	4.8518E-01	4.2909E-01
O+	1.6886E-02	8.7998E-02	1.1921E-01
O++	2.1819E-09	2.1926E-05	1.6710E-04
C-	3.0801E-03	6.8854E-03	5.2741E-03
O2	1.8446E-03	1.1364E-03	9.4360E-04
O2+	2.4262E-04	8.4689E-04	6.6994E-04
O2-	2.4156E-05	6.5535E-05	3.9493E-05
C	2.7578E-01	2.4249E-01	2.2452E-01
C+	3.1010E-02	4.9900E-02	5.1523E-02
C++	3.4497E-07	8.2414E-05	3.1788E-04
C-	9.6394E-02	1.3875E-03	9.7138E-04
CO	1.1299E-02	1.9302E-03	7.6981E-04
CO+	1.0613E-03	6.4912E-04	3.4704E-04
CO2	5.8303E-04	4.7232E-07	1.0699E-07
C2	1.1054E-03	1.5788E-04	9.4473E-05

P₁ = 1.00E+05 N/SQ-M, US1 = 1.25E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5235E+03	2.4986E+04	3.6380E+04
T	6.6123E+01	1.1894E+02	1.4082E+02
RMO	1.2082E+01	6.1031E+01	6.9945E+01
M	-7.0995E+00	-1.5142E+01	-1.8787E+01
A	1.4818E+01	1.9990E+01	2.2899E+01
S	2.8232E+00	3.0118E+00	3.1195E+00
Z	3.1645E+00	3.5011E+00	3.6988E+00
GAME	9.6097E-01	9.7219E-01	1.0082E+00
U	4.2428E+01	8.4100E+00	8.8489E+00

SPECIES	MOLE FRACTIONS		
E-	6.2201E-02	1.0664E-01	1.9071E-01
O	4.9214E-01	4.9788E-01	3.9691E-01
O+	1.2920E-02	1.0248E-01	1.3666E-01
O++	3.2706E-09	9.6811E-03	3.8981E-04
C-	1.3727E-03	7.8141E-04	3.7477E-04
O2	2.7641E-04	7.5097E-04	5.5753E-04
O2+	2.1297E-05	4.9037E-05	2.0729E-05
C	2.8603E-01	2.3281E-01	2.1185E-01
C+	3.9714E-02	4.9475E-02	5.6267E-02
C-	1.0958E-06	6.2181E-04	5.8664E-04
CO	8.7790E-03	1.1330E-03	7.6504E-04
CO+	9.3071E-04	4.9449E-04	4.5354E-04
CO2	2.5480E-06	2.1809E-07	4.4102E-08
C2	7.0794E-04	9.6382E-05	5.0641E-05

P₁ = 1.00E+05 N/SQ-M, US1 = 1.30E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7321E+03	2.6626E+04	3.9088E+04
T	7.5644E+01	1.2494E+02	1.5148E+02
RMO	1.1963E+01	5.9328E+01	6.7622E+01
M	-8.6242E+00	-1.6431E+01	-2.0251E+01
A	1.4796E+01	2.1037E+01	2.4271E+01
S	2.8764E+00	3.0647E+00	3.1780E+00
Z	3.2329E+00	3.5924E+00	3.8156E+00
GAME	9.5341E-01	9.8605E-01	1.0192E+00
U	4.4885E+01	8.6995E+00	9.4488E+00

SPECIES	MOLE FRACTIONS		
E-	7.9224E-02	1.6744E-01	2.1500E-01
O	5.7151E-01	4.2953E-01	3.6499E-01
O+	3.5750E-02	1.8464E-01	1.7931E-01
O++	9.5812E-08	1.2290E-04	8.3339E-04
C-	3.3908E-03	5.0719E-03	3.3886E-03
O2	1.0807E-03	5.2729E-04	2.8743E-04
O2+	2.9942E-04	6.4842E-04	4.4049E-04
O2-	1.8582E-05	3.0159E-05	1.2314E-05
C	2.5534E-01	2.2237E-01	1.9860E-01
C+	4.6749E-02	5.3193E-02	6.1249E-02
C-	2.8153E-06	2.7101E-04	1.0305E-03
CO	9.7151E-04	9.4659E-04	5.9891E-04
CO+	4.3789E-03	7.7729E-04	2.6982E-04
CO2	8.1028E-04	3.7379E-04	1.8639E-04
C2	1.3552E-06	1.0194E-07	1.8803E-08
C2	4.6393E-04	5.6771E-05	1.7574E-05

P₁ = 1.00E+05 N/SQ-M, US1 = 1.35E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9443E+03	2.8352E+04	4.1994E+04
T	7.5053E+01	1.3333E+02	1.6227E+02
RMO	1.1878E+01	5.7682E+01	6.6013E+01
M	-9.3777E+00	-1.7749E+01	-2.1998E+01
A	1.8339E+01	2.2173E+01	2.5579E+01
S	2.9286E+00	3.1196E+00	3.2330E+00
Z	3.3032E+00	3.6884E+00	3.9331E+00
GAME	9.6900E-01	9.9971E-01	1.0245E+00
U	4.5748E+01	8.4540E+00	1.0063E+01

SPECIES	MOLE FRACTIONS		
E-	9.7055E-02	1.8848E-01	2.3816E-01
O	5.4861E-01	4.8115E-01	3.3490E-01
O+	4.7834E-02	1.3403E-01	1.6812E-01
O++	1.0693E-07	2.6276E-04	1.6013E-03
C-	3.6273E-03	4.1944E-03	2.6102E-03
O2	6.5462E-04	3.3300E-04	1.3061E-04
O2+	3.1697E-04	5.4684E-04	3.4359E-04
O2-	1.9957E-05	1.9715E-05	7.4752E-06
C	2.4445E-01	2.1178E-01	1.8598E-01
C+	5.2495E-02	3.7149E-02	4.6077E-02
C-	0.3133E-04	4.6594E-04	1.6822E-03
CO	0.2021E-04	7.6563E-04	8.8761E-04
CO	2.9535E-03	6.9314E-04	1.6635E-04
CO+	0.9864E-04	2.8070E-04	1.3445E-04
CO2	6.7402E-07	4.7850E-08	8.5738E-09
C2	3.0766E-04	3.4480E-05	1.0548E-05

P₁ = 1.00E+05 N/SQ-M, US1 = 1.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1647E+03	3.0150E+04	4.5887E+04
T	7.9374E+01	1.6205E+02	1.9340E+02
RMO	1.1811E+01	5.6030E+01	6.4136E+01
M	-1.0180E+01	-1.9157E+01	-2.3627E+01
A	1.5931E+01	2.3827E+01	2.6849E+01
S	2.9798E+00	3.1711E+00	3.2870E+00
Z	3.3571E+00	3.7083E+00	4.0544E+00
GAME	9.4722E-01	1.0113E+00	1.0296E+00
U	4.7618E+01	1.0004E+01	1.0705E+01

SPECIES	MOLE FRACTIONS		
E-	1.1827E-01	2.0945E-01	2.8074E-01
O	9.2421E-01	5.7310E-01	3.0616E-01
O+	0.0221E-02	1.4096E-01	1.8134E-01
O++	5.8615E-07	8.2449E-04	2.8137E-03
C-	3.3785E-03	3.4348E-03	2.0639E-03
O2	6.0136E-04	2.9403E-04	3.0383E-05
O2+	3.2699E-04	4.2236E-04	2.6868E-04
O2-	1.3505E-05	1.2709E-05	4.6208E-06
C	2.3584E-01	2.6095E-01	1.7269E-01
C+	5.8357E-02	4.1306E-02	7.0669E-02
C-	1.2727E-05	7.0707E-04	2.5904E-03
CO	6.6303E-04	6.2276E-04	3.7360E-04
CO	2.0220E-03	3.1489E-04	1.0505E-04
CO+	5.9779E-04	2.1030E-04	9.7874E-05
CO2	3.4017E-07	2.2823E-08	4.0954E-09
C2	2.0660E-04	2.1255E-05	6.5332E-06

Table I - Continued

$$P_1 = 100 \text{ KN/m}^2$$

P1 = 1.00E+05 N/50-M, US1 = 1.49E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.392E+03	3.1999E+04	4.0749E+04
T	8.364E+01	1.5096E+02	1.8627E+02
PHO	1.1757E+01	5.4474E+01	4.2700E+01
H	-1.0787E+01	-2.0592E+01	-2.4708E+01
A	1.4539E+01	2.4448E+01	2.8074E+01
S	3.0299E+00	3.2207E+00	3.3397E+00
I	3.4508E+00	3.8912E+00	4.1777E+00
GAME	9.471E-01	1.0192E+00	1.0238E+00
U	4.9090E-01	1.0599E+01	1.1299E+01

SPECIES	MOLE FRACTIONS		
E-	1.3372E-01	2.3007E-01	2.0242E-01
D	4.9873E-01	3.4587E-01	2.7916E-01
O+	7.3887E-02	1.6291E-01	1.9272E-01
O++	1.5445E-04	9.7529E-04	4.5359E-03
D-	3.2634E-03	2.7924E-03	1.4497E-03
O2	9.4066E-04	1.5325E-04	5.4388E-05
O2+	3.2827E-04	3.6903E-04	2.0830E-04
O2-	1.1237E-05	8.1654E-06	2.9027E-06
C	2.2362E-01	1.4921E-01	1.4027E-01
C+	6.3016E-02	6.5251E-02	7.4781E-02
C++	2.3705E-05	1.2211E-05	3.7578E-05
C-	7.9201E-04	5.0405E-04	3.0184E-04
CO	1.4185E-03	2.0399E-04	8.8144E-04
CO+	5.0769E-04	1.5779E-04	7.1804E-05
CO2	1.8790E-07	1.1172E-08	2.0632E-09
C2	1.4005E-04	1.3341E-05	4.2006E-06

P1 = 1.00E+05 N/50-M, US1 = 1.50E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6295E+03	3.5866E+04	5.1277E+04
T	8.7936E+01	1.5991E+02	1.9455E+02
PHO	1.1896E+01	5.2993E+01	6.1643E+01
H	-1.1809E+01	-2.2072E+01	-2.7693E+01
A	1.7169E+01	2.3570E+01	2.9226E+01
S	3.0792E+00	3.2689E+00	3.3850E+00
I	3.5289E+00	3.9964E+00	4.2965E+00
GAME	4.4987E-01	1.0231E+00	1.0219E+00
U	5.0799E-01	1.1212E+01	1.1008E+01

SPECIES	MOLE FRACTIONS		
E-	1.5229E-01	2.5010E-01	2.0219E-01
D	4.7251E-01	3.1985E-01	2.5106E-01
O+	8.4185E-02	1.7596E-01	2.0166E-01
O++	3.6946E-06	1.4875E-03	6.6041E-03
D-	3.0946E-03	2.2679E-03	1.2386E-03
O2	4.2649E-04	1.0405E-04	3.6925E-05
O2+	3.2264E-04	2.9846E-04	1.6338E-04
O2-	9.1868E-06	5.2817E-06	1.9177E-06
C	2.1370E-01	1.7178E-01	1.4905E-01
C+	6.7088E-02	6.9725E-02	7.8121E-02
C++	4.1607E-05	1.6467E-05	5.1047E-05
C-	7.1604E-04	4.0998E-04	2.4962E-04
CO	1.0059E-03	1.3402E-04	4.6573E-04
CO+	4.2797E-04	1.1903E-04	3.4127E-05
CO2	1.0367E-07	9.6819E-09	1.1278E-09
C2	9.5964E-05	6.6075E-06	2.8452E-06

P1 = 1.00E+05 N/50-M, US1 = 1.55E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8734E+03	3.5737E+04	5.4813E+04
T	9.2299E+01	1.6880E+02	2.0481E+02
PHO	1.1630E+01	5.1630E+01	6.0542E+01
H	-1.2674E+01	-2.3601E+01	-2.9694E+01
A	1.7823E+01	2.6627E+01	3.0390E+01
S	3.1277E+00	3.3159E+00	3.6390E+00
I	3.6100E+00	4.1028E+00	4.6206E+00
GAME	9.3379E-01	1.0237E+00	1.0205E+00
U	5.2424E+01	1.1815E+01	1.2456E+01

SPECIES	MOLE FRACTIONS		
E-	1.7090E-01	2.6940E-01	3.2188E-01
D	4.4944E-01	2.9527E-01	2.3192E-01
O+	1.0290E-01	1.8662E-01	2.0964E-01
O++	8.1887E-06	2.7268E-03	9.3783E-03
D-	2.8845E-03	1.8484E-03	1.0408E-03
O2	3.3322E-04	7.0652E-05	2.5214E-05
O2+	8.1049E-04	2.4404E-04	1.2721E-04
O2-	7.3734E-06	3.4444E-06	1.2741E-06
C	2.0426E-01	1.6678E-01	1.3815E-01
C+	7.0710E-02	7.3654E-02	8.0973E-02
C++	6.9803E-05	2.6665E-03	6.7104E-03
C-	4.3951E-04	3.3610E-04	2.0759E-04
CO	7.1655E-04	9.0103E-05	3.2094E-05
CO+	3.5807E-04	9.0499E-05	4.0877E-05
CO2	6.8004E-08	2.9842E-09	6.2893E-10
C2	6.5522E-05	5.6945E-06	1.9588E-06

P1 = 1.00E+05 N/50-M, US1 = 1.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.1247E+03	3.7659E+04	5.0119E+04
T	9.6032E+01	1.7780E+02	2.1461E+02
PHO	1.1956E+01	5.0322E+01	5.9623E+01
H	-1.3971E+01	-2.9171E+01	-3.1710E+01
A	1.8503E+01	2.7651E+01	3.1534E+01
S	3.1750E+00	3.3024E+00	3.4668E+00
I	3.6937E+00	4.2111E+00	4.5420E+00
GAME	9.5918E-01	1.0223E+00	1.0201E+00
U	9.4081E+01	1.2444E+01	1.3066E+01

SPECIES	MOLE FRACTIONS		
E-	1.8999E-01	2.8008E-01	3.3977E-01
D	4.1917E-01	2.7194E-01	2.1099E-01
O+	1.1371E-01	1.9647E-01	2.1376E-01
O++	1.6998E-06	4.1898E-03	1.2637E-02
D-	3.6470E-03	1.5128E-03	9.0047E-04
O2	2.8527E-04	4.8575E-05	1.7661E-05
O2+	2.9011E-04	1.9280E-04	9.9797E-05
O2-	5.0123E-04	2.3025E-06	8.7165E-07
C	1.9905E-01	1.5800E-01	1.2521E-01
C+	7.3962E-02	7.7296E-02	8.3160E-02
C++	1.1278E-04	3.6947E-03	9.4637E-03
C-	5.6548E-04	2.7783E-04	1.7246E-04
CO	5.1272E-04	4.1695E-05	2.2778E-05
CO+	2.9770E-04	6.9248E-05	3.1381E-05
CO2	3.4344E-08	1.6267E-09	3.0863E-10
C2	4.9142E-05	3.8594E-06	1.5946E-06

Table I. - Continued.

$P_1 = 200 \text{ kN/m}^2$

P1 = 2.00E+05 N/50-M, US1 = 1.00E+03 N/SEC

P1 = 2.00E+05 N/50-M, US1 = 1.60E+03 N/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	1.5790E+01	6.7533E+01	1.1241E+02
T	2.5912E+00	3.4570E+00	4.0727E+00
RHD	6.1029E+00	1.9532E+01	2.7599E+01
H	9.4419E-01	9.0798E-01	8.8129E-01
A	1.3478E+00	1.7797E+00	1.9283E+00
S	3.0356E-01	1.0844E+00	1.1296E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.2819E-01	9.1622E-01	9.1127E-01
U	3.0950E+00	9.6609E-01	8.7897E-01

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	4.1024E+01	2.8773E+02	4.1709E+02
T	4.5621E+00	7.0090E+00	8.0101E+00
RHD	8.7990E+00	4.0731E+01	5.1807E+01
H	8.5500E-01	7.4400E-01	6.9252E-01
A	2.0374E+00	1.3071E+00	2.6755E+00
S	1.2048E+00	1.2462E+00	1.2740E+00
Z	1.0000E+00	1.0014E+00	1.0051E+00
GAME	9.0797E-01	8.9597E-01	8.8914E-01
U	5.2490E+00	1.1353E+00	1.0733E+00

SPECIES	MOLE FRACTIONS		
E-	7.8040E-34	2.2645E-44	7.9580E-36
O	1.4285E-12	1.0412E-12	6.0430E-11
O+	1.0048E-38	6.6910E-25	4.6976E-32
O++	0.	0.	0.
D-	4.6769E-59	1.4219E-88	2.6978E-39
O2	4.3922E-04	4.3992E-04	4.2997E-04
O2+	1.7977E-18	1.7997E-18	1.7897E-18
O2-	3.0356E-51	4.9637E-42	2.6799E-26
C	1.7214E-45	3.2772E-46	3.3004E-38
C+	2.0508E-47	4.4733E-47	1.2419E-49
C++	0.	0.	0.
C-	0.	4.8987E-83	3.2668E-67
CO	1.1426E-12	1.6999E-09	1.0315E-07
CO+	1.6734E-27	2.4518E-27	6.0038E-20
CO?	9.4936E-49	9.4946E-01	9.4946E-01
CO2	2.2684E-29	1.9889E-44	1.8716E-44

SPECIES	MOLE FRACTIONS		
E-	5.3917E-27	3.2617E-17	2.2516E-19
O	1.9413E-09	2.5347E-04	7.2644E-09
O+	2.5848E-39	1.1785E-23	2.1468E-20
O++	0.	6.4442E-89	1.1352E-76
D-	5.2672E-70	7.3423E-19	2.7025E-16
O2	4.4210E-04	1.8756E-03	5.4756E-03
O2+	1.7537E-18	1.5089E-18	2.1488E-14
O2-	1.0548E-26	1.1775E-14	1.7670E-14
C	4.1499E-29	2.3982E-20	2.4380E-17
C+	4.8079E-42	4.3078E-27	2.8444E-27
C++	1.4546E-97	7.2944E-73	7.1319E-65
C-	4.9647E-81	1.7642E-23	1.0079E-28
CO	4.4439E-06	2.8737E-03	1.0098E-03
CO+	1.2744E-27	4.9469E-21	7.743E-19
CO?	5.9945E-01	6.4825E-01	6.8647E-01
CO2	2.1710E-47	8.4400E-20	1.4849E-24

P1 = 2.00E+05 N/50-M, US1 = 1.20E+03 N/SEC

P1 = 2.00E+05 N/50-M, US1 = 1.80E+03 N/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.2446E+01	1.2169E+02	1.9028E+02
T	3.1907E+00	4.5033E+00	5.2627E+00
RHD	7.1507E+00	2.7026E+01	3.8155E+01
H	0.1902E-01	8.6239E-01	8.2784E-01
A	1.7137E+00	2.0293E+00	2.1899E+00
S	1.1292E+00	1.1528E+00	1.1789E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.1904E-01	9.0878E-01	9.0539E-01
U	3.8201E+00	1.0101E+00	9.3945E-01

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	5.2295E+01	3.9741E+02	5.4517E+02
T	4.5132E+00	8.3268E+00	9.2457E+00
RHD	6.4447E+00	4.7218E+01	5.9642E+01
H	8.1475E-01	6.7537E-01	6.1161E-01
A	2.2324E+00	2.7286E+00	2.8943E+00
S	1.2441E+00	1.2922E+00	1.3109E+00
Z	1.0000E+00	1.0027E+00	1.0173E+00
GAME	9.0797E-01	8.9647E-01	8.8109E-01
U	4.9564E+00	1.1909E+00	1.1241E+00

SPECIES	MOLE FRACTIONS		
E-	6.1640E-34	2.0904E-28	1.0385E-24
O	1.5074E-12	4.7052E-12	1.2893E-08
O+	3.4444E-35	1.7306E-20	2.4715E-28
O++	0.	0.	0.
D-	2.4895E-49	2.8760E-71	2.1532E-37
O2	4.3922E-04	4.4030E-04	4.2877E-04
O2+	1.7977E-18	1.7997E-18	1.7897E-18
O2-	4.0045E-49	1.5499E-27	4.6884E-24
C	8.2413E-44	2.4767E-31	6.7932E-28
C+	1.0790E-46	2.9819E-47	4.3777E-40
C++	0.	0.	2.8284E-82
C-	3.9704E-82	2.4109E-83	7.4424E-67
CO	7.6317E-10	7.4470E-07	3.7727E-05
CO+	2.8676E-22	1.4503E-27	1.4800E-26
CO?	9.4936E-01	9.4946E-01	9.4946E-01
CO2	8.0498E-44	2.4787E-44	2.7311E-35

SPECIES	MOLE FRACTIONS		
E-	3.9900E-22	1.7528E-14	3.2048E-13
O	6.2170E-08	4.5704E-07	2.1979E-04
O+	1.6841E-27	1.9746E-10	2.7808E-17
O++	0.	1.4415E-75	1.8192E-67
D-	2.9530E-59	7.3579E-87	8.6740E-34
O2	4.3922E-04	4.3922E-04	4.2877E-04
O2+	1.7977E-18	1.7977E-18	1.7897E-18
O2-	1.7777E-22	7.1007E-14	2.0311E-12
C	4.0623E-26	1.4278E-14	1.7726E-14
C+	2.4261E-39	2.7081E-24	5.0197E-23
C++	4.5704E-89	3.7770E-42	2.4442E-34
C-	4.1779E-44	1.7401E-27	2.6207E-24
CO	1.7374E-14	5.4787E-03	1.7849E-03
CO+	1.4447E-24	3.9696E-17	4.7381E-14
CO?	9.4936E-01	9.4936E-01	9.4936E-01
CO2	4.2840E-47	1.4734E-22	1.1873E-20

P1 = 2.00E+05 N/50-M, US1 = 1.40E+03 N/SEC

P1 = 2.00E+05 N/50-M, US1 = 2.00E+03 N/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	3.1278E+01	1.9411E+02	2.9199E+02
T	3.8895E+00	5.4950E+00	6.4080E+00
RHD	8.2418E+00	3.4078E+01	4.2136E+01
H	0.4932E-01	8.0780E-01	7.4472E-01
A	1.8839E+00	2.2668E+00	2.4778E+00
S	1.1683E+00	1.2098E+00	1.2376E+00
Z	1.0000E+00	1.0001E+00	1.0007E+00
GAME	9.1769E-01	9.0348E-01	8.9870E-01
U	4.9387E+00	1.0734E+00	1.0091E+00

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	4.4455E+01	5.2316E+02	7.3777E+02
T	4.4975E+00	9.8509E+00	1.0766E+01
RHD	1.3328E+01	6.4178E+01	4.7133E+01
H	7.2290E-01	6.9347E-01	6.7191E-01
A	2.4074E+00	2.9244E+00	3.1051E+00
S	1.2802E+00	1.3333E+00	1.3623E+00
Z	1.0000E+00	1.0217E+00	1.0291E+00
GAME	8.9797E-01	8.7640E-01	8.7787E-01
U	6.4612E+00	1.2349E+00	1.1782E+00

SPECIES	MOLE FRACTIONS		
E-	7.0446E-37	7.0272E-22	4.2790E-18
O	7.5804E-11	5.8449E-08	8.4273E-07
O+	1.5178E-39	2.2058E-27	1.1943E-24
O++	0.	0.	9.1141E-54
D-	1.1304E-40	5.2207E-74	7.8949E-20
O2	4.3922E-04	4.2407E-04	1.1444E-03
O2+	1.7977E-18	1.7570E-18	2.1519E-17
O2-	1.1704E-27	1.8322E-21	1.5004E-17
C	3.4140E-39	7.1793E-28	2.5152E-21
C+	1.0777E-40	7.1897E-39	5.9242E-33
C++	0.	1.7129E-87	2.1214E-77
C-	7.7953E-89	6.0876E-81	1.2806E-64
CO	4.3907E-08	1.5844E-04	1.4104E-03
CO+	2.0419E-20	1.5283E-24	7.1006E-24
CO?	9.4936E-01	9.4931E-01	9.4744E-01
CO2	5.4475E-46	2.8922E-25	6.5476E-30

SPECIES	MOLE FRACTIONS		
E-	3.7576E-18	8.9794E-12	7.4623E-17
O	1.5070E-04	2.2899E-04	6.9940E-04
O+	3.4044E-08	7.0717E-17	4.7194E-19
O++	1.0934E-68	9.1319E-74	1.1948E-59
D-	2.4579E-20	7.0006E-13	4.1808E-10
O2	4.2077E-07	3.1734E-07	3.0746E-07
O2+	4.0224E-18	4.4089E-17	8.8942E-11
O2-	4.2827E-18	7.8108E-12	7.7574E-12
C	6.8317E-27	2.4645E-14	1.7050E-12
C+	9.8919E-44	8.9355E-22	3.8501E-20
C++	4.5704E-89	3.7770E-42	1.0900E-48
C-	3.8144E-34	7.7623E-24	1.7893E-21
CO	1.7374E-07	4.2334E-07	7.4207E-07
CO+	1.7781E-22	8.2383E-14	2.5446E-13
CO?	9.4645E-01	9.3620E-01	8.8763E-01
CO2	9.1636E-51	2.7492E-20	4.7857E-18

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Table I. - Continued.

$P_1 = 200 \text{ kN/m}^2$

$P_1 = 2.00E+05 \text{ N/50-M}, \quad US1 = 2.20E+03 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8301E+01	6.9210E+02	9.4227E+02
T	7.3598E+00	1.0772E+01	1.1742E+01
RHD	1.0598E+01	6.1476E+01	7.4993E+01
M	7.2490E+01	5.0409E+01	4.2237E+01
A	2.5638E+00	3.1429E+00	3.3228E+00
S	1.3125E+00	1.3762E+00	1.4077E+00
Z	1.0039E+00	1.0481E+00	1.0701E+00
GAME	6.8970E+01	6.7741E+01	6.7872E+01
U	7.3729E+00	1.2733E+00	1.7127E+00

SPECIES	MOLE FRACTIONS		
E-	6.3375E-16	1.3074E-11	6.0200E-11
O	1.4802E-04	1.3109E-03	3.0179E-03
O+	2.7497E-22	7.9202E-17	1.7637E-13
O++	2.8004E-82	9.2440E-59	2.9328E-42
O-	1.2314E-17	7.9914E-12	7.8613E-11
O2	4.4078E-03	4.7289E-02	6.2890E-02
O2+	1.4000E-04	5.9230E-01	1.1247E-05
O2-	9.4348E-16	1.3005E-10	9.1378E-10
C	6.1019E-19	2.8471E-12	3.2422E-11
C+	2.9837E-29	1.0723E-19	4.2647E-19
C++	3.0775E-68	4.4443E-49	5.2489E-43
C-	8.2207E-31	7.2380E-21	2.2626E-19
CO	7.7441E-03	6.7039E-02	1.7797E-01
CO+	1.2706E-19	5.1233E-13	5.7636E-12
CO2	9.8794E-01	8.7177E-01	8.6812E-01
CO2	6.1721E-27	1.3049E-17	4.4344E-16

$P_1 = 2.00E+07 \text{ N/50-M}, \quad US1 = 2.40E+07 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.3115E+01	8.8400E+07	1.1850E+03
T	8.3435E+00	1.3891E+01	1.2885E+01
RHD	1.1094E-01	5.9230E+01	8.2319E+01
M	7.7396E-01	4.0438E-01	3.1745E-01
A	2.1211E+00	3.3747E+00	3.5110E+00
S	1.3494E+00	1.4192E+00	1.4524E+00
Z	1.0111E+00	1.0770E+00	1.1092E+00
GAME	6.8126E-01	8.7889E-01	8.8032E-01
U	6.0883E+00	1.3182E+00	1.7834E+00

SPECIES	MOLE FRACTIONS		
E-	7.3820E-14	1.1788E-10	5.3777E-10
O	1.0028E-04	7.6237E-09	7.0827E-07
O+	3.4018E-15	2.4775E-12	2.7149E-12
O++	3.0177E-54	1.0750E-52	9.4331E-44
O-	2.0177E-14	1.2109E-10	6.0977E-10
O2	1.1735E-02	6.8736E-02	9.1723E-01
O2+	1.7527E-13	1.4774E-09	6.2579E-07
O2-	6.6539E-14	1.3497E-09	7.1079E-19
C	2.2443E-14	4.6040E-11	4.8657E-10
C+	2.1113E-26	1.3739E-11	3.0709E-16
C++	1.1932E-69	7.4977E-49	1.7484E-43
C-	7.7244E-28	9.7722E-19	1.2674E-17
CO	2.1400E-02	1.3024E-01	1.8978E-01
CO+	7.6597E-17	1.0819E-11	9.2549E-12
CO2	9.4844E-01	7.8887E-01	7.1144E-01
CO2	4.1374E-26	9.9137E-16	2.0173E-14

$P_1 = 2.00E+07 \text{ N/50-M}, \quad US1 = 2.00E+07 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1215E+02	1.1108E+02	1.4721E+02
T	9.2803E+00	1.2905E+01	1.4004E+01
RHD	1.1800E+01	7.6611E+01	9.0709E+01
M	6.1504E-01	7.0794E-01	1.6281E-01
A	2.8928E+00	3.9774E+00	3.7962E+00
S	1.3817E+00	1.4473E+00	1.4095E+00
Z	1.0779E+00	1.1161E+00	1.1499E+00
GAME	8.7561E-01	8.8789E-01	8.8799E-01
U	8.7089E+00	1.2449E+00	1.7224E+00

SPECIES	MOLE FRACTIONS		
E-	4.2467E-17	6.2649E-10	7.6687E-09
O	4.1079E-07	8.0077E-09	1.4132E-02
O+	2.4451E-17	7.7224E-12	2.2744E-11
O++	5.7171E-49	1.7411E-40	7.2488E-47
O-	7.4580E-14	1.0231E-09	6.7466E-19
O2	2.3181E-02	9.4430E-02	1.2080E-01
O2+	2.3116E-12	1.3118E-08	6.7787E-08
O2-	1.6102E-12	9.7218E-09	7.7746E-08
C	1.4161E-16	7.4517E-10	4.7409E-09
C+	2.9744E-23	4.8310E-14	1.0084E-14
C++	1.9513E-54	8.1708E-47	1.1465E-36
C-	1.1683E-24	4.2404E-17	6.7280E-14
CO	4.4913E-01	2.3007E-01	7.4989E-01
CO+	2.0640E-17	1.7047E-10	8.3609E-10
CO2	9.3296E-01	8.4949E-01	8.1008E-01
CO2	4.2747E-21	2.8971E-14	4.7089E-12

$P_1 = 2.00E+05 \text{ N/50-M}, \quad US1 = 2.80E+03 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2820E+02	1.2730E+02	1.8089E+02
T	9.8309E+00	1.4410E+01	1.5254E+01
RHD	7.2807E+01	8.3817E+01	9.7578E+01
M	5.9326E-01	1.8125E-01	6.1799E-01
A	2.9911E+00	3.8145E+00	4.0620E+00
S	1.4171E+00	1.5956E+00	1.5438E+00
Z	1.0417E+00	1.1416E+00	1.2087E+00
GAME	6.7284E-01	8.8829E-01	8.9620E-01
U	9.4377E+00	1.4248E+00	1.3948E+00

SPECIES	MOLE FRACTIONS		
E-	5.4782E-12	3.0834E-09	1.0859E-08
O	1.1864E-02	1.4777E-02	2.5287E-02
O+	4.7889E-14	3.8277E-11	2.8074E-10
O++	2.3473E-62	3.5826E-49	7.9521E-41
O-	1.1402E-17	6.3328E-09	2.7261E-08
O2	2.4364E-02	1.2421E-01	1.4741E-01
O2+	2.3070E-11	4.7932E-08	1.7580E-07
O2-	1.6480E-11	3.9407E-08	1.4448E-07
C	2.7579E-17	4.2932E-09	3.1168E-08
C+	1.9721E-21	3.2164E-14	7.0032E-13
C++	1.8667E-64	1.1104E-51	1.0005E-43
C-	8.1771E-23	1.2477E-15	2.0717E-14
CO	7.8570E-02	2.6797E-01	1.1937E-01
CO+	3.4750E-17	6.7895E-10	5.5104E-09
CO2	8.4009E-01	8.5977E-01	8.0891E-01
CO2	2.1674E-16	7.4444E-17	7.0783E-12

$P_1 = 2.00E+07 \text{ N/50-M}, \quad US1 = 3.00E+07 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6772E+02	1.4687E+02	2.1857E+02
T	1.0510E+01	1.4749E+01	1.4547E+01
RHD	1.3147E+01	9.0244E+01	1.2629E+02
M	4.0188E-01	6.7774E-01	-8.0693E-02
A	3.1301E+00	4.2488E+00	4.2574E+00
S	1.4812E+00	1.5780E+00	1.4887E+00
Z	1.0447E+00	1.2177E+00	1.3965E+00
GAME	8.2795E-01	8.9730E-01	8.7920E-01
U	1.3774E+01	1.4545E+00	1.4827E+01

SPECIES	MOLE FRACTIONS		
E-	3.7089E-11	1.1408E-09	1.0977E-09
O	7.7524E-02	2.4348E-02	7.1816E-02
O+	1.0729E-14	2.0200E-10	1.0784E-05
O++	7.7001E-60	2.3900E-43	4.7114E-38
O-	1.3190E-11	5.3238E-08	1.2741E-07
O2	4.8641E-07	1.4724E-01	1.6010E-01
O2+	1.4974E-10	1.8171E-07	6.2716E-07
O2-	1.0089E-09	1.4778E-07	4.0705E-07
C	1.3390E-16	7.7471E-08	1.8109E-07
C+	1.0100E-19	7.0945E-12	2.0747E-12
C++	4.8800E-60	1.1840E-37	6.2173E-31
C-	1.4012E-23	2.1771E-14	3.7440E-14
CO	1.1987E-01	3.7413E-01	7.7621E-01
CO+	6.1347E-17	8.5997E-09	7.8723E-08
CO2	8.4009E-01	8.5920E-01	8.1008E-01
CO2	2.0709E-10	7.1900E-17	4.0000E-11

$P_1 = 2.00E+07 \text{ N/50-M}, \quad US1 = 3.07E+07 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6884E+02	1.9547E+02	2.5079E+02
T	1.1272E+01	1.4457E+01	1.7040E+01
RHD	1.2745E+01	9.0007E+01	1.0674E+02
M	4.1191E-01	7.8437E-01	-2.7402E-01
A	2.9992E+00	4.2417E+00	4.6488E+00
S	1.4848E+00	1.5920E+00	1.5397E+00
Z	1.0401E+00	1.1267E+00	1.1398E+00
GAME	9.7271E-01	9.0346E-01	8.1900E-01
U	1.0870E+01	1.4977E+00	1.7782E+01

SPECIES	MOLE FRACTIONS		
E-	1.7823E-10	7.8459E-09	1.2637E-07
O	6.7185E-02	4.9174E-02	6.4550E-02
O+	6.0001E-10	1.7889E-07	1.1120E-08
O++	1.0773E-60	6.6400E-49	6.8771E-38
O-	5.1031E-11	1.2737E-07	4.7747E-07
O2	7.6077E-02	1.4684E-01	1.8997E-01
O2+	4.8707E-10	1.8101E-07	1.8487E-07
O2-	4.0147E-10	4.6233E-07	1.6645E-04
C	7.7431E-11	1.5979E-07	6.8457E-07
C+	2.7470E-18	2.6498E-12	7.4887E-11
C++	1.6000E-64	6.2405E-51	1.7373E-49
C-	1.6029E-20	2.8467E-13	6.0798E-12
CO	1.1634E-01	3.8089E-01	4.9107E-01
CO+	6.8707E-17	2.7174E-08	1.3944E-07
CO2	7.1189E-01	6.6707E-01	3.2077E-01
CO2	1.9024E-14	7.0614E-11	7.8740E-10

Table I - Continued.

$$P_1 = 200 \text{ kN/m}^2$$

 $P_1 = 2.00E+05 \text{ N/50-M}, \quad US1 = 3.40E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9037E+01	2.3668E+01	3.0708E+01
T	1.1870E+01	1.7738E+01	1.9646E+01
RMD	1.4378E+01	9.9677E+01	1.1797E+02
M	3.4030E-01	-2.7110E-01	-7.9842E-01
A	3.4107E+00	4.6337E+00	5.0146E+00
S	1.8202E+00	1.6748E+00	1.6788E+00
Z	1.1238E+00	1.3271E+00	1.7966E+00
GAME	8.7997E-01	9.1270E-01	9.2505E-01
U	1.1649E+01	1.6788E+00	1.6893E+00

SPECIES	MOLE FRACTIONS		
E-	4.7807E-10	1.1612E-07	3.8365E-07
H	9.8093E-02	4.3679E-02	9.4977E-02
O	6.8702E-17	9.2833E-09	5.8044E-08
O++	3.9049E-12	2.9964E-12	4.8610E-12
N-	2.7417E-10	4.1840E-07	1.9901E-06
O2	1.0795E-01	1.9312E-01	1.8921E-01
O2+	2.6244E-11	1.2302E-06	4.9799E-06
O2-	1.7899E-09	1.2212E-06	3.9535E-06
C	1.4069E-10	7.8888E-07	2.9947E-06
C+	7.0718E-15	7.7110E-11	3.8387E-10
C++	3.2737E-13	4.8328E-09	4.1025E-06
C-	1.9471E-14	3.0086E-17	4.2721E-11
CO	2.1033E-11	4.2976E-01	4.7277E-01
CO+	1.7003E-11	1.1324E-07	9.7397E-07
CO2	4.7918E-01	3.2794E-01	2.4303E-01
CO2	1.7770E-17	1.4884E-19	6.0246E-09

 $P_1 = 2.00E+04 \text{ N/50-M}, \quad US1 = 2.60E+02 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1400E+03	2.7199E+03	4.3723E+03
T	1.2879E+03	1.0117E+03	2.1189E+03
RMD	1.6764E+01	1.0240E+02	1.5710E+02
M	7.4018E-01	-3.3209E-01	-2.7622E-01
A	7.7237E+00	4.0612E+00	6.3937E+00
S	3.8874E+00	1.6779E+00	1.7236E+00
Z	1.8854E+00	1.3995E+00	1.4668E+00
GAME	8.7610E-01	9.3201E-01	9.3719E-01
U	1.7617E+01	1.7000E+00	1.8744E+00

SPECIES	MOLE FRACTIONS		
E-	1.4839E-02	7.2571E-07	1.1057E-06
H	1.8704E-02	9.2528E-07	1.1222E-01
O	3.8711E-12	4.1765E-09	2.5097E-07
O++	7.1447E-00	1.0172E-12	2.1331E-29
N-	1.0273E-02	1.2797E-06	4.7870E-06
O2	1.2198E-01	1.8899E-01	1.8571E-01
O2+	7.7073E-06	4.7734E-06	1.1867E-06
O2-	4.3278E-05	2.9717E-05	8.7955E-06
C	1.1071E-14	2.0479E-09	1.6498E-05
C+	4.7080E-17	1.2578E-16	3.2784E-09
C-	2.1738E-17	2.4473E-11	3.8020E-10
CO	7.7886E-01	4.6889E-01	5.0314E-01
CO+	7.4889E-11	4.1770E-07	2.0319E-06
CO2	4.9479E-01	2.9248E-01	1.9278E-01
CO2	1.0994E-14	1.9124E-09	4.2786E-08

 $P_1 = 2.00E+04 \text{ N/50-M}, \quad US1 = 1.80E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3981E+02	3.1097E+02	4.1040E+02
T	1.3180E+01	2.0408E+01	2.7021E+01
RMD	1.8138E+01	1.0739E+02	1.1877E+02
M	1.8871E-01	-1.9124E-01	-7.4777E-01
A	3.7324E+00	7.9879E+00	1.0277E+02
S	1.1907E+00	1.7189E+00	1.7779E+00
Z	1.1070E+00	1.4794E+00	1.7394E+00
GAME	8.8219E+01	9.2394E-01	9.4276E-01
U	1.7172E+01	1.6128E+00	1.9741E+00

SPECIES	MOLE FRACTIONS		
E-	3.8969E-09	6.6471E-17	3.0292E-06
H	2.4311E-07	1.2749E-01	1.7848E-01
O	1.4770E-11	1.5744E-07	9.0709E-07
O++	3.8734E-17	7.2302E-10	6.4373E-17
N-	3.3799E-09	3.9373E-06	1.3993E-05
O2	1.6116E-01	1.8658E-01	1.7207E-01
O2+	2.1086E-08	9.7747E-07	7.3845E-07
O2-	1.0174E-08	4.1322E-06	1.7054E-06
C	2.7714E-19	7.1157E-05	4.1687E-05
C+	2.7079E-18	1.7447E-09	2.7711E-08
C-	1.9401E-18	1.4437E-14	7.1215E-17
CO	1.9447E-10	3.0999E-10	3.9877E-09
CO+	7.2547E-10	4.9842E-01	6.2207E-01
CO2	7.8416E-10	1.3871E-06	4.7848E-06
CO2	6.7981E-01	1.8912E-01	1.2919E-01
CO2	7.0864E-14	2.3806E-08	2.7039E-07

 $P_1 = 2.00E+05 \text{ N/50-M}, \quad US1 = 4.00E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6488E+02	7.5101E-02	4.8679E+03
T	1.3849E+01	2.2223E+01	2.5110E-01
RMD	1.5491E+01	1.0392E+02	1.1526E+02
M	8.6263E-02	-6.9846E-01	-9.6496E-01
A	3.9013E+00	5.6905E+00	6.2419E+00
S	1.6260E+00	1.7966E+00	1.8109E+00
Z	1.2384E+00	1.5198E+00	1.6128E+00
GAME	8.8786E-01	9.4533E-01	9.8191E-01
U	1.3843E+01	2.0611E+00	2.1422E+00

SPECIES	MOLE FRACTIONS		
E-	9.7771E-09	2.1782E-06	7.9842E-06
H	3.8277E-02	1.6593E-01	2.2845E-01
O	4.7948E-11	1.9977E-07	2.9939E-06
O++	6.5821E-04	6.2830E-28	1.1198E-24
N-	0.7851E-09	8.9406E-06	3.2627E-05
O2	1.5844E-01	1.7823E-01	1.5168E-01
O2+	5.2210E-09	1.8720E-05	4.8606E-05
O2-	2.3772E-05	1.2413E-05	3.1094E-05
C	6.0815E-09	3.7966E-05	2.1784E-04
C+	1.0748E-14	1.7111E-08	1.7484E-07
C-	1.3346E-14	1.1697E-27	6.2890E-20
CO	1.4029E-17	1.3439E-08	2.3138E-08
CO+	7.068E-01	5.1802E-01	5.3099E-01
CO+	9.4521E-17	4.2019E-06	2.0354E-05
CO2	4.5649E-01	1.3961E-01	6.8524E-02
CO2	4.7517E-13	1.7942E-07	1.749E-06

 $P_1 = 2.00E+04 \text{ N/50-M}, \quad US1 = 4.20E+03 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9222E+02	3.5316E+03	4.2529E+03
T	1.4527E+01	2.3574E-01	2.7420E+01
RMD	1.5867E+01	1.0274E+02	1.1988E+02
M	-7.4521E-03	-4.7343E-01	-1.1777E-00
A	4.0797E+00	4.0320E+00	6.7000E+00
S	1.8617E+00	1.7997E+00	1.8530E+00
Z	1.2825E+00	1.884E+00	1.6891E+00
GAME	8.7373E-01	9.7644E-01	9.7132E-01
U	1.8440E+01	2.2198E+00	2.3276E+00

SPECIES	MOLE FRACTIONS		
E-	2.9747E-08	4.2472E-06	2.0366E-05
H	4.8713E-07	3.1076E-01	2.7992E-01
O	2.4667E-10	1.9791E-01	1.0884E-09
O++	4.7144E-04	7.8661E-26	1.4480E-22
N-	7.5891E-08	2.0773E-04	7.555E-05
O2	1.7223E-01	1.5940E-01	1.2707E-01
O2+	1.1979E-07	2.4441E-05	8.2964E-05
O2-	7.3973E-09	2.7269E-05	4.4998E-05
C	2.0417E-08	1.7009E-05	7.2179E-04
C+	1.1714E-19	6.8940E-08	1.0680E-06
C-	4.1047E-17	4.8797E-27	3.9853E-18
CO	0.4802E-10	7.9492E-09	1.3488E-07
CO+	1.9272E-01	5.7880E-01	6.3197E-01
CO+	1.4674E-09	1.1647E-09	9.9718E-09
CO2	7.8709E-01	1.9112E-01	6.0411E-01
CO2	2.1907E-12	4.4149E-07	4.788E-06

 $P_1 = 2.00E+04 \text{ N/50-M}, \quad US1 = 4.40E+02 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2084E+01	4.2187E+03	5.8523E+03
T	1.6739E+01	2.5375E+01	3.9951E+01
RMD	1.9940E+01	1.0138E+02	1.1145E+02
M	-1.0991E-01	-1.0911E+00	-2.4027E+00
A	4.2674E+00	6.4299E+00	7.1533E+00
S	1.6974E+00	1.8700E+00	1.8938E+00
Z	1.3209E+00	1.4124E+00	1.7532E+00
GAME	8.9097E-01	9.6693E-01	9.7446E-01
U	1.5274E+01	7.9937E+00	7.9252E+00

SPECIES	MOLE FRACTIONS		
E-	4.0987E-08	1.2192E-04	6.0067E-05
H	4.8200E-02	2.4944E-01	3.2742E-01
O	4.4912E-10	4.2971E-04	2.9292E-04
O++	1.1478E-00	6.8074E-24	1.1547E-20
N-	6.4289E-08	4.4807E-05	1.6116E-04
O2	1.9200E-01	1.3892E-01	1.0204E-01
O2+	2.9642E-09	5.8209E-07	1.2994E-04
O2-	1.0057E-07	3.6799E-05	6.7318E-05
C	8.8865E-08	3.779E-05	2.2159E-03
C+	6.4174E-13	3.6783E-07	9.8260E-08
C-	4.3164E-13	3.0616E-19	1.7388E-14
CO	4.8870E-14	4.2807E-08	7.7199E-07
CO+	4.2577E-01	6.3242E-01	5.2686E-01
CO+	8.720E-09	9.989E-04	1.7836E-04
CO2	3.2259E-01	7.2075E-02	4.0832E-02
CO2	1.0039E-11	2.9318E-06	4.0804E-05

Table I. - Continued.

$$P_1 = 200 \text{ kN/m}^2$$

$P_1 = 2.00E+02 \text{ N/SC-M}$, $US1 = 4.60E+03 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5049E+02	4.7220E+02	6.4573E+03
T	1.4987E+02	2.7936E+01	2.2608E+01
RHO	1.5915E+01	9.6871E+01	1.9734E+02
M	-2.0815E-01	-1.2946E+00	-1.4300E+00
A	4.4645E+00	4.8298E+00	7.5627E+00
S	1.7220E+00	1.8755E+00	1.9330E+00
Z	1.3781E+00	1.7140E+00	1.8144E+00
GAMF	9.0855E-01	9.7415E-01	9.6682E-01
U	1.5922E+01	2.4811E+00	2.7223E+00

$P_1 = 2.00E+02 \text{ N/SC-M}$, $US1 = 5.20E+03 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4755E+02	5.8874E+03	8.1934E+03
T	1.8487E+01	3.4676E+01	3.9624E+01
RHO	1.5748E+01	9.0775E+01	1.0499E+02
M	-5.4446E-01	-1.8628E+00	-2.3836E+00
A	4.1263E+00	7.8776E+00	8.5143E+00
S	1.8326E+00	1.9809E+00	2.0418E+00
Z	1.5372E+00	1.8774E+00	1.9685E+00
GAMF	9.2832E-01	9.8325E-01	9.2938E-01
U	1.8015E+01	3.1448E+00	3.1762E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.0974E-07	2.7409E-05	1.1495E-04
O-	8.7813E-07	2.0167E-01	2.6802E-01
O+	2.9247E-09	1.4437E-09	4.7840E-09
O++	1.0643E-09	4.1118E-07	1.1731E-05
C-	1.4947E-07	4.9315E-07	2.1461E-06
O2	1.8468E-05	1.1541E-01	8.0746E-02
O2+	4.2017E-07	8.8899E-05	1.7100E-04
O2+	2.8744E-07	4.4445E-09	1.2848E-04
C	2.3252E-07	1.0747E-07	6.0317E-03
C+	2.3778E-12	1.7177E-07	2.4069E-05
C++	1.4444E-21	1.3266E-17	4.7087E-14
C-	4.7000E-07	2.0000E-07	2.7100E-06
C0	4.4214E-01	4.3925E-01	4.1300E-01
C0+	3.1310E-09	6.6816E-07	2.2943E-04
C02	2.6404E-01	4.0717E-02	2.7616E-02
C2	5.2910E-11	1.2649E-04	3.6747E-09

SPECIES ----- MOLE FRACTIONS -----

E-	9.0407E-07	2.3470E-04	6.5908E-04
O-	1.7855E-01	4.0810E-01	4.4471E-01
O+	6.4404E-08	1.2367E-04	3.3218E-04
O++	2.4025E-03	7.0218E-18	6.8670E-16
C-	1.2700E-06	4.5499E-04	1.1968E-03
O2	1.7191E-01	6.0747E-02	4.7271E-02
O2+	3.2647E-08	1.8969E-04	2.8990E-04
C	1.4075E-06	1.4832E-04	2.7562E-04
C+	4.7740E-04	1.8774E+00	4.0478E-02
C-	2.4229E-10	7.3170E-04	7.7847E-04
C++	7.2371E-27	5.0417E-14	2.8044E-12
C-	2.2370E-11	1.1822E-05	6.0621E-05
C0	4.2037E-01	4.9970E-01	4.4918E-01
C0+	3.4677E-07	5.0023E-04	1.2054E-03
C02	1.9087E-01	1.8371E-01	1.1510E-01
C2	2.4428E-10	4.4763E-04	2.2529E-03

$P_1 = 2.00E+02 \text{ N/SC-M}$, $US1 = 4.80E+02 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8178E+02	2.1140E+02	7.0570E+02
T	1.5745E+01	3.6172E+01	1.5178E+01
RHO	1.5927E+01	9.6777E+01	1.9729E+02
M	-2.1415E-01	-1.4662E+00	-1.8809E+00
A	4.4277E+00	7.2719E+00	7.9564E+00
S	1.7687E+00	1.8115E+00	1.9707E+00
Z	1.4229E+00	1.7336E+00	1.8637E+00
GAMF	9.1249E-01	9.6517E-01	9.4140E-01
U	1.4645E+01	2.7732E+00	2.9989E+00

$P_1 = 2.00E+02 \text{ N/SC-M}$, $US1 = 5.40E+02 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8210E+02	6.2987E+02	8.7215E+03
T	1.9437E+01	7.6740E+01	4.1546E+01
RHO	1.5747E+01	3.8810E+01	1.0594E+02
M	-4.8405E-01	-1.0884E+00	-2.14461E+00
A	4.3847E+00	8.1395E+00	8.1855E+00
S	1.8727E+00	2.0147E+00	2.0743E+00
Z	1.4922E+00	1.5237E+00	2.0718E+00
GAMF	9.3705E-01	9.4019E-01	9.2579E-01
U	1.8609E+01	3.2946E+00	3.2984E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.2781E-07	5.6734E-05	2.2409E-04
O-	1.1307E-05	2.4469E-01	2.8972E-01
O+	8.1275E-05	3.2382E-09	1.2178E-04
O++	9.8234E-07	1.5874E-00	1.1474E-17
O-	2.2912E-07	1.7423E-04	5.4747E-04
O2	1.8848E-01	1.0717E-07	6.4425E-02
O2+	1.0007E-07	1.2377E-09	3.1274E-04
O2+	1.1274E-07	8.1843E-05	1.7442E-04
C	1.4947E-07	4.9315E-07	7.7494E-05
C+	1.6640E-11	7.1331E-05	1.2401E-12
C++	7.2207E-20	2.7794E-14	4.0198E-16
C-	1.6100E-17	9.3600E-17	1.2640E-02
C0	4.4400E-01	4.2044E-01	4.6648E-01
C0+	2.0717E-09	1.4505E-04	7.4137E-04
C02	2.1394E-01	2.5617E-02	1.8934E-02
C2	5.2922E-11	4.8773E-05	1.2047E-04

SPECIES ----- MOLE FRACTIONS -----

E-	1.7453E-07	3.9927E-06	9.4421E-04
O-	2.1400E-01	4.2870E-01	4.6704E-01
O+	1.4604E-07	1.9817E-04	4.7107E-04
O++	1.4000E-03	6.9942E-17	4.4610E-15
C-	2.4025E-06	7.3340E-04	1.7892E-03
O2	1.5455E-01	4.1037E-01	4.2823E-02
O2+	4.4070E-07	2.1874E-04	3.3085E-04
O2+	2.1457E-07	1.8027E-04	3.2644E-04
C	1.2039E-07	2.7974E-07	5.7713E-02
C+	1.4722E-06	1.4947E-04	6.4287E-04
C++	2.1370E-25	3.4974E-12	1.0585E-11
C-	4.1300E-01	3.9254E-01	1.4723E-04
C0	4.3855E-01	4.7847E-01	4.1774E-01
C0+	8.2396E-07	7.6138E-04	1.5424E-03
C02	6.4942E-01	1.3900E-02	9.1792E-03
C2	8.7277E-09	1.0470E-03	3.7930E-08

$P_1 = 2.00E+02 \text{ N/SC-M}$, $US1 = 4.00E+02 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5007E+02	5.5029E+03	7.8747E+03
T	1.7507E+01	3.2624E+01	3.7732E+01
RHO	1.5924E+01	9.9777E+01	1.9600E+02
M	-2.0000E-01	-1.4657E+00	-2.1255E+00
A	4.9000E+00	7.7647E+00	8.2188E+00
S	1.8028E+00	1.6648E+00	2.0065E+00
Z	1.4927E+00	1.8288E+00	1.9193E+00
GAMF	9.2037E-01	9.4717E-01	9.3771E-01
U	1.7220E+01	2.6792E+00	2.7177E+00

$P_1 = 2.00E+02 \text{ N/SC-M}$, $US1 = 5.60E+03 \text{ W/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1759E+02	6.4246E+03	7.7412E+03
T	2.0047E+01	3.8440E+01	4.3235E+01
RHO	1.5740E+01	8.6334E+01	1.0277E+02
M	-7.0000E-01	-2.1132E+00	-2.9254E+00
A	4.9177E+00	8.4730E+00	9.1707E+00
S	1.9032E+00	2.0647E+00	2.1104E+00
Z	1.5494E+00	1.9707E+00	2.0751E+00
GAMF	9.4848E-01	9.3186E-01	9.2400E-01
U	1.9771E+01	3.4799E+00	3.4692E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.7004E-07	1.2607E-04	4.1309E-04
O-	1.1472E-05	2.7787E-01	4.2414E-01
O+	7.2779E-05	4.8543E-07	2.7049E-04
O++	4.8773E-07	1.6913E-00	1.2987E-14
O-	1.8141E-07	2.0679E-07	8.4779E-04
O2	1.8074E-04	7.4849E-02	4.1657E-02
O2+	8.7469E-07	1.1202E-04	2.2532E-04
O2+	1.8670E-07	4.2500E-09	2.2508E-07
C	2.4025E-07	2.4747E-07	1.9075E-04
C+	3.1743E-22	4.7077E-14	6.2247E-14
C-	4.2037E-01	3.6847E-04	3.7487E-05
C0	7.0643E-01	7.1435E-01	6.8071E-01
C0+	1.6787E-07	2.6147E-04	6.1194E-04
C02	1.4784E-01	2.4707E-02	1.4910E-02
C2	4.2727E-11	1.7409E-04	1.2988E-03

SPECIES ----- MOLE FRACTIONS -----

E-	3.1904E-04	6.1811E-04	1.2881E-03
O-	2.1400E-01	4.4765E-01	4.7864E-01
O+	4.7171E-07	2.9345E-04	4.3694E-04
O++	8.3477E-10	4.1175E-14	1.7956E-14
O-	4.7455E-04	1.0247E-02	3.0089E-02
O2	1.3845E-01	4.4261E-02	3.9198E-03
O2+	8.8447E-07	2.4789E-04	3.7429E-04
O2+	3.0965E-06	2.1770E-04	3.7594E-04
C	2.9925E-07	7.7767E-07	7.5760E-02
C+	4.7032E-06	3.2484E-04	6.4900E-04
C++	4.7510E-24	1.4551E-12	3.1856E-11
C-	7.7447E-10	4.3821E-04	2.2616E-04
C0	5.2702E-01	4.5224E-01	3.8901E-01
C0+	1.9705E-06	1.0624E-03	1.9098E-03
C02	7.3757E-02	1.6887E-02	7.3473E-03
C2	7.1124E-08	1.9527E-03	9.2173E-03

Table L - Continued.

$$P_1 = 200 \text{ km/m}^2$$

P1 = 2.00E+05 N/SG-M, US1 = 5.80E+03 W/SEC				P1 = 2.00E+05 N/SG-M, US1 = 6.40E+03 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.5422E+02	8.2734E+03	9.7183E+03	P	6.7179E+02	7.8828E+03	1.0928E+04
T	2.1764E+01	4.0399E+01	4.5958E+01	T	2.3718E+01	4.3033E+01	5.0111E+01
RMD	1.3878E+02	6.3595E+01	1.0134E+02	RMD	1.4022E+01	8.0497E+01	9.4319E+01
H	-9.2873E-01	-2.5488E+00	-3.1917E+00	H	-1.3371E+00	-3.3010E+00	-4.0686E+00
A	5.9739E+00	8.6928E+00	9.4509E+00	A	4.8734E+00	9.5361E+00	1.0420E+01
S	1.9406E+00	2.0797E+00	2.1443E+00	S	2.0357E+00	2.1774E+00	2.2674E+00
Z	1.7083E+00	2.0182E+00	2.1309E+00	Z	1.8628E+00	2.1746E+00	2.3108E+00
GAME	9.5889E-01	9.2713E-01	9.2649E-01	GAME	9.8613E-01	9.2862E-01	9.3776E-01
U	2.0038E+01	3.5365E+00	3.5129E+00	U	2.1993E+01	3.8357E+00	3.8330E+00

SPECIES			MOLE FRACTIONS			SPECIES			MOLE FRACTIONS		
E-	6.2295E-06	8.8248E-04	1.6996E-09	E-	4.4940E-05	1.9963E-03	2.4202E-03				
O	2.9617E-01	4.8484E-01	4.9538E-01	O	4.0646E-01	5.6984E-01	5.3752E-01				
O+	1.0694E-06	4.0584E-04	8.3933E-04	O+	1.3376E-05	8.9910E-04	1.7550E-03				
O++	1.5922E-28	1.8700E-15	6.0134E-14	O++	2.0335E-23	6.4509E-14	1.4680E-12				
D-	8.4249E-06	1.3170E-03	2.4623E-03	D-	4.1897E-05	2.4242E-03	4.0054E-03				
OZ	1.1808E-01	3.9808E-02	3.6407E-02	OZ	9.8808E-02	3.1344E-02	2.9641E-02				
OZ+	1.5645E-05	2.7711E-04	4.2118E-04	OZ+	3.8620E-05	3.7795E-04	4.8048E-04				
OZ-	4.2533E-04	2.5077E-04	4.2399E-04	OZ-	8.8490E-06	3.4910E-04	4.8797E-04				
C	7.4559E-05	5.3437E-02	9.4452E-02	C	1.2678E-03	1.0611E-01	1.8048E-01				
C+	2.8043E-08	5.3186E-04	1.4249E-04	C+	2.0088E-08	1.4676E-03	5.3577E-03				
C++	1.4641E-22	3.8895E-12	3.4016E-11	C++	2.3130E-18	1.0192E-10	9.5413E-10				
C-	1.3809E-09	1.1999E-04	3.5097E-04	C-	6.9101E-09	3.7654E-04	8.3285E-04				
CO	5.3170E-01	4.2488E-01	1.5126E-01	CO	6.1714E-01	3.3086E-01	2.5172E-01				
CO+	4.1787E-06	1.3488E-03	2.2467E-03	CO+	4.3573E-05	2.2019E-03	3.1132E-03				
CO2	5.3946E-02	8.7114E-03	5.9351E-03	CO2	1.8121E-02	4.6778E-03	2.9948E-03				
CZ	1.1098E-07	3.0769E-03	6.7040E-03	CZ	6.0720E-06	6.8819E-03	1.1810E-02				

P1 = 2.00E+05 N/SG-M, US1 = 6.00E+03 W/SEC				P1 = 2.00E+05 N/SG-M, US1 = 6.40E+03 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.9283E+02	7.3043E+03	1.0140E+04	P	7.1387E+02	8.1488E+03	1.1286E+04
T	2.2791E+01	4.2021E+01	4.6737E+01	T	2.7437E+01	4.6911E+01	5.1844E+01
RMD	1.4782E+01	8.4020E+01	9.9313E+01	RMD	1.3648E+01	7.8852E+01	9.1695E+01
H	-1.0551E+00	-2.7936E+00	-3.4784E+00	H	-1.8847E+00	-3.9648E+00	-4.9779E+00
A	6.2342E+00	8.9711E+00	9.7509E+00	A	7.1727E+00	9.8318E+00	1.0704E+01
S	1.9732E+00	2.1127E+00	2.1788E+00	S	4.5940E+00	2.7099E+00	2.2816E+00
Z	1.7621E+00	2.0849E+00	2.1890E+00	Z	1.9084E+00	2.2304E+00	2.3731E+00
GAME	9.6778E-01	9.2575E-01	9.2939E-01	GAME	9.8847E-01	9.3181E-01	9.4251E-01
U	2.0697E+01	3.6401E+00	3.6189E+00	U	2.2327E+01	3.9387E+00	3.9471E+00

SPECIES			MOLE FRACTIONS			SPECIES			MOLE FRACTIONS		
E-	1.1782E-05	1.2022E-03	2.1767E-03	E-	9.0113E-04	2.4944E-04	4.2276E-03				
O	3.3597E-01	4.8086E-01	5.1030E-01	O	4.3352E-01	5.2327E-01	5.4963E-01				
O+	2.5911E-06	5.4441E-04	1.0868E-03	O+	2.8189E-05	1.1138E-02	2.2076E-03				
O++	1.3472E-28	7.1241E-15	1.8698E-13	O++	6.7294E-22	1.6154E-13	3.8897E-12				
D-	1.4541E-05	1.6808E-03	2.9473E-03	D-	7.0703E-04	2.8370E-02	4.5834E-02				
OZ	9.6767E-02	3.8739E-02	3.3985E-02	OZ	4.1399E-02	2.9312E-02	2.7849E-02				
OZ+	2.0063E-06	3.8888E-04	4.7142E-04	OZ+	4.5940E-05	4.1454E-04	6.3999E-04				
OZ-	9.6138E-06	2.8538E-04	4.6947E-04	OZ-	1.0751E-05	3.7943E-04	5.8057E-04				
C	1.8728E-04	7.0666E-02	1.1373E-01	C	3.2042E-05	1.2602E-01	1.6817E-01				
C+	1.0907E-07	0.5101E-04	1.9944E-03	C+	8.1941E-06	2.2046E-03	4.2469E-03				
C++	3.5276E-21	1.7399E-11	7.0145E-10	C++	5.0021E-17	2.2064E-10	1.9598E-09				
C-	5.3528E-09	1.8378E-04	4.8045E-04	C-	3.7021E-07	4.0093E-04	1.0376E-03				
CO	9.2387E-01	3.9403E-01	3.1178E-01	CO	5.3027E-01	2.9923E-01	2.0765E-01				
CO+	9.2387E-02	1.4478E-03	2.5846E-03	CO+	8.9775E-04	2.4440E-03	3.7346E-03				
CO2	3.8449E-06	7.0420E-03	4.7682E-03	CO2	1.2149E-02	3.7913E-02	2.3289E-02				
CZ	4.0345E-07	4.3597E-03	8.0733E-02	CZ	2.3792E-04	7.9842E-03	1.0669E-02				

P1 = 2.00E+05 N/SG-M, US1 = 6.20E+03 W/SEC				P1 = 2.00E+05 N/SG-M, US1 = 6.80E+03 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2180E+02	7.8882E+03	1.0582E+04	P	7.4428E+02	8.4452E+03	1.1697E+04
T	2.4167E+01	4.3542E+01	4.8414E+01	T	2.9177E+01	4.8074E+01	5.3582E+01
RMD	1.4405E+01	8.2882E+01	9.7009E+01	RMD	1.3541E+01	7.6875E+01	8.9317E+01
H	-1.1939E+00	-3.0440E+00	-3.7689E+00	H	-1.6266E+00	-3.8371E+00	-4.7023E+00
A	6.9310E+00	9.2487E+00	1.0080E+01	A	7.4194E+00	1.0119E+01	1.1138E+01
S	2.0089E+00	2.1448E+00	2.2130E+00	S	2.0940E+00	2.2420E+00	2.3159E+00
Z	1.8148E+00	2.1204E+00	2.2489E+00	Z	1.9403E+00	2.2875E+00	2.3986E+00
GAME	9.7850E-01	9.2648E-01	9.3228E-01	GAME	9.7187E-01	9.3594E-01	9.4719E-01
U	2.1349E+01	3.7393E+00	3.7243E+00	U	2.3276E+01	4.0497E+00	4.0869E+00

SPECIES			MOLE FRACTIONS			SPECIES			MOLE FRACTIONS		
E-	2.2708E-05	1.5672E-03	2.7449E-03	E-	1.7489E-04	3.2783E-03	5.2097E-03				
O	3.7337E-01	4.5943E-01	5.2437E-01	O	4.5409E-01	4.3582E-01	4.6058E-01				
O+	5.9510E-04	7.0520E-04	1.8783E-03	O+	5.3317E-05	1.4149E-03	2.7700E-03				
O++	5.5204E-29	2.2740E-14	5.7699E-13	O++	1.3140E-20	4.7756E-12	1.0335E-11				
D-	2.4786E-05	2.0399E-03	3.6615E-03	D-	1.2959E-04	2.2729E-03	5.2152E-03				
OZ	7.5765E-02	3.3652E-02	3.1762E-02	OZ	3.9077E-02	2.7904E-02	2.6168E-02				
OZ+	2.8008E-08	3.4207E-04	5.2459E-04	OZ+	5.2139E-05	4.9774E-04	7.0670E-04				
OZ-	7.1455E-06	5.1807E-04	9.1108E-04	OZ-	1.2809E-05	4.0774E-04	6.1149E-04				
C	4.2065E-04	6.8161E-02	1.3295E-01	C	3.8377E-03	1.4145E-01	1.8520E-01				
C+	4.6678E-07	1.2175E-03	2.5998E-02	C+	2.8344E-05	2.8397E-02	5.2959E-02				
C++	9.2670E-20	4.3967E-11	4.4970E-10	C++	7.9219E-16	4.5748E-10	2.9675E-09				
C-	2.1910E-08	2.7092E-04	6.6999E-04	C-	1.2776E-06	4.4908E-04	1.2671E-03				
CO	5.2338E-01	3.6277E-01	2.8406E-01	CO	4.9862E-01	2.6825E-01	1.9122E-01				
CO+	2.0207E-05	1.9309E-03	2.8354E-03	CO+	1.6748E-04	2.4511E-03	2.5222E-03				
CO2	2.8747E-02	5.7487E-03	3.9009E-03	CO2	9.9346E-03	3.0970E-02	1.7812E-02				
CZ	1.5361E-06	9.6450E-03	9.2292E-03	CZ	8.2347E-07	8.4311E-02	1.0988E-02				

Table I. - Continued.

$$P_1 = 200 \text{ kN/m}^2$$

#1 = 2.00E+03 N/SQ-M, US1 = 7.00E+03 M/SEC

P1 = 2.00E+03 N/SQ-M, US1 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.9335E+02	8.8088E+03	1.2208E+04
T	3.0806E+01	4.9612E+01	5.3771E+01
RHO	1.3144E+01	7.3694E+01	8.7565E+01
H	-1.7938E+00	-4.1196E+00	-5.0395E+00
A	7.6145E+00	1.0460E+01	1.1318E+01
S	2.1217E+00	2.2797E+00	2.3492E+00
Z	1.9738E+00	2.3496E+00	2.4992E+00
GAME	9.5334E+01	9.4015E+01	9.3120E+01
U	2.3991E+01	4.1628E+00	4.2272E+00

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4137E+02	1.0284E+04	1.4340E+04
T	3.4621E+01	5.7025E+01	6.7804E+01
RHO	1.3062E+01	7.4168E+01	8.5159E+01
H	-2.2930E+00	-5.0293E+00	-6.1402E+00
A	8.1795E+00	1.1496E+01	1.2678E+01
S	2.2018E+00	2.3656E+00	2.4470E+00
Z	2.0821E+00	2.5200E+00	2.6776E+00
GAME	9.2677E+01	9.3300E+01	9.3450E+01
U	2.5969E+01	4.3802E+00	4.7034E+00

SPECIES	MOLE FRACTIONS		
E-	3.0595E-04	3.7627E-03	6.3919E-03
O	4.6995E-01	5.4737E-01	5.7001E-01
O+	8.8920E-05	1.7643E-03	3.4972E-03
O++	1.5643E-19	1.2409E-12	2.7538E-11
D-	1.7003E-04	3.7582E-03	5.9040E-03
D2	2.3612E-02	2.5883E-02	2.3793E-02
O2+	2.7594E-05	5.0612E-04	7.8101E-04
O2-	1.5233E-05	4.3887E-04	6.4200E-04
C	1.5820E-02	1.5881E-01	2.0123E-01
C+	7.6879E-05	3.5866E-03	6.3031E-03
C++	7.3052E-15	9.2699E-10	7.9607E-09
-	4.0785E-06	8.1100E-04	1.5183E-03
-	4.8776E-01	2.3832E-01	1.8792E-01
CO+	2.7295E-04	2.9136E-03	1.3449E-03
CO2	6.0403E-03	9.6314E-03	1.0824E-02
C2	2.2844E-04		

SPECIES	MOLE FRACTIONS		
E-	9.4274E-04	6.6644E-03	1.1574E-02
O	5.0441E-01	5.7729E-01	5.8848E-01
O+	2.3215E-04	3.4071E-03	6.9270E-03
O++	1.9222E-17	2.1209E-11	5.1747E-10
D-	3.9794E-04	5.5081E-03	8.2744E-03
D2	1.5145E-02	2.1528E-02	1.8594E-02
O2+	7.1713E-05	6.9140E-04	1.0539E-03
O2-	2.3620E-05	5.3662E-04	7.1869E-04
C	5.5044E-02	2.0517E-01	2.6011E-01
C+	4.5874E-04	6.8121E-03	1.1090E-02
C++	4.6887E-17	7.0798E-09	6.0178E-08
-	3.1973E-05	1.4371E-03	2.2420E-03
CO	4.1827E-01	1.5814E-01	9.7553E-02
CO+	4.3304E-04	2.4794E-03	3.8377E-03
CO2	3.0857E-03	1.1804E-02	9.3173E-04
C2	1.7869E-03	1.0266E-02	6.8955E-03

P1 = 2.00E+05 N/SQ-M, US1 = 7.20E+03 M/SEC

P1 = 2.00E+05 N/SQ-M, US1 = 7.80E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4514E+02	9.2489E+03	1.2853E+04
T	3.2278E+01	5.1308E+01	5.8002E+01
RHO	1.2527E+01	7.9644E+01	8.6342E+01
H	-1.9555E+00	-4.4129E+00	-5.3922E+00
A	7.7900E+00	1.0795E+01	1.1908E+01
S	2.1407E+00	2.3048E+00	2.3830E+00
Z	2.0078E+00	2.4040E+00	2.5629E+00
GAME	9.3970E+01	9.4475E+01	9.4028E+01
U	2.4601E+01	4.2913E+00	4.3785E+00

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.2005E+02	1.0284E+04	1.4340E+04
T	3.7661E+01	5.7025E+01	6.7804E+01
RHO	1.3107E+01	7.3694E+01	8.4824E+01
H	-2.4488E+00	-5.0293E+00	-6.0316E+00
A	8.3619E+00	1.1897E+01	1.3054E+01
S	2.2281E+00	2.3993E+00	2.4784E+00
Z	2.1224E+00	2.5764E+00	2.7305E+00
GAME	9.2476E+01	9.5799E+01	9.5223E+01
U	2.6444E+01	4.7374E+00	4.8459E+00

SPECIES	MOLE FRACTIONS		
E-	4.8236E-04	4.7707E-03	7.8410E-03
O	4.6225E-01	5.5784E-01	5.7795E-01
O+	1.3018E-04	2.1989E-03	4.4164E-03
O++	1.0938E-18	3.2197E-12	7.4701E-11
D-	2.3805E-04	4.2939E-03	6.4824E-03
D2	1.9644E-02	2.4387E-02	2.1944E-02
O2+	6.2148E-05	7.0149E-04	8.6582E-04
O2-	1.7786E-05	4.7117E-04	6.7160E-04
C	2.6462E-02	1.7527E-01	2.1492E-01
C+	1.6344E-04	4.4584E-03	7.9038E-03
C++	4.4499E-14	1.8451E-09	1.9997E-08
-	9.3567E-05	9.9976E-04	1.7913E-03
CO	4.6470E-01	2.0378E-01	1.3874E-01
CO+	3.9137E-04	3.1174E-03	3.7804E-03
CO2	4.6442E-02	1.9628E-02	9.4620E-04
C2	4.7908E-04	1.0113E-02	1.0423E-02

SPECIES	MOLE FRACTIONS		
E-	1.2200E-03	8.3159E-03	1.3947E-02
O	5.1487E-01	5.8212E-01	5.9122E-01
O+	5.9232E-04	4.2215E-02	8.4917E-03
O++	5.9703E-17	5.4029E-11	1.3113E-09
D-	4.8917E-04	7.1739E-03	9.0937E-03
D2	1.3917E-02	2.0108E-02	1.7008E-02
O2+	7.7079E-04	7.6441E-04	1.1524E-03
O2-	2.4489E-04	5.6212E-04	7.2177E-04
C	4.8887E-02	2.1828E-01	2.4953E-01
C+	1.1894E-02	7.8994E-03	1.2839E-02
C++	1.1894E-12	1.3484E-08	1.1244E-07
-	4.8944E-05	1.6764E-03	2.9071E-03
CO	3.5274E-01	1.7557E-01	6.1118E-02
CO+	7.4947E-04	3.5627E-03	3.7891E-03
CO2	7.4022E-02	9.0996E-04	2.8264E-04
C2	1.7977E-02	9.9789E-03	7.9089E-02

P1 = 2.00E+05 N/SQ-M, US1 = 7.40E+03 M/SEC

P1 = 2.00E+05 N/SQ-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9258E+02	9.7423E+03	1.3551E+04
T	3.3494E+01	5.3119E+01	6.0355E+01
RHO	1.3038E+01	7.4475E+01	8.5554E+01
H	-2.1219E+00	-4.7162E+00	-5.7595E+00
A	7.9645E+00	1.1143E+01	1.2293E+01
S	1.7946E+00	2.3396E+00	2.4291E+00
Z	2.0439E+00	2.4627E+00	2.6213E+00
GAME	9.3128E+01	9.4921E+01	9.4914E+01
U	2.5282E+01	4.4344E+00	4.5784E+00

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0438E+03	1.1451E+04	1.6099E+04
T	3.6444E+01	5.9191E+01	6.8790E+01
RHO	1.3161E+01	7.3540E+01	8.4602E+01
H	-2.6491E+00	-5.6816E+00	-6.9363E+00
A	8.5268E+00	1.2209E+01	1.3423E+01
S	2.2504E+00	2.4247E+00	2.5095E+00
Z	2.1648E+00	2.6207E+00	2.7796E+00
GAME	9.2440E+01	9.7200E+01	9.4914E+01
U	2.7322E+01	4.9021E+00	5.0378E+00

SPECIES	MOLE FRACTIONS		
E-	6.9612E-04	5.9349E-03	9.5374E-03
O	4.9765E-01	5.6722E-01	5.8400E-01
O+	1.7893E-04	2.7401E-03	5.7373E-03
O++	9.2223E-18	8.3444E-12	1.9729E-10
D-	3.1638E-04	4.8817E-03	7.4527E-03
D2	1.5871E-02	2.2939E-02	2.0385E-02
O2+	6.1925E-05	6.2297E-04	9.5700E-04
O2-	2.0518E-05	9.0368E-04	6.9810E-04
C	4.0324E-02	1.9092E-01	2.2889E-01
C+	2.9114E-04	5.4710E-03	9.4230E-03
C++	1.5653E-13	3.6519E-09	3.1237E-08
-	1.8566E-05	1.2106E-03	2.0674E-03
CO	4.4288E-01	1.8280E-01	1.1688E-01
CO+	6.1319E-04	3.2997E-03	3.8374E-03
CO2	3.7330E-03	1.5224E-02	7.3364E-04
C2	8.4143E-04	1.0327E-02	9.7683E-04

SPECIES	MOLE FRACTIONS		
E-	1.9315E-03	9.6084E-03	1.6670E-02
O	5.2495E-01	5.8742E-01	5.9267E-01
O+	3.6033E-04	5.2187E-03	1.0561E-02
O++	1.6701E-14	1.2481E-10	3.2051E-09
D-	5.8692E-04	6.8655E-03	9.8877E-03
D2	1.2900E-02	1.8691E-02	1.5949E-02
O2+	9.2990E-05	6.1447E-04	1.2700E-03
O2-	9.6288E-05	5.2489E-04	7.3565E-04
C	8.6444E-02	2.3032E-01	2.5724E-01
C+	9.1304E-04	9.3180E-03	1.4624E-02
C++	2.4904E-12	2.2804E-08	2.0381E-07
-	7.0783E-04	1.9208E-03	2.8222E-03
CO	3.6642E-01	1.7144E-01	4.7214E-02
CO+	6.8190E-04	3.6097E-03	3.4813E-03
CO2	2.2161E-02	6.7871E-04	2.7365E-04
C2	2.3372E-03	9.9824E-03	6.8733E-02

Table I. - Continued.

$P_1 = 200 \text{ kN/m}^2$

$P_1 = 2.00E+05 \text{ N/50-M}$, $U_{51} = 8.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0970E+03	1.2046E+04	1.0967E+04
T	3.7591E+01	6.1435E+01	7.1117E+01
RHD	1.3214E+01	7.3214E+01	8.4460E+01
M	-2.8341E+00	-6.0205E+00	-7.3499E+00
A	2.7635E+00	1.2559E+01	1.5782E+01
S	2.2806E+00	2.4537E+00	2.5596E+00
Z	2.2081E+00	2.6025E+00	2.8247E+00
GAME	9.2817E-01	9.3708E-01	9.4599E-01
U	2.8046E-01	5.0660E-00	5.2017E+00

SPECIES	MOLE FRACTIONS		
E-	1.8774E-03	1.1472E-02	1.9794E-02
O	5.3483E-01	9.9175E-01	5.9266E-01
O+	4.3784E-04	6.4202E-03	1.2024E-02
O++	4.2066E-16	3.2930E-10	7.4539E-09
D+	6.9140E-04	7.5702E-03	1.0620E-02
D2	1.2242E-02	1.7295E-02	1.4081E-02
O2+	8.9400E-02	9.2088E-04	3.4400E-03
O2-	3.7028E-05	6.0203E-04	7.3285E-04
C	1.0246E-01	2.4062E-01	2.6331E-01
C+	1.2021E-03	1.0825E-02	1.6394E-02
C++	5.6108E-12	4.6442E-08	3.5593E-07
C-	9.7474E-05	2.1609E-03	3.0060E-03
CO	3.4027E-01	9.7505E-02	5.4680E-02
CO+	9.7018E-04	3.6121E-03	3.3909E-03
CO2	1.4961E-03	9.0566E-04	1.9572E-04
C2	2.8861E-03	8.6500E-03	5.8684E-03

$P_1 = 2.00E+05 \text{ N/50-M}$, $U_{51} = 8.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2442E+03	1.3466E+04	1.2708E+04
T	4.0372E+01	6.8663E+01	7.9878E+01
RHD	1.5342E+01	7.2149E+01	8.4241E+01
M	-3.4161E+00	-7.0853E+00	-8.6478E+00
A	9.3974E+00	1.3559E+01	1.6836E+01
S	2.3594E+00	2.5938E+00	2.6272E+00
Z	2.3471E+00	2.8192E+00	2.9405E+00
GAME	9.3198E-01	9.4972E-01	9.5716E-01
U	3.0121E+01	5.3783E+00	5.6749E+00

SPECIES	MOLE FRACTIONS		
E-	3.1765E-03	1.8895E-02	3.0849E-02
O	5.6277E-01	5.9443E-01	5.8427E-01
O+	7.4978E-04	1.1438E-02	2.1329E-02
O++	5.2318E-19	2.9740E-09	6.9946E-08
D+	1.0578E-03	9.5906E-03	1.2343E-02
D2	1.0990E-02	1.3374E-02	1.0407E-02
O2+	1.1847E-04	1.1571E-03	1.5753E-03
O2-	4.3616E-05	6.1420E-04	6.7605E-04
C	1.4668E-01	2.6249E-01	2.7374E-01
C+	2.3561E-03	1.5837E-02	1.2286E-02
C++	3.8016E-11	2.4569E-07	1.5220E-06
C-	2.0844E-04	2.7839E-03	3.2812E-03
CO	2.6240E-01	5.7888E-02	3.1830E-02
CO+	1.2682E-03	3.3916E-03	2.9560E-03
CO2	1.1830E-03	2.0073E-04	7.2587E-05
C2	4.3875E-03	6.0110E-03	3.5894E-03

$P_1 = 2.00E+05 \text{ N/50-M}$, $U_{51} = 8.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1511E+03	1.2689E+04	1.1895E+04
T	3.8420E+01	6.7795E+01	8.0001E+01
RHD	1.2476E+01	7.2788E+01	8.4368E+01
M	-3.0235E+00	-6.5475E+00	-7.7728E+00
A	8.9689E+00	1.2904E+01	1.6137E+01
S	2.2069E+00	2.4828E+00	2.6944E+00
Z	2.2732E+00	2.7221E+00	2.8862E+00
GAME	9.2478E-01	9.5553E-01	9.4220E-01
U	2.8795E+01	5.2409E+00	5.3617E+00

SPECIES	MOLE FRACTIONS		
E-	2.2678E-03	1.3663E-02	2.3130E-02
O	5.4447E-01	5.9460E-01	5.9149E-01
O+	4.2685E-04	7.8580E-03	1.5381E-02
O++	1.0100E-15	7.9049E-10	1.6500E-08
D+	8.0456E-04	8.2711E-02	1.1291E-02
D2	1.1634E-02	1.9402E-02	1.2762E-02
O2+	9.6433E-02	1.0016E-03	1.4308E-03
O2-	3.6480E-05	6.1220E-04	7.2099E-04
C	1.1842E-01	2.4940E-01	2.6795E-01
C+	1.5359E-03	1.2497E-02	1.8111E-02
C++	1.1034E-11	8.3804E-07	5.9701E-07
C-	1.7818E-05	7.8956E-03	3.1448E-03
CO	3.1398E-01	8.1948E-02	4.6194E-02
CO+	1.0742E-03	3.7798E-03	3.3614E-03
CO2	1.6243E-03	3.7147E-04	1.4014E-04
C2	3.4278E-03	7.7895E-03	4.9374E-03

$P_1 = 2.00E+05 \text{ N/50-M}$, $U_{51} = 9.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3224E+03	1.4607E+04	2.0733E+04
T	4.1320E+01	7.1192E+01	8.2891E+01
RHD	1.3359E+01	7.1780E+01	8.4086E+01
M	-3.4192E+00	-7.4458E+00	-9.0945E+00
A	9.4529E+00	1.3877E+01	1.9190E+01
S	2.3898E+00	2.5657E+00	2.6584E+00
Z	2.3997E+00	2.8585E+00	2.9746E+00
GAME	9.3943E-01	9.4634E-01	9.5178E-01
U	3.0808E+01	5.7420E+00	5.8157E+00

SPECIES	MOLE FRACTIONS		
E-	3.7246E-03	2.1929E-02	3.5217E-02
O	5.7147E-01	5.9572E-01	5.8246E-01
O+	8.9126E-04	1.3617E-02	2.4739E-02
O++	1.1579E-14	8.4593E-09	1.3580E-07
D+	1.1990E-03	1.0178E-02	1.2711E-02
D2	1.0127E-02	1.2201E-02	9.3371E-03
O2+	1.1150E-03	1.7294E-03	1.6292E-03
O2-	4.7210E-05	6.6941E-04	6.4331E-04
C	1.4685E-01	2.6701E-01	2.7528E-01
C+	2.8975E-03	1.7515E-02	2.2751E-02
C++	6.8181E-11	4.0383E-07	2.3831E-06
C-	2.5701E-04	2.9022E-03	3.2849E-03
CO	2.3733E-01	4.8936E-02	2.6394E-02
CO+	1.3579E-03	3.2526E-03	2.7377E-03
CO2	1.2001E-03	1.4484E-04	5.2195E-05
C2	4.7844E-03	5.1602E-03	2.7679E-03

$P_1 = 2.00E+05 \text{ N/50-M}$, $U_{51} = 8.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2072E+03	1.3224E+04	1.8837E+04
T	3.9442E+01	6.6183E+01	7.6298E+01
RHD	1.3310E+01	7.2900E+01	8.4798E+01
M	-3.2174E+00	-6.7233E+00	-8.2049E+00
A	9.1800E+00	1.2234E+01	1.4488E+01
S	2.3331E+00	2.5103E+00	2.3986E+00
Z	2.2948E+00	2.7768E+00	2.9047E+00
GAME	9.2909E-01	9.5294E-01	9.3932E-01
U	2.9431E+01	5.4106E+00	5.5175E+00

SPECIES	MOLE FRACTIONS		
E-	2.6933E-03	1.6087E-02	2.6849E-02
O	5.9377E-01	5.9460E-01	5.8930E-01
O+	6.2981E-04	9.5153E-03	1.8227E-02
O++	2.3318E-15	1.7949E-09	3.4847E-08
D+	9.2681E-04	8.9447E-03	1.1867E-02
D2	1.1093E-02	1.4619E-02	1.1532E-02
O2+	1.0410E-04	1.0803E-03	1.9085E-03
O2-	4.0020E-05	6.1844E-04	7.0159E-04
C	1.3420E-01	2.5622E-01	2.7178E-01
C+	1.1818E-03	1.4144E-02	1.9751E-02
C++	2.0796E-11	1.4504E-07	5.7113E-07
C-	1.6617E-04	2.4904E-03	3.2351E-03
CO	2.6794E-01	4.9019E-02	3.8262E-02
CO+	1.1774E-03	3.4022E-03	3.1642E-03
CO2	1.3891E-03	2.7418E-04	1.0057E-04
C2	3.4284E-03	6.9048E-03	4.1065E-03

$P_1 = 2.00E+05 \text{ N/50-M}$, $U_{51} = 9.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3819E+03	1.5288E+04	2.1692E+04
T	4.2287E+01	7.7770E+01	8.9945E+01
RHD	1.3517E+01	7.1442E+01	8.3935E+01
M	-3.8268E+00	-7.1350E+00	-9.3545E+00
A	9.8544E+00	1.4195E+01	1.5347E+01
S	2.4119E+00	2.3929E+00	2.6839E+00
Z	2.4447E+00	2.8931E+00	3.0071E+00
GAME	9.3936E-01	9.4314E-01	9.3521E-01
U	3.1498E+01	5.9018E+00	5.9657E+00

SPECIES	MOLE FRACTIONS		
E-	4.3417E-03	2.5307E-02	3.9819E-02
O	5.7943E-01	5.9404E-01	5.7798E-01
O+	1.0472E-03	1.6060E-02	2.8390E-02
O++	2.1193E-14	1.7395E-08	2.5358E-07
D+	1.3498E-03	1.0708E-02	1.2970E-02
D2	4.6744E-03	1.1105E-02	8.3832E-03
O2+	1.3130E-04	1.2565E-03	1.4703E-03
O2-	5.0813E-05	5.9127E-04	6.0647E-04
C	1.7941E-01	2.7044E-01	2.7607E-01
C+	3.4243E-03	1.9136E-02	2.4117E-02
C++	1.1993E-10	6.4548E-07	3.4824E-06
C-	5.1093E-04	3.0040E-03	3.2525E-03
CO	1.2232E-01	4.6899E-02	2.1909E-02
CO+	1.4402E-03	3.0929E-03	1.9191E-03
CO2	8.2983E-04	1.0748E-04	3.7661E-05
C2	5.1049E-03	4.3788E-03	2.2489E-03

Table I. - Continued.

$$P_1 = 200 \text{ kN/m}^2$$

P1 = 2.00E+05 N/50-M, US1 = 9.40E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4425E+03	1.5901E+04	2.2637E+04
T	4.2364E+01	7.8377E+01	8.9033E+01
RMD	1.3337E+01	7.1068E+01	8.3630E+01
M	-4.0389E+00	-8.2214E+00	-1.0022E+01
A	1.0098E+01	1.4506E+01	1.5908E+01
S	2.4381E+00	2.6197E+00	2.7116E+00
Z	2.4944E+00	2.9294E+00	3.0383E+00
GAME	9.4379E-01	9.4044E-01	9.3545E-01
U	3.2178E+01	6.0570E+00	8.1117E+00

SPECIES	MOLE FRACTIONS		
E-	9.0519E-02	2.8978E-02	4.4831E-02
O	8.8739E-03	5.9157E-01	5.7290E-01
O+	2.2807E-03	1.8756E-02	3.2284E-02
O++	4.4779E-14	2.4316E-08	4.5697E-07
D-	1.4119E-03	1.1154E-02	1.3114E-02
D2	9.2207E-03	1.0080E-02	7.4414E-03
D2+	1.4194E-04	1.3940E-03	1.6567E-03
D2-	6.4713E-05	5.7186E-04	5.6563E-04
F	1.9749E-01	2.7290E-01	2.7623E-01
F+	4.0748E-03	2.0739E-02	2.5402E-02
F++	2.8494E-10	1.0030E-06	4.0800E-06
C-	5.7119E-04	3.0681E-03	3.1797E-03
C0	1.8988E-01	3.4147E-02	1.8183E-02
C0+	1.8161E-13	2.9183E-03	2.3050E-03
C02	6.9721E-04	7.8777E-04	2.7203E-05
C2	5.3449E-02	3.5812E-03	1.8188E-03

P1 = 2.00E+05 N/50-M, US1 = 1.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6311E+03	1.7770E+04	2.8238E+04
T	4.6638E+01	8.4349E+01	9.8680E+01
RMD	1.3226E+01	6.9706E+01	8.2247E+01
M	-4.7021E+00	-9.4249E+00	-1.1479E+01
A	1.0780E+01	1.5447E+01	1.7836E+01
S	2.3161E+00	2.6984E+00	2.7930E+00
Z	2.6443E+00	3.0223E+00	3.1329E+00
GAME	9.5956E-01	9.3604E-01	9.4665E-01
U	3.4209E+01	6.5019E+00	6.9539E+00

SPECIES	MOLE FRACTIONS		
E-	7.9467E-03	4.1677E-02	6.1859E-02
O	6.0727E-01	5.8002E-01	5.8447E-01
O+	2.1413E-03	2.4301E-02	4.5349E-02
O++	5.8660E-13	2.1073E-07	2.2618E-06
D-	2.0727E-03	1.1995E-02	1.2879E-02
D2	7.8023E-03	7.4165E-03	5.1022E-03
D2+	1.7971E-04	1.4798E-03	1.6883E-03
D2-	6.3622E-05	4.8959E-04	4.3010E-04
F	2.3147E-01	2.7576E-01	2.7576E-01
F+	5.6401E-03	2.5070E-02	2.8930E-02
F++	1.1179E-09	3.2494E-06	1.4235E-05
C-	4.8944E-04	3.0483E-03	2.8337E-03
C0	1.2674E-01	2.0231E-02	1.0317E-02
C0+	1.6704E-03	2.2617E-03	1.7121E-03
C02	3.6469E-04	3.1342E-04	1.0196E-05
C2	5.4773E-03	2.1029E-03	9.4071E-04

P1 = 2.00E+05 N/50-M, US1 = 9.40E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8043E+03	1.6337E+04	2.3584E+04
T	4.4346E+01	7.9013E+01	9.2168E+01
RMD	1.3331E+01	7.0643E+01	8.3224E+01
M	-4.2555E+00	-8.6153E+00	-1.2499E+01
A	1.0746E+01	1.4919E+01	1.6275E+01
S	2.4642E+00	2.5462E+00	2.7390E+00
Z	2.5449E+00	2.8439E+00	3.0689E+00
GAME	9.4889E-01	9.3835E-01	9.3945E-01
U	3.2288E+01	6.2081E+00	4.2577E+00

SPECIES	MOLE FRACTIONS		
E-	9.8710E-03	1.2937E-02	5.8095E-02
O	4.6442E-01	5.9877E-01	6.6728E-01
O+	1.4971E-03	2.1702E-02	3.4414E-02
O++	1.1943E-13	4.4817E-08	7.9910E-07
D-	1.4840E-03	1.1427E-02	1.3144E-02
D2	8.7403E-03	9.1211E-03	6.8972E-03
D2+	1.5358E-04	1.4070E-03	1.7084E-03
D2-	5.7866E-05	5.4799E-04	5.2193E-04
F	2.0922E-01	2.7482E-01	2.7482E-01
F+	4.8159E-03	2.3244E-02	2.4622E-02
F++	3.4497E-10	1.6719E-06	7.2724E-06
C-	4.7749E-04	3.0944E-03	3.0967E-03
C0	1.5752E-01	2.8644E-02	1.5077E-02
C0+	1.8297E-03	2.7343E-03	2.0976E-03
C02	4.7153E-04	4.7833E-04	1.8442E-05
C2	4.4884E-02	3.0713E-03	1.4649E-03

P1 = 2.00E+05 N/50-M, US1 = 1.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7956E+03	1.9205E+04	2.7491E+04
T	4.5976E+01	9.1186E+01	1.0704E+02
RMD	1.2998E+01	6.8097E+01	8.0145E+01
M	-5.2552E+00	-1.0475E+01	-1.2756E+01
A	1.1595E+01	1.5256E+01	1.8050E+01
S	2.5800E+00	2.7825E+00	2.8592E+00
Z	2.7642E+00	3.0936E+00	3.2048E+00
GAME	9.7920E-01	9.3684E-01	9.4979E-01
U	3.5864E+01	6.8951E+00	4.9412E+00

SPECIES	MOLE FRACTIONS		
E-	1.1754E-02	5.4185E-02	7.7641E-02
O	6.1866E-01	5.6533E-01	5.3575E-01
O+	3.4910E-03	3.7845E-02	5.7711E-02
O++	4.7237E-12	7.8620E-07	7.3746E-06
D-	2.6300E-03	1.2085E-02	1.2004E-02
D2	4.5277E-03	4.6044E-03	3.5790E-03
D2+	2.1009E-04	1.5112E-03	1.5897E-03
D2-	6.8754E-05	4.0458E-04	3.1769E-04
F	2.5619E-01	2.7483E-01	2.8090E-01
F+	4.8159E-03	2.3244E-02	2.4622E-02
F++	4.6713E-09	7.4471E-06	3.0902E-05
C-	4.0940E-04	2.8713E-03	2.4807E-03
C0	9.3025E-02	1.3055E-02	6.3441E-03
C0+	1.7552E-03	1.9117E-03	1.2972E-03
C02	1.8940E-04	1.4586E-05	4.4267E-06
C2	4.8917E-03	1.2787E-03	5.3295E-04

P1 = 2.00E+05 N/50-M, US1 = 9.40E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4671E+03	1.7190E+04	2.4442E+04
T	4.5441E+01	8.1678E+01	9.4386E+01
RMD	1.3398E+01	7.0193E+01	8.2850E+01
M	-4.7745E+00	-9.2194E+00	-1.0944E+01
A	1.0407E+01	1.5133E+01	1.6850E+01
S	2.4902E+00	2.6726E+00	2.7611E+00
Z	2.5947E+00	2.9228E+00	3.0910E+00
GAME	9.4297E-01	9.2844E-01	9.3819E-01
U	3.3432E+01	6.3590E+00	6.4049E+00

SPECIES	MOLE FRACTIONS		
E-	4.8741E-02	3.7190E-02	5.5666E-02
O	4.0129E-01	5.8444E-01	5.6113E-01
O+	1.7841E-03	2.4899E-02	4.0768E-02
O++	2.8274E-13	1.1907E-07	1.3109E-06
D-	1.9726E-03	1.1803E-02	1.3084E-02
D2	8.2893E-03	8.2340E-03	5.8187E-03
D2+	1.6604E-04	1.4484E-03	1.7054E-03
D2-	4.0764E-05	5.2015E-04	4.7468E-04
F	2.1098E-01	2.7545E-01	2.7501E-01
F+	5.6744E-03	2.3705E-02	2.7794E-02
F++	4.3897E-10	2.2487E-06	1.0242E-05
C-	4.1040E-04	3.0917E-03	2.9839E-03
C0	1.4637E-01	2.4056E-02	1.2485E-02
C0+	1.6423E-03	2.5474E-03	1.8984E-03
C02	4.6177E-04	4.2481E-04	1.4169E-04
C2	5.5324E-03	2.7433E-03	1.1159E-03

P1 = 2.00E+05 N/50-M, US1 = 1.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9466E+03	2.0521E+04	2.9438E+04
T	5.3965E+01	9.8233E+01	1.1602E+02
RMD	1.2691E+01	6.6099E+01	7.7320E+01
M	-5.8961E+00	-1.1986E+01	-1.4097E+01
A	1.2390E+01	1.7103E+01	1.9193E+01
S	2.4430E+00	2.8292E+00	2.9281E+00
Z	2.8717E+00	3.1433E+00	3.2836E+00
GAME	9.8102E-01	9.4136E-01	9.4290E-01
U	3.7496E+01	7.2177E+00	7.3639E+00

SPECIES	MOLE FRACTIONS		
E-	1.7626E-02	6.8371E-02	9.5723E-02
O	6.2361E-01	5.5014E-01	5.1411E-01
O+	4.7278E-03	4.8886E-02	7.1310E-02
O++	4.1869E-11	2.8467E-06	2.1771E-05
D-	4.1869E-03	1.1661E-02	1.0882E-02
D2	5.2398E-03	4.1293E-03	2.4191E-03
D2+	2.6637E-04	1.7778E-03	1.4280E-03
D2-	7.0198E-05	3.1653E-04	2.1960E-04
F	2.7237E-01	2.7072E-01	2.6201E-01
F+	1.4284E-02	3.1222E-02	3.4893E-02
F++	2.0415E-08	1.8302E-05	6.3883E-05
C-	1.0423E-03	2.5885E-03	2.0821E-03
C0	5.0847E-02	6.3847E-03	3.3949E-03
C0+	1.7509E-03	1.5103E-03	9.8119E-04
C02	8.6774E-04	4.7724E-04	1.8115E-04
C2	3.8694E-03	7.6560E-04	2.9839E-04

Table L - Continued.

$P_1 = 200 \text{ kN/m}^2$

$P1 = 2.00E+05 \text{ N/SC-M}, \quad US1 = 1.15E+04 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1447E+03	2.1798E+04	3.1403E+04
T	5.8521E+01	1.053E+02	1.2566E+02
RHO	1.2376E+00	6.3889E+01	7.4200E+01
H	-0.5349E+00	-1.2701E+01	-1.5504E+01
A	1.3017E+01	1.7996E+01	2.0397E+01
S	2.7017E+00	2.8893E+00	2.9871E+00
Z	2.9614E+00	3.2333E+00	3.3679E+00
GAME	9.7769E-01	9.4922E-01	9.7914E-01
U	7.9115E+01	7.5872E+00	7.8706E+00

SPECIES	MOLE FRACTIONS		
E-	2.4155E-02	8.3917E-02	1.1549E-01
O	6.2126E-01	9.2139E-01	4.8983E-01
O+	9.4452E-03	6.0942E-02	8.4915E-02
D+	3.6013E-10	7.3141E-04	4.9044E-02
D-	3.8615E-09	1.0847E-02	9.1785E-03
D2	4.0914E-03	2.5795E-02	1.4778E-02
O2+	3.1924E-04	1.3925E-02	1.2331E-02
O2-	6.7780E-05	2.3706E-04	1.4345E-04
C	2.7907E-01	2.4531E-01	7.728E-01
C+	1.9018E-02	3.4069E-02	7.6249E-02
C+	8.5408E-02	3.7484E-02	1.1721E-04
C-	1.2476E-02	2.2618E-02	1.7009E-02
CO	7.0114E-02	5.3623E-02	2.7944E-02
CO+	1.6241E-02	1.1782E-02	7.0062E-04
CO2	3.7151E-02	3.1615E-02	7.8882E-02
CO2	2.7849E-02	4.8750E-04	1.4647E-04

$P1 = 2.00E+04 \text{ N/SC-M}, \quad US1 = 1.20E+04 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3709E+03	2.3133E+04	1.2542E+04
T	4.7314E+01	1.1224E+02	1.3418E+02
RHO	1.2120E+01	4.1833E+01	7.1218E+01
H	-7.7020E+00	-1.3884E+01	-1.7000E+01
A	1.3630E+01	1.4941E+01	2.1668E+01
S	2.7587E+00	2.9446E+00	3.0484E+00
Z	3.0761E+00	3.3078E+00	3.4785E+00
GAME	9.5727E-01	9.6019E-01	9.6898E-01
U	4.0745E+01	7.9564E+00	8.7444E+00

SPECIES	MOLE FRACTIONS		
E-	3.7202E-02	1.0078E-01	1.2478E-01
O	5.1217E-01	7.1847E-01	4.4319E-01
O+	1.4845E-02	7.7941E-02	1.0215E-01
D+	2.5425E-02	1.9388E-02	1.4940E-04
D-	4.3791E-02	9.7405E-02	7.4407E-02
D2	3.1844E-02	7.1904E-02	9.8764E-02
O2+	7.7293E-04	1.7723E-03	1.0277E-03
O2-	6.2779E-04	1.7046E-04	8.9728E-03
C	2.7876E-01	2.9425E-01	2.7325E-01
C+	7.4237E-02	4.9370E-02	4.9340E-02
C-	1.3707E-02	4.3768E-02	7.4927E-04
CO	1.6755E-02	1.9211E-02	1.2411E-02
CO+	1.4747E-02	9.0217E-02	7.0371E-02
CO2	1.5177E-02	1.6714E-04	7.2812E-02
CO2	1.8588E-02	9.7246E-04	8.2891E-02

$P1 = 2.00E+02 \text{ N/SC-M}, \quad US1 = 1.25E+04 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9257E+03	2.4627E+04	2.5932E+04
T	6.8201E+01	1.2149E+02	1.4744E+02
RHO	1.1935E+01	5.9940E+01	4.8740E+01
H	-7.8578E+00	-1.5119E+01	-1.8781E+01
A	1.4229E+01	2.0001E+01	2.7044E+01
S	2.8184E+00	3.0009E+00	2.1072E+00
Z	3.1079E+00	3.3818E+00	3.4411E+00
GAME	9.5486E-01	9.7378E-01	1.0179E+00
U	4.2377E+01	8.4484E+00	8.9109E+00

SPECIES	MOLE FRACTIONS		
E-	9.0142E-02	1.1870E-01	1.5400E-01
O	4.9891E-01	4.8778E-01	4.7022E-01
O+	2.2274E-02	8.4800E-02	1.1499E-01
D+	1.3897E-02	4.778E-02	3.6819E-04
D-	4.7337E-02	8.4225E-02	4.0830E-02
D2	2.5028E-02	1.4834E-02	4.2380E-04
O2+	4.2081E-04	1.1284E-02	8.7245E-04
O2-	6.5174E-02	1.3183E-04	5.4487E-02
C	7.7307E-01	7.042E-01	2.3188E-01
C+	3.2477E-02	4.0300E-02	4.4494E-02
C-	9.3470E-02	1.1624E-04	4.7371E-04
C+	1.4264E-02	1.188E-02	1.0780E-02
CO	1.1438E-02	2.1869E-02	8.0912E+04
CO+	1.3073E-02	4.8644E-04	2.4017E-04
CO2	7.6464E-04	4.4830E-02	1.789E-02
CO2	1.2223E-02	1.8294E-04	5.7615E-02

$P1 = 2.00E+05 \text{ N/SC-M}, \quad US1 = 1.30E+04 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7292E+03	2.4258E+04	3.8678E+04
T	7.2930E+01	1.2019E+02	1.5946E+02
RHO	1.2382E+01	5.8281E+01	4.6278E+01
H	-8.6225E+00	-1.4088E+01	-2.0264E+01
A	1.4480E+01	2.1105E+01	2.4448E+01
S	2.8674E+00	3.0542E+00	3.1440E+00
Z	3.1845E+00	3.4694E+00	3.6579E+00
GAME	9.4495E-01	9.8846E-01	1.0248E+00
U	4.4026E+01	8.9489E+00	9.5465E+00

SPECIES	MOLE FRACTIONS		
E-	4.4743E-02	1.2774E-01	1.8182E-01
O	4.8797E-01	4.5494E-01	4.0553E-01
O+	3.0977E-02	1.0050E-01	1.7237E-01
D+	4.8127E-02	1.0985E-04	7.4423E-04
D-	4.0755E-02	7.3049E-02	4.8409E-02
D2	1.9614E-02	5.8825E-04	7.8809E-04
O2+	4.4890E-04	2.7494E-04	4.0497E-04
O2-	4.8059E-02	8.0178E-02	2.9844E-02
C	2.8572E-01	2.184E-01	2.7961E-01
C+	7.8142E-02	4.3745E-02	4.1997E-02
C-	2.3202E-04	2.0710E-04	7.9755E-04
CO	1.4144E-02	1.7613E-02	9.7100E-04
CO+	7.4524E-02	1.3842E-02	4.8730E-04
CO2	1.1841E-02	7.9274E-04	2.4721E-04
CO2	7.7017E-02	2.2770E-02	4.0944E-04
CO2	8.1663E-04	9.444E-02	3.1502E-04

$P1 = 2.00E+02 \text{ N/SC-M}, \quad US1 = 1.37E+04 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9037E+03	2.7445E+04	4.1365E+04
T	7.0918E+01	1.1949E+02	1.7444E+02
RHO	1.1746E+01	4.9893E+01	4.7427E+01
H	-9.0791E+00	-1.7746E+01	-2.7019E+01
A	1.3737E+01	2.2739E+01	2.6837E+01
S	2.9103E+00	2.1054E+00	2.3194E+00
Z	3.2270E+00	3.4444E+00	3.7444E+00
GAME	9.4874E-01	1.0074E+00	1.0377E+00
U	4.7701E+01	9.7015E+00	1.0170E+01

SPECIES	MOLE FRACTIONS		
E-	7.0283E-02	1.8470E-01	2.0446E-01
O	4.8721E-01	4.3917E-01	3.7707E-01
O+	4.1025E-02	1.3444E-01	1.6889E-01
D+	2.3180E-02	2.7420E-02	1.1288E-02
D-	4.0597E-02	4.2115E-02	2.8879E-02
D2	1.5927E-02	4.4738E-02	2.4577E-04
O2+	4.8877E-02	8.7468E-02	4.1844E-04
O2-	4.7837E-02	5.2783E-01	3.0233E-02
C	7.8763E-01	7.7174E-01	7.9770E-01
C+	4.8932E-02	4.4094E-02	4.947E-02
C-	1.7862E-02	7.7862E-04	1.2103E-02
CO	1.1378E-02	4.7687E-04	4.7687E-04
CO+	4.3095E-02	8.8944E-04	7.0241E-04
CO2	4.8917E-04	3.4881E-04	1.6546E-04
CO2	1.0702E-02	1.3477E-02	7.7897E-02
CO2	7.4874E-04	7.0076E-02	1.8624E-02

$P1 = 2.00E+02 \text{ N/SC-M}, \quad US1 = 1.40E+04 \text{ N/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3135E+03	2.0794E+04	4.8898E+04
T	5.2270E+01	1.0990E+02	1.8377E+02
RHO	1.1387E+01	5.4434E+01	4.2827E+01
H	-1.0188E+01	-1.0213E+01	-2.3857E+01
A	1.5878E+01	2.3669E+01	2.7130E+01
S	2.9707E+00	3.4742E+00	3.711E+00
Z	3.2501E+00	3.4304E+00	3.8779E+00
GAME	9.4828E-01	1.0189E+00	1.0735E+00
U	4.7734E+01	1.0737E+01	1.0876E+01

SPECIES	MOLE FRACTIONS		
E-	5.4979E-02	1.7741E-01	2.7644E-01
O	4.8270E-01	4.1397E-01	3.4899E-01
O+	7.2102E-02	1.2843E-01	1.4046E-01
D+	6.0107E-02	4.7388E-04	2.5016E-02
D-	7.0215E-02	5.0284E-02	3.0794E-02
D2	1.2787E-02	4.3927E-04	1.5924E-04
O2+	4.2707E-04	4.8124E-04	4.0400E-04
O2-	4.7073E-02	5.0297E-02	1.7629E-02
C	7.8964E-01	7.7184E-01	1.8446E-01
C+	4.7849E-02	4.1012E-02	4.0580E-02
C-	1.0607E-02	4.6297E-04	7.0202E-02
C+	1.7777E-02	8.9730E-04	4.4890E-04
CO	7.8747E-02	4.7377E-04	1.9744E-04
CO+	4.8924E-02	3.9134E-04	1.3940E-04
CO2	1.0673E-02	7.9479E-02	1.7884E-02
CO2	7.4790E-02	2.4807E-02	1.1946E-02

Table 1. - Continued.

$P_1 = 200 \text{ kN/m}^2$

$P_1 = 2.00E+05 \text{ N/SQ-M}, \text{ US1} = 1.45E+04 \text{ N/SF}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3901E+07	3.1876E+04	4.7887E+04
T	8.8810E+01	1.4004E+02	1.5778E+02
RMD	1.1547E+01	5.2370E+01	5.1767E+01
M	-1.0949E+01	-2.0550E+01	-2.5752E+01
A	1.6587E+01	2.4474E+01	2.8276E+01
S	3.0197E+00	3.3058E+00	3.2233E+00
Z	2.3545E+00	3.7257E+00	3.9855E+00
GAME	2.4478E+01	1.0242E+00	1.0270E+00
U	4.0945E+01	1.0722E+01	1.1467E+01

SPECIES	MOLE FRACTIONS		
E-	1.1088E-01	1.0628E-01	7.4805E-01
n	5.2084E-01	3.8793E-01	2.2195E-01
O+	4.4117E-02	1.4183E-01	1.5727E-01
O++	1.8787E-04	8.7875E-06	7.0477E-03
O+	4.8879E-07	4.1784E-03	2.7042E-07
O2	1.0150E-02	2.5285E-04	1.0594E-04
O2+	5.0905E-02	5.5927E-04	2.1716E-04
O2-	3.1126E-03	2.7166E-03	8.2188E-06
r	2.4145E-01	2.1089E-01	1.8267E-01
C+	5.1575E-02	7.1117E-03	5.5044E-03
C++	1.9457E-04	7.1734E-04	7.0944E-03
C-	1.1748E-03	7.7366E-04	4.4337E-04
CO	2.5247E-03	3.7074E-04	1.2954E-04
CO+	3.2227E-04	2.1524E-04	1.0178E-04
CO2	5.8427E-07	3.6213E-08	7.1955E-09
C2	2.5009E-04	2.7377E-07	7.6624E-08

$P_1 = 2.00E+07 \text{ N/SQ-M}, \text{ US1} = 1.45E+04 \text{ N/SF}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4247E+07	3.3414E+04	5.1142E+04
T	6.1447E+01	1.8884E+02	2.0740E+02
RMD	1.1584E+01	5.1833E+01	5.0713E+01
M	-1.1807E+01	-2.2078E+01	-2.7708E+01
A	1.7217E+01	2.4720E+01	2.8157E+01
S	3.0474E+00	3.3221E+00	3.2094E+00
Z	2.4215E+00	3.8183E+00	4.0564E+00
GAME	2.4707E+01	1.0285E+00	1.0313E+00
U	5.3713E+01	1.1744E+01	1.2075E+01

SPECIES	MOLE FRACTIONS		
E-	1.2734E-01	1.1572E-01	7.4887E-01
n	4.0703E-01	3.4328E-01	2.0484E-01
O+	7.4825E-02	1.7387E-01	1.8734E-01
O++	1.7949E-04	1.5070E-03	1.8777E-03
O-	4.6564E-02	2.1072E-03	7.0574E-07

$P_1 = 2.00E+05 \text{ N/SQ-M}, \text{ US1} = 1.45E+04 \text{ N/SF}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8697E+07	3.5227E+04	5.4777E+04
T	9.4247E+01	1.7857E+02	2.1872E+02
RMD	1.1571E+01	7.0417E+01	6.8792E+01
M	-1.2576E+01	-2.3541E+01	-2.8725E+01
A	1.7884E+01	2.4828E+01	2.8314E+01
S	3.1140E+00	3.2677E+00	3.4188E+00
Z	2.4577E+00	3.9143E+00	4.1347E+00
GAME	2.5147E+01	1.0281E+00	1.0212E+00
U	5.2377E+01	1.1568E+01	1.1788E+01

SPECIES	MOLE FRACTIONS		
E-	1.4007E-01	1.3483E-01	7.0842E-01
n	4.7797E-01	3.7012E-01	2.7152E-01
O+	5.0214E-02	1.6525E-01	1.6027E-01
O++	8.6320E-04	7.6278E-03	8.0640E-02
O-	4.5002E-03	2.8921E-03	1.6003E-03
O2	1.2576E+00	1.0007E+00	1.0007E+00
O2+	4.8247E-04	3.1487E-04	1.0491E-04
O2-	3.0701E-07	9.7274E-04	7.7177E-04
r	2.2493E-01	1.4020E-01	1.4022E-01
C+	5.0875E-02	6.2094E-03	7.1321E-03
C++	8.6321E-07	7.6260E-07	8.1845E-04
C-	9.5927E-06	4.0105E-04	1.2039E-04
CO	1.2576E-02	1.4997E-04	4.2944E-05
CO+	4.2000E-04	1.3494E-04	6.0740E-05
CO2	1.8400E-07	1.2273E-08	2.2945E-08
C2	1.1764E-04	1.2700E-04	2.9727E-04

$P_1 = 2.00E+07 \text{ N/SQ-M}, \text{ US1} = 1.45E+04 \text{ N/SF}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1104E+07	5.1330E+04	8.7338E+04
T	1.1409E+02	1.8814E+02	2.1647E+02
RMD	1.1409E+01	5.0095E+01	4.7068E+01
M	-1.2766E+01	-2.5127E+01	-3.1795E+01
A	1.8581E+01	2.7875E+01	3.2038E+01
S	3.1120E+00	3.2873E+00	3.4423E+00
Z	2.4242E+00	4.2137E+00	4.4702E+00
GAME	2.6797E+01	1.0266E+00	1.0271E+00
U	6.4276E+01	1.2027E+01	1.2255E+01

SPECIES	MOLE FRACTIONS		
E-	1.4117E-01	1.3031E-01	7.0707E-01
n	4.6004E-01	3.1843E-01	2.2843E-01
O+	1.0000E-04	7.3700E-02	7.0270E-01
O++	1.7902E-07	7.4188E-03	1.5477E-03
O-	4.6004E-01	2.1277E-02	1.4107E-03
O2	4.6004E-01	2.1277E-02	2.7417E-05
O2+	1.8473E-07	8.4583E-04	1.8746E-04
O2-	7.1889E-01	1.7889E-01	1.4098E-01
r	4.1370E-01	4.4869E-01	1.3907E-01
C++	9.6321E-07	2.8420E-03	4.8586E-03
C-	8.4777E-06	4.1382E-04	2.7402E-04
CO	5.2977E-04	1.2847E-04	6.7315E-05
CO+	4.2100E-04	9.0127E-07	6.1703E-05
CO2	1.0491E-07	8.7687E-08	1.3785E-08
C2	7.0647E-04	1.1287E-04	7.4706E-04

Table I. - Continued.

$$P_1 = 500 \text{ kN/m}^2$$

P1 = 5.00E+05 N/SQ-M, US1 = 1.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5750E+01	6.7533E+01	1.1241E+02
T	2.5812E+00	3.4570E+00	4.0727E+00
RHD	6.1024E+00	1.9532E+01	2.7599E+01
H	9.4419E-01	9.0798E-01	6.8129E-01
A	1.5478E+00	1.7992E+00	1.9265E+00
S	1.0939E+00	1.1104E+00	1.1346E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.2819E-01	9.1622E-01	9.1127E-01
U	3.0950E+00	9.6609E-01	8.7897E-01

SPECIES	MOLE FRACTIONS		
E-	3.0416E-34	9.0741E-45	3.1830E-36
O	1.0300E-15	6.5851E-13	3.8218E-11
O+	6.3547E-39	4.2318E-35	2.9712E-32
O++	0.	0.	0.
-	2.9579E-59	8.9928E-49	1.8332E-39
O2	4.3992E-04	4.5992E-04	4.3995E-04
O2+	1.7597E-18	1.7597E-18	1.7597E-18
O2-	3.0356E-51	4.9637E-42	3.6793E-34
C	1.4902E-55	1.3109E-46	1.3203E-38
C+	8.2340E-66	1.8701E-57	3.0487E-56
C++	0.	0.	0.
-	0.	1.9434E-83	1.3048E-67
CO	7.2223E-13	4.9567E-10	6.5239E-08
CO+	1.0541E-37	2.3096E-33	5.0626E-30
CO2	9.9526E-01	9.9956E-01	9.9956E-01
C2	9.1543E-80	7.9555E-67	6.2964E-55

P1 = 5.00E+05 N/SQ-M, US1 = 1.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2846E+01	1.2159E+02	1.9028E+02
T	3.1957E+00	4.5932E+00	5.2429E+00
RHD	7.1565E+00	2.7026E+01	3.6152E+01
H	9.1905E-01	8.6217E-01	8.2785E-01
A	1.7137E+00	2.0230E+00	2.1850E+00
S	1.1341E+00	1.1997E+00	1.1860E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.1504E-01	9.0873E-01	9.0547E-01
U	3.8201E+00	1.0101E+00	9.3568E-01

SPECIES	MOLE FRACTIONS		
E-	3.4645E-44	8.3142E-29	4.0509E-25
O	9.5342E-14	2.6865E-10	1.5803E-08
O+	2.1850E-35	1.0996E-30	0.
O++	0.	0.	0.
-	1.5722E-48	1.4033E-31	1.9169E-27
O2	4.3992E-04	4.4015E-04	4.3995E-04
O2+	1.7597E-18	1.7597E-18	1.7597E-18
O2-	4.0005E-52	1.5916E-27	5.2803E-24
C	3.2965E-57	1.0270E-31	2.7143E-28
C+	4.3160E-67	1.2076E-43	1.8415E-40
C++	0.	1.2391E-53	0.
-	1.5622E-82	9.2464E-54	3.0202E-47
CO	1.6649E-16	4.6871E-17	2.4111E-05
CO+	1.4462E-37	9.3850E-37	1.0811E-25
CO2	9.9956E-01	9.9956E-01	9.9956E-01
C2	3.5775E-66	1.4083E-44	1.1619E-39

P1 = 5.00E+05 N/SQ-M, US1 = 1.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1278E+01	1.9410E+02	2.9203E+02
T	3.8093E+00	5.8969E+00	6.8151E+00
RHD	8.0418E+00	3.4071E+01	4.4122E+01
H	8.8932E-01	8.0791E-01	7.6489E-01
A	1.8099E+00	2.2691E+00	2.4401E+00
S	1.1747E+00	1.2084E+00	1.2263E+00
Z	1.0000E+00	1.0001E+00	1.0005E+00
GAME	9.1255E-01	9.0376E-01	8.9562E-01
U	4.5382E+00	1.0736E+00	1.0101E+00

SPECIES	MOLE FRACTIONS		
E-	2.8176E-37	2.3492E-22	1.8972E-18
C	2.2644E-11	3.4854E-08	4.9140E-07
O+	9.5747E-33	1.3176E-27	6.9578E-25
O++	0.	0.	5.2568E-94
-	7.1496E-41	2.5945E-24	9.0240E-20
O2	4.3992E-04	4.9482E-04	4.9494E-04
O2+	1.7597E-18	1.7581E-18	1.7434E-17
O2-	1.1704E-35	1.2714E-21	1.2728E-17
C	1.3657E-39	3.1402E-26	1.2606E-21
C+	6.1360E-51	2.5695E-39	3.1467E-33
C++	0.	8.9953E-58	2.4917E-77
-	1.5181E-69	2.3487E-41	7.4662E-35
CO	3.4152E-08	1.0991E-04	1.0030E-03
CO+	1.2515E-30	1.1233E-24	5.1663E-22
CO2	9.9956E-01	9.9940E-01	9.9804E-01
C2	2.1917E-56	1.0325E-35	4.6232E-30

P1 = 5.00E+05 N/SQ-M, US1 = 1.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1024E+01	2.8561E+02	4.1732E+02
T	4.6621E+00	7.0166E+00	8.0472E+00
RHD	8.7999E+00	4.0663E+01	5.1659E+01
H	8.5508E-01	7.4511E-01	6.9235E-01
A	2.0574E+00	2.5105E+00	2.4634E+00
S	1.2146E+00	1.2555E+00	1.2843E+00
Z	1.0000E+00	1.0011E+00	1.0039E+00
GAME	9.0749E-01	8.9733E-01	8.9146E-01
U	5.2490E+00	1.1372E+00	1.0770E+00

SPECIES	MOLE FRACTIONS		
E-	2.1202E-27	1.4954E-17	1.5609E-13
O	1.2301E-09	1.4659E-06	1.3437E-05
O+	1.5716E-30	7.5855E-24	1.3862E-20
O++	0.	2.8134E-89	9.3013E-80
-	3.2455E-30	4.8913E-19	1.8273E-16
O2	4.4129E-04	1.4883E-03	4.2896E-03
O2+	1.7597E-18	1.2154E-16	1.8066E-14
O2-	1.0178E-26	1.0435E-16	1.6326E-14
C	2.1014E-30	1.4436E-20	1.5049E-17
C+	1.5997E-42	3.3965E-34	1.8770E-27
C++	6.1654E-98	2.1191E-73	2.3668E-65
-	1.9889E-51	3.4677E-34	7.2001E-29
CO	2.7540E-04	2.0995E-03	2.7161E-03
CO+	8.4306E-28	5.4540E-21	4.8626E-18
CO2	9.9956E-01	9.9641E-01	9.8798E-01
C2	9.0158E-43	2.7751E-29	1.3405E-24

P1 = 5.00E+05 N/SQ-M, US1 = 1.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2094E+01	3.9887E+02	5.4578E+02
T	5.5148E+00	8.3867E+00	9.4564E+00
RHD	9.4453E+00	4.7047E+01	5.9004E+01
H	8.1627E-01	6.7370E-01	6.1113E-01
A	2.2331E+00	2.7385E+00	2.9115E+00
S	1.2534E+00	1.3009E+00	1.3308E+00
Z	1.0000E+00	1.0058E+00	1.0140E+00
GAME	9.0421E-01	8.6907E-01	8.8402E-01
U	5.5563E+00	1.1975E+00	1.1340E+00

SPECIES	MOLE FRACTIONS		
E-	5.1942E-23	6.5343E-15	1.8727E-13
O	3.8934E-08	2.7690E-05	1.4031E-04
O+	1.1072E-27	1.1925E-19	4.4741E-17
O++	0.	1.5847E-75	5.3081E-67
-	1.6694E-25	1.0255E-15	7.3134E-14
O2	4.9672E-04	6.1557E-03	1.4087E-02
O2+	1.7598E-18	7.7084E-14	3.1368E-12
O2-	1.5781E-22	6.9555E-14	2.8803E-12
C	2.2173E-26	1.0725E-16	1.3363E-14
C+	1.1052E-38	3.6902E-26	4.4900E-23
C++	1.2423E-90	6.9940E-62	5.9616E-55
-	3.7116E-44	1.5832E-27	3.1078E-24
CO	1.1370E-04	1.1464E-02	2.7446E-02
CO+	8.2309E-25	3.2168E-17	3.8811E-15
CO2	9.9939E-01	9.8235E-01	9.5833E-01
C2	2.9807E-37	1.9751E-23	1.8874E-20

P1 = 5.00E+05 N/SQ-M, US1 = 2.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4490E+01	5.2959E+02	7.3867E+02
T	6.4352E+00	9.7161E+00	1.0780E+01
RHD	1.0015E+01	5.3585E+01	6.6324E+01
H	7.7250E-01	6.9360E-01	6.2104E-01
A	2.4062E+00	2.9540E+00	3.1315E+00
S	1.2909E+00	1.3452E+00	1.3762E+00
Z	1.0000E+00	1.0176E+00	1.0329E+00
GAME	8.9913E-01	8.8026E-01	8.8072E-01
U	6.6612E+00	1.2475E+00	1.1897E+00

SPECIES	MOLE FRACTIONS		
E-	1.7894E-18	4.2245E-13	5.0775E-12
C	7.0249E-07	2.1577E-04	6.9913E-04
O+	1.9642E-25	7.4568E-17	3.9730E-15
O++	1.4042E-97	7.6528E-65	1.4561E-58
-	1.7744E-20	1.8472E-13	4.3424E-12
O2	1.0623E-03	1.7507E-02	3.1592E-02
O2+	7.6532E-18	6.9236E-12	1.0926E-10
O2-	4.0916E-18	6.3267E-12	1.0021E-10
C	3.9352E-22	3.7105E-14	1.3208E-12
C+	2.5277E-34	2.0957E-22	4.9737E-20
C++	2.4322E-80	1.7547E-53	1.7805E-48
-	3.4069E-36	1.2090E-23	3.5218E-21
CO	1.2441E-03	3.4345E-02	6.3030E-02
CO+	1.2873E-22	1.0312E-14	3.6397E-13
CO2	9.9769E-01	9.4791E-01	9.0468E-01
C2	2.7399E-31	5.8649E-20	9.0347E-18

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Table 1. - Continued.

$$P_1 = 500 \text{ kN/m}^2$$

P1 = 5.00E+05 N/SQ-M, US1 = 2.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8275E+01	6.8772E+02	9.4093E+02
T	7.3882E+00	1.0977E+01	1.2044E+01
RHO	1.0564E+01	6.0360E+01	7.3659E+01
H	7.2492E-01	5.0499E+01	6.2130E+01
A	2.5718E+00	3.1659E+00	3.3555E+00
S	1.3271E+00	1.3890E+00	1.4214E+00
Z	1.0030E+00	1.0380E+00	1.0607E+00
GAME	8.9210E-01	8.8024E-01	8.8137E-01
U	7.3704E+00	1.2922E+00	1.2332E+00

SPECIES	MOLE FRACTIONS		
E-	3.3794E-16	8.4906E-12	5.9996E-11
O	8.7681E-06	9.1770E-04	2.2328E-03
O+	2.6974E-22	7.4997E-15	1.7852E-13
O++	1.0922E-83	4.2915E-56	1.8886E-51
O-	1.0000E-17	7.5848E-12	9.0362E-11
O2	3.3746E-03	3.6909E-01	6.3380E-02
O2+	1.3186E-15	1.7544E-10	1.5240E-09
O2-	9.4892E-16	1.6002E-10	1.3847E-09
C	4.9574E-19	2.4154E-12	4.0885E-11
C+	7.5714E-30	8.3146E-20	8.1194E-18
C++	1.1657E+08	3.7328E-46	2.1472E-42
C-	2.8678E-31	5.5109E-21	6.6929E-19
CO	5.8807E-03	7.2749E-02	1.1216E-01
CO+	1.1835E-19	6.4359E-13	1.0814E-11
CO2	9.9074E-01	8.9074E-01	8.3022E-01
C2	7.7337E-28	1.6490E-17	1.0058E-15

P1 = 5.00E+05 N/SQ-M, US1 = 2.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2804E+02	1.3474E+03	1.7836E+03
T	1.0026E+01	1.4589E+01	1.5875E+01
RHO	1.2337E+01	8.0750E+01	9.4570E+01
H	5.5396E-01	1.8265E-01	5.9018E-02
A	3.0156E+00	3.8594E+00	4.1144E+00
S	1.4315E+00	1.5193E+00	1.5571E+00
Z	1.0354E+00	1.1440E+00	1.1881E+00
GAME	8.7555E-01	8.9061E-01	8.9759E-01
U	9.5206E+00	1.4570E+00	1.4277E+00

SPECIES	MOLE FRACTIONS		
E-	4.0044E-12	2.5582E-09	9.5078E-09
O	8.4661E-04	1.1948E-02	2.0269E-02
O+	7.6587E-16	5.6188E-11	4.4034E-10
O++	2.2188E-63	2.7001E-43	5.6082E-40
O-	1.2882E-12	8.0815E-09	3.9795E-08
O2	3.3805E-02	1.1431E-01	1.3839E-01
O2+	2.8167E-11	7.0982E-08	2.8117E-07
O2-	2.2931E-11	6.2065E-08	2.4284E-07
C	3.1845E-13	7.1608E-09	4.5817E-08
C+	3.6677E-21	2.5353E-14	4.4743E-13
C++	3.5893E-52	1.9194E-35	1.2334E-32
C-	2.0337E-22	2.6949E-15	3.9795E-08
CO	6.7266E-02	2.3980E-01	2.9631E-01
CO+	5.5239E-14	1.6660E-09	1.0450E-08
CO2	8.9774E-01	6.3394E-01	5.4504E-01
C2	4.9540E-19	1.4027E-12	1.9689E-11

P1 = 5.00E+05 N/SQ-M, US1 = 2.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3450E+01	8.7472E+02	1.1791E+03
T	8.1234E+00	1.2187E+01	1.3289E+01
RHO	1.1110E+01	6.7293E+01	8.0936E+01
H	6.7234E-01	4.0625E-01	3.1153E-01
A	2.7253E+00	3.3877E+00	3.5904E+00
S	1.3823E+00	1.4325E+00	1.4665E+00
Z	1.0088E+00	1.0605E+00	1.0964E+00
GAME	8.8456E-01	8.8142E-01	8.8486E-01
U	8.0829E+00	1.3391E+00	1.2882E+00

SPECIES	MOLE FRACTIONS		
E-	1.8568E-14	8.6378E-11	4.2997E-10
O	6.2933E-05	2.6691E-03	5.4402E-03
O+	1.3825E-19	3.0359E-13	3.7893E-12
O++	1.1711E-73	4.8958E-52	1.9827E-46
O-	1.5168E-15	1.3657E-10	9.9623E-10
O2	9.1094E-03	8.0064E-02	8.2859E-02
O2+	9.1767E-14	2.0790E-09	1.2087E-08
O2-	7.1712E-14	1.8748E-09	1.0820E-08
C	2.4897E-16	6.5083E-11	6.3568E-10
C+	1.3825E+00	1.4325E+00	1.4665E+00
C++	1.9538E-60	1.3186E-42	2.6099E-38
C-	1.2778E-27	1.6579E-18	5.2789E-17
CO	1.7400E-02	1.2197E-01	1.7039E-01
CO+	3.0697E-17	1.6637E-11	1.6091E-10
CO2	9.7342E-01	8.1530E-01	7.4136E-01
C2	1.9765E-24	1.9904E-15	4.7127E-14

P1 = 5.00E+05 N/SQ-M, US1 = 3.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4743E+02	1.6321E+03	2.1524E+03
T	1.0798E+01	1.4583E+01	1.7284E+01
RHO	1.2925E+01	8.6529E+01	1.0023E+02
H	4.8655E-01	5.7525E-02	-8.2656E-02
A	3.1597E+00	4.1145E+00	4.4114E+00
S	1.4666E+00	1.5624E+00	1.6024E+00
Z	1.0583E+00	1.1911E+00	1.2424E+00
GAME	8.7522E-01	8.9751E-01	9.0621E-01
U	1.0242E+01	1.5324E+00	1.5196E+00

SPECIES	MOLE FRACTIONS		
E-	2.5285E-11	9.9204E-09	3.4858E-08
O	2.0322E-03	2.0965E-02	3.3896E-02
O+	1.3311E-14	4.3971E-10	1.7284E-01
O++	1.7578E-58	7.4948E-40	1.4805E-36
O-	1.2484E-11	3.9812E-08	1.7684E-07
O2	5.1643E-02	1.3984E-01	1.6157E-01
O2+	1.9819E-10	2.7606E-07	9.6793E-07
O2-	1.6112E-10	2.3694E-07	8.3652E-07
C	4.1519E-12	4.5915E-08	2.6712E-07
C+	1.3825E+00	1.4325E+00	1.4665E+00
C++	8.4714E-48	1.3311E-32	7.2502E-30
C-	1.1773E-20	5.0381E-14	8.3373E-13
CO	1.6449E-01	2.9990E-01	3.5634E-01
CO+	6.8698E-13	1.0168E-08	5.7212E-08
CO2	8.4184E-01	5.3929E-01	4.4818E-01
C2	1.7498E-17	1.8813E-11	2.3132E-10

P1 = 5.00E+05 N/SQ-M, US1 = 2.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1004E+02	1.0943E+02	1.4591E+03
T	5.2051E+00	1.3381E+01	1.4554E+01
RHO	1.1725E+01	7.4200E+01	8.8012E+01
H	6.1514E-01	2.9866E-01	1.9116E-01
A	2.8720E+00	3.6130E+00	3.8421E+00
S	1.3970E+00	1.4736E+00	1.5118E+00
Z	1.0155E+00	1.1321E+00	1.1391E+00
GAME	8.7889E-01	8.8511E-01	8.9040E-01
U	8.8029E+00	1.5030E+00	1.3523E+00

SPECIES	MOLE FRACTIONS		
E-	4.0589E-13	5.4237E-10	2.2553E-09
O	2.7673E-04	6.1074E-03	1.1141E-02
O+	2.3146E-17	5.1887E-12	4.9554E-11
O++	1.0575E-68	2.7078E-47	8.5240E-44
O-	7.6287E-14	1.2580E-09	7.3006E-09
O2	1.9307E-02	8.6949E-02	1.1137E-01
O2+	2.4964E-12	1.4736E-09	6.8685E-08
O2-	1.9666E-12	6.7707E-08	5.8491E-08
C	1.3412E-14	8.3692E-10	6.3759E-09
C+	3.3258E-23	9.4443E-16	2.1490E-14
C++	3.3791E-56	5.9872E-29	1.0310E-35
C-	1.5588E-24	4.1550E-17	2.2884E-15
CO	3.8027E-02	1.7925E-01	2.3311E-01
CO+	2.4552E-15	2.0349E-10	1.5322E-09
CO2	9.4239E-01	7.7788E-01	6.4498E-01
C2	4.5590E-21	6.9943E-14	1.2488E-12

P1 = 5.00E+05 N/SQ-M, US1 = 3.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6817E+02	1.9457E+03	2.5621E+03
T	1.1536E+01	1.7146E+01	1.8804E+01
RHO	1.3479E+01	9.1327E+01	1.0473E+02
H	4.1598E-01	-7.6245E-02	-2.3589E-01
A	3.3088E+00	4.3925E+00	4.7339E+00
S	1.5007E+00	1.6053E+00	1.6674E+00
Z	1.0815E+00	1.2425E+00	1.3010E+00
GAME	8.7840E-01	9.0581E-01	9.1604E-01
U	1.0962E+01	1.6205E+00	1.6191E+00

SPECIES	MOLE FRACTIONS		
E-	1.1475E-10	3.3542E-08	1.1501E-07
O	4.1250E-03	3.3977E-02	5.2998E-02
O+	1.3513E-17	2.7182E-09	1.7708E-08
O++	1.1940E-54	8.1843E-37	1.8246E-33
O-	7.8578E-11	1.6157E-07	6.7173E-07
O2	7.1663E-02	1.6157E-01	1.7870E-01
O2+	9.7844E-11	1.6157E-07	2.9806E-06
O2-	7.8297E-10	7.5311E-07	4.7477E-06
C	3.3559E-11	2.3978E-07	1.3233E-06
C+	4.2477E-18	5.6253E-12	8.0903E-11
C++	1.2002E-65	6.4349E-30	2.4116E-27
C-	2.9828E-19	6.8024E-13	1.0428E-11
CO	1.4664E-01	3.3642E-01	4.0973E-01
CO+	1.1208E-12	5.0075E-07	2.6304E-07
CO2	7.7757E-01	4.4803E-01	5.5856E-01
C2	3.0810E-16	1.9879E-10	2.1606E-09

Table I. - Continued.

$$P_1 = 500 \text{ KN/m}^2$$

$P_1 = 5.00E+03 \text{ N/SQ-M}, \quad US1 = 3.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9026E+02	2.2838E+03	3.0104E+03
T	1.2255E+01	1.8540E+01	2.0468E+01
RMD	1.3976E+01	9.4939E+01	1.0790E+02
H	3.4044E-01	-2.1847E-01	-4.0052E-01
A	3.4586E+00	4.6908E+00	5.0853E+00
S	1.3335E+00	1.6476E+00	1.6920E+00
Z	1.1108E+00	1.2975E+00	1.3631E+00
GAME	8.7822E-01	9.1471E-01	9.2687E-01
U	1.1680E+01	1.7222E+00	1.7339E+00

$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad US1 = 4.00E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6440E+02	3.3985E+03	4.5537E+03
T	1.4410E+01	2.3397E+01	2.4582E+01
RMD	1.5052E+01	9.8446E+01	1.0968E+02
H	8.6470E-02	-6.9430E-01	-9.6731E-01
A	3.9558E+00	5.7136E+00	6.3131E+00
S	1.6411E+00	1.7704E+00	1.8217E+00
Z	1.2190E+00	1.4754E+00	1.5619E+00
GAME	8.086E-01	9.4556E-01	9.5994E-01
U	1.3817E+01	2.1158E+00	2.1971E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.2294E-10	1.0278E-07	3.5197E-07
O	7.4482E-03	5.1775E-02	7.8497E-02
O+	1.0208E-12	1.4088E-08	8.7707E-08
O++	3.4825E-51	6.5824E-34	1.1782E-30
O-	3.8417E-10	5.0579E-02	2.2531E-06
O2	9.2688E-02	1.7785E-01	1.8821E-01
O2+	3.7603E-09	2.5342E-06	7.9346E-06
O2-	2.9856E-09	2.0905E-06	6.4795E-06
C	2.0574E-10	1.0711E-06	5.8328E-06
C+	7.0591E-17	5.7571E-11	7.9728E-10
C++	7.7917E-42	1.0433E-27	4.9959E-25
C-	5.3599E-18	7.2894E-12	1.0718E-10
CO	1.9203E-01	4.0680E-01	4.5428E-01
CO+	3.1407E-11	2.0971E-07	1.0559E-06
CO2	7.0783E-01	3.6358E-01	2.7899E-01
C2	3.8844E-13	1.5362E-09	1.6974E-08

SPECIES ----- MOLE FRACTIONS -----

E-	9.3812E-09	1.9541E-06	7.2795E-06
O	2.8441E-02	1.3795E-01	1.9300E-01
O+	1.1495E-10	8.5557E-07	4.9859E-06
O++	2.1483E-43	9.3481E-27	1.6481E-23
O-	1.4989E-08	1.2434E-05	4.6646E-05
O2	1.5156E-01	1.8452E-01	1.6686E-01
O2+	8.5304E-08	2.9034E-05	7.0578E-05
O2-	6.3005E-08	2.2910E-05	6.2892E-05
C	2.4456E-08	5.8031E-05	2.8339E-04
C+	4.7630E-14	2.1736E-08	3.0519E-07
C++	2.0845E-35	5.1822E-22	4.6157E-19
C-	4.2124E-15	3.0496E-09	4.7212E-08
CO	3.3084E-01	5.0640E-01	5.2586E-01
CO+	1.6488E-09	7.3892E-06	3.5096E-05
CO2	4.8916E-01	1.7100E-01	1.1376E-01
C2	1.3865E-12	3.2006E-07	3.7542E-06

$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad US1 = 3.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1367E+02	2.6421E+03	3.4961E+03
T	1.2948E+01	2.0037E+01	2.2324E+01
RMD	1.4409E+01	9.7307E+01	1.0971E+02
H	2.4034E-01	-3.4890E-01	-5.7772E-01
A	3.6166E+00	4.0106E+00	4.4846E+00
S	1.5706E+00	1.6894E+00	1.7361E+00
Z	1.1437E+00	1.3552E+00	1.4282E+00
GAME	8.8201E-01	9.2464E-01	9.3840E-01
U	1.2396E+01	1.8184E+00	1.8740E+00

$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad US1 = 4.20E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9166E+02	3.7864E+03	5.1156E+03
T	1.5160E+01	2.9281E+01	2.9023E+01
RMD	1.5260E+01	9.7479E+01	1.0829E+02
H	-7.883E-03	-8.8878E-01	-1.1801E+00
A	4.1350E+00	6.0925E+00	6.7571E+00
S	1.6769E+00	1.8093E+00	1.8629E+00
Z	1.2608E+00	1.3535E+00	1.4277E+00
GAME	8.9629E-01	9.5559E-01	9.6049E-01
U	1.4522E+01	2.2767E+00	2.3810E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.3130E-09	2.9139E-07	1.0186E-06
O	1.2347E-02	7.4979E-02	1.1097E-01
O+	5.7073E-12	6.2851E-08	3.8211E-07
O++	3.5289E-48	2.6304E-31	4.3319E-28
O-	1.4878E-09	1.7931E-06	8.8204E-06
O2	1.1367E-01	1.7941E-01	1.8914E-01
O2+	1.2016E-08	6.3458E-06	1.8915E-05
O2-	9.3642E-09	5.1325E-06	1.5255E-05
C	9.7244E-10	4.2975E-06	2.3303E-05
C+	7.2426E-16	4.8590E-10	6.7308E-09
C++	2.2446E-40	1.4696E-25	6.9332E-23
C-	5.7124E-17	6.3860E-11	9.4159E-10
CO	2.3851E-01	4.4916E-01	4.8863E-01
CO+	1.4305E-10	7.6789E-07	3.7908E-06
CO2	6.3507E-01	2.8843E-01	2.1118E-01
C2	3.2538E-14	1.0474E-08	1.1618E-07

SPECIES ----- MOLE FRACTIONS -----

E-	2.2416E-08	4.6902E-06	1.8068E-05
O	4.0488E-02	1.7622E-01	2.3812E-01
O+	4.2677E-10	2.6682E-06	1.4261E-05
O++	2.6225E-41	9.4686E-25	1.5247E-21
O-	4.0681E-08	2.9020E-05	1.0565E-04
O2	1.6672E-01	1.7316E-01	1.4744E-01
O2+	1.9816E-07	5.3570E-05	1.3018E-04
O2-	1.4157E-07	4.2382E-05	1.1166E-04
C	4.7473E-08	1.5436E-04	8.6553E-04
C+	2.9529E-13	1.1843E-07	1.6259E-06
C++	1.2008E-33	4.5883E-20	2.1341E-17
C-	2.6717E-14	1.7282E-08	2.7253E-07
CO	3.7323E-01	5.2174E-01	5.3116E-01
CO+	4.0783E-09	1.9772E-05	9.0583E-05
CO2	4.1956E-01	1.2883E-01	8.1925E-02
C2	7.1044E-12	1.4997E-06	1.7800E-05

$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad US1 = 3.80E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3835E+02	3.0154E+03	4.0118E+03
T	1.3681E+01	2.1652E+01	2.4344E+01
RMD	1.4768E+01	9.8441E+01	1.1024E+02
H	1.7568E-01	-5.2766E-01	-7.6648E-01
A	3.7820E+00	5.3520E+00	5.8792E+00
S	1.6008E+00	1.7303E+00	1.7794E+00
Z	1.1798E+00	1.4147E+00	1.4449E+00
GAME	8.8605E-01	9.3510E-01	9.4984E-01
U	1.3105E+01	1.9695E+00	2.0272E+00

$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad US1 = 4.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8221E+02	4.1741E+03	5.6598E+03
T	1.5941E+01	2.7303E+01	3.1631E+01
RMD	1.5392E+01	9.9737E+01	1.0643E+02
H	-1.0559E-01	-1.0509E+00	-1.4040E+00
A	4.3261E+00	6.4923E+00	7.1882E+00
S	1.7118E+00	1.8472E+00	1.9026E+00
Z	1.3051E+00	1.5989E+00	1.6501E+00
GAME	9.0231E-01	9.6377E-01	9.6649E-01
U	1.5222E+01	2.4310E+00	2.5723E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.6699E-09	7.7534E-07	2.7893E-06
O	1.9207E-02	1.0383E-01	1.4967E-01
O+	2.7643E-11	2.4614E-07	1.4582E-06
O-	8.7246E-06	4.0038E-02	1.0033E-25
O2	5.0212E-09	4.8916E-06	1.8671E-05
O2+	1.3359E-01	1.8940E-01	1.8157E-01
O2-	3.3800E-08	1.4274E-05	4.0230E-05
C	2.5701E-08	1.1364E-05	3.2455E-05
C+	4.0059E-09	1.5443E-05	8.8792E-05
C-	6.5815E-15	3.4867E-09	4.0711E-08
C++	2.2148E-37	1.3540E-23	6.4836E-21
C-	5.6141E-16	4.7342E-10	7.1195E-09
CO	2.8565E-01	4.8243E-01	5.1220E-01
CO+	5.6450E-10	2.5073E-06	1.2166E-05
CO2	5.6159E-01	2.2409E-01	1.5636E-01
C2	2.3470E-13	6.1726E-08	6.9977E-07

SPECIES ----- MOLE FRACTIONS -----

E-	5.1025E-08	1.0761E-05	4.2272E-05
O	5.5787E-02	2.1686E-01	2.8152E-01
O+	1.4676E-05	7.3080E-06	3.5977E-05
O++	4.5763E-39	7.1226E-23	8.7319E-20
O-	1.0288E-07	6.2616E-05	2.2284E-04
O2	1.1811E-01	1.4699E-01	1.2647E-01
O2+	4.2975E-07	8.9881E-05	1.9820E-04
O2-	2.9517E-07	7.2481E-05	1.8240E-04
C	1.9511E-07	4.3631E-04	2.3867E-03
C+	2.8862E-12	5.8548E-07	7.2547E-06
C-	7.7347E-37	1.6749E-18	6.6595E-16
C++	1.9513E-33	8.6709E-08	1.3519E-06
C-	4.1173E-01	5.2967E-01	5.2967E-01
CO	1.7624E-08	4.8191E-05	2.0741E-04
CO+	3.5417E-01	9.3791E-02	5.8989E-02
CO2	3.3779E-11	6.3013E-06	7.3477E-05

Table I. - Continued.

$$P_1 = 500 \text{ KN/m}^2$$

P1 = 5.00E+05 N/SQ-M, US1 = 4.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4999E+02	4.5579E+03	6.2675E+03
T	1.6759E+01	2.9459E+01	3.4313E+01
RHD	1.5452E+01	9.3467E+01	1.0453E+02
H	-2.0842E+01	-1.2406E+00	-1.6379E+00
A	4.5735E+00	1.8839E+00	7.5806E+00
S	1.7470E+00	1.6533E+00	1.7474E+00
Z	1.3515E+00	9.6839E-01	9.5840E-01
GAME	9.0852E-01	2.6355E+00	2.7616E+00
U	1.5919E+01		

SPECIES	MOLE FRACTIONS		
E-	1.1127E-07	2.3624E-05	9.1139E-05
O	7.4729E-02	2.5759E-01	3.1999E-01
O+	4.6726E-09	1.7987E-05	7.8042E-05
O++	4.0896E-37	3.3881E-21	2.7653E-18
D-	2.4246E-07	1.2557E-04	4.2196E-04
D2	1.1699E-01	1.3817E-01	1.0711E-01
D2+	8.7744E-07	1.3759E-04	2.7322E-04
O2-	5.7621E-07	1.1542E-04	2.7493E-04
C	4.1747E-07	1.1327E-03	5.7872E-03
C+	8.6639E-12	2.3606E-06	2.6279E-05
C++	3.2385E-30	4.4404E-17	1.2761E-14
C-	8.0128E-13	3.8927E-07	5.5394E-06
CO	4.4545E-01	5.3159E-01	5.2223E-01
CO+	4.7707E-08	1.0707E-04	4.1608E-04
CO2	2.9413E-01	7.0977E-02	4.3052E-02
C2	1.4249E-10	2.3889E-05	2.5349E-04

P1 = 5.00E+05 N/SQ-M, US1 = 5.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4655E+02	5.6700E+03	7.9250E+03
T	1.9505E+01	3.6312E+01	4.1609E+01
RHD	1.5245E+01	8.6317E+01	1.0053E+02
H	-5.4404E+01	-1.8553E+00	-2.3808E+00
A	5.2246E+00	7.8929E+00	8.5368E+00
S	1.8502E+00	1.8090E+00	1.8946E+00
Z	1.5014E+00	9.4837E-01	9.2504E-01
GAME	9.2189E-01	3.1803E+00	3.2084E+00
U	1.7979E+01		

SPECIES	MOLE FRACTIONS		
E-	9.5398E-07	1.7625E-04	4.7468E-04
O	1.5507E-01	3.5933E-01	3.9999E-01
O+	1.0805E-07	1.3511E-04	3.6375E-04
O++	1.2170E-31	2.7634E-17	3.1583E-15
D-	2.3190E-06	6.5166E-04	1.5579E-03
D2	1.7919E-01	8.7135E-02	7.1171E-02
D2+	5.5022E-06	3.0862E-04	4.9666E-04
O2-	2.0487E-06	3.2118E-04	6.2370E-04
C	7.6821E-06	1.1522E-02	3.3358E-02
C+	8.1848E-10	6.8396E-05	3.3105E-04
C++	1.1711E-25	9.9606E-14	4.9355E-12
C-	7.2288E-11	1.5300E-05	9.6599E-05
CO	5.1286E-01	5.0890E-01	4.6677E-01
CO+	7.1073E-07	6.3126E-04	1.5615E-03
CO2	1.5238E-01	3.0184E-02	1.9956E-02
C2	7.8787E-09	6.0150E-04	2.8067E-03

P1 = 5.00E+05 N/SQ-M, US1 = 4.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8059E+02	4.9353E+03	6.8371E+03
T	1.7623E+01	3.1222E+01	3.6231E+01
RHD	1.5442E+01	9.0952E+01	1.0291E+02
H	-3.1578E-01	-1.4378E+00	-1.8792E+00
A	4.7539E+00	7.2452E+00	7.9254E+00
S	1.7819E+00	1.9194E+00	1.9777E+00
Z	1.3959E+00	1.7106E+00	1.7993E+00
GAME	9.1608E-01	9.6739E-01	9.4546E-01
U	1.8611E+01	2.6246E+00	2.9321E+00

SPECIES	MOLE FRACTIONS		
E-	2.3421E-07	4.9386E-05	1.7621E-04
O	9.7590E-02	2.9603E-01	3.9150E-01
O+	1.4010E-08	3.9460E-05	1.4582E-04
O++	2.5258E-35	1.0645E-19	4.7751E-17
D-	5.4113E-07	2.3449E-04	7.1722E-04
D2	1.8828E-01	1.1902E-01	9.1504E-02
D2+	1.6989E-06	1.9332E-04	3.4826E-04
O2-	1.0604E-06	1.7219E-04	3.8376E-04
C	1.1635E-06	2.7207E-03	1.2011E-02
C+	4.5431E-11	8.5429E-06	7.4977E-05
C++	1.0825E-28	8.4378E-16	1.2495E-13
C-	3.8195E-12	1.5424E-06	1.7967E-05
CO	4.7372E-01	5.2856E-01	5.0901E-01
CO+	1.2276E-07	2.1628E-04	7.2610E-04
CO2	2.4630E-01	5.2674E-02	3.2233E-02
C2	5.7048E-10	8.0931E-05	7.0033E-04

P1 = 5.00E+05 N/SQ-M, US1 = 5.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8118E+02	6.0279E+03	8.4411E+03
T	2.0545E+01	3.8480E+01	4.3715E+01
RHD	1.5064E+01	8.4500E+01	9.9471E+01
H	-6.4473E-01	-2.0756E+00	-2.6433E+00
A	5.4798E+00	8.1753E+00	8.8413E+00
S	1.8846E+00	2.0205E+00	2.0820E+00
Z	1.5541E+00	1.8538E+00	1.9423E+00
GAME	9.4049E-01	9.3691E-01	9.2065E-01
U	1.8655E+01	3.3318E+00	3.3347E+00

SPECIES	MOLE FRACTIONS		
E-	1.8549E-06	2.9358E-04	8.9020E-04
O	1.8890E-01	3.8375E-01	4.1956E-01
O+	2.7846E-07	2.1503E-04	5.3813E-04
O++	5.6643E-30	2.3355E-16	1.5618E-14
D-	4.4473E-06	9.2750E-04	2.0769E-03
D2	1.6782E-01	7.6881E-02	6.5613E-02
D2+	9.2252E-06	3.6576E-04	5.7575E-04
O2-	4.7849E-06	4.0650E-04	7.4764E-04
C	1.8871E-05	1.9872E-02	8.7530E-02
C+	3.3520E-04	1.4987E-04	5.6232E-04
C++	2.9747E-24	6.1549E-11	1.8294E-11
C-	2.8217E-10	3.6964E-05	1.7492E-04
CO	5.2443E-01	4.9199E-01	4.3962E-01
CO+	1.6123E-06	9.7408E-04	2.0324E-03
CO2	1.1915E-01	2.3619E-02	1.6019E-02
C2	2.7446E-08	1.2733E-03	4.4148E-03

P1 = 5.00E+05 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1317E+02	5.3058E+03	7.3918E+03
T	1.8537E+01	3.4034E+01	3.9365E+01
RHD	1.5372E+01	8.8490E+01	1.0163E+02
H	-4.2765E-01	-1.4427E+00	-2.1272E+00
A	4.9828E+00	7.3667E+00	8.2391E+00
S	1.8164E+00	1.9539E+00	2.0133E+00
Z	1.4500E+00	1.7637E+00	1.8677E+00
GAME	9.2375E-01	9.9995E-01	9.3332E-01
U	1.7297E+01	3.0093E+00	3.0825E+00

SPECIES	MOLE FRACTIONS		
E-	4.7921E-07	9.7030E-05	3.0401E-04
O	1.2444E-01	3.3024E-01	3.7801E-01
O+	3.9947E-08	7.7147E-05	2.4102E-04
O++	2.1849E-33	2.1544E-18	4.8046E-16
D-	1.1480E-06	4.0652E-04	1.1021E-03
D2	1.8618E-01	1.0155E-01	7.9974E-02
D2+	3.1317E-06	2.5194E-04	4.2204E-04
O2-	1.8463E-06	1.6179E-04	5.0193E-04
C	3.0197E-06	5.9278E-03	2.1369E-02
C+	1.8998E-10	2.6362E-05	1.7220E-04
C++	4.0513E-27	1.1440E-14	1.0252E-12
C-	1.7195E-11	5.2900E-06	4.6083E-05
CO	4.9620E-01	5.2105E-01	4.9020E-01
CO+	3.0175E-07	3.9518E-04	1.1188E-03
CO2	1.9317E-01	3.9499E-02	2.4987E-02
C2	2.1152E-09	2.3936E-04	1.5451E-03

P1 = 5.00E+05 N/SQ-M, US1 = 5.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1676E+02	6.3773E+03	8.9325E+03
T	2.1654E+01	4.0510E+01	4.5708E+01
RHD	1.4847E+01	8.2951E+01	9.0149E+01
H	-7.5030E-01	-2.3040E+00	-2.9128E+00
A	5.7487E+00	8.4484E+00	9.1470E+00
S	1.9176E+00	2.0529E+00	2.1158E+00
Z	1.4817E+00	1.8978E+00	1.9911E+00
GAME	9.4545E-01	9.2839E-01	9.1932E-01
U	1.9326E+01	3.4648E+00	3.4504E+00

SPECIES	MOLE FRACTIONS		
E-	3.5376E-06	4.5107E-04	9.5886E-04
O	2.2528E-01	4.0469E-01	4.3745E-01
O+	6.8543E-07	3.1700E-04	7.0796E-04
O++	2.2349E-28	1.3984E-15	6.2674E-19
D-	8.2979E-06	1.3434E-03	2.6469E-02
D2	1.5201E-01	6.7886E-02	6.0909E-02
D2+	1.4754E-05	4.2205E-04	6.8045E-04
O2-	7.1571E-06	4.9654E-04	8.7063E-04
C	4.5777E-05	3.0762E-02	6.2650E-02
C+	1.3212E-08	2.8267E-04	8.7092E-04
C++	6.7625E-23	2.7817E-12	5.5883E-11
C-	1.0978E-09	7.5755E-05	2.8312E-04
CO	5.3032E-01	4.9706E-01	4.1015E-01
CO+	3.9369E-06	1.3625E-03	2.5121E-03
CO2	1.5902E-01	1.8887E-02	1.3038E-02
C2	9.2841E-08	2.2854E-03	6.2128E-03

Table I. - Continued.

$$P_1 = 500 \text{ kN/m}^2$$

P1 = 5.00E+05 N/SQ-M, US1 = 5.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5355E+02	6.7151E+03	9.3978E+03
T	2.2849E+01	4.2410E+01	4.7634E+01
RHD	1.4588E+01	8.1520E+01	9.6640E+01
H	-9.2015E-01	-2.5398E+00	-3.1897E+00
A	6.0318E+00	8.7212E+00	9.4594E+00
S	1.9903E+00	2.0851E+00	2.1494E+00
Z	1.6407E+00	1.9423E+00	2.0415E+00
GAME	5.5879E-01	8.2335E-01	9.2015E-01
U	1.9990E+01	3.5832E+00	3.5805E+00

SPECIES	MOLE FRACTIONS		
E-	8.6550E-06	8.4878E-04	1.2615E-03
O	2.6254E-01	4.2329E-01	4.5418E-01
O+	1.6151E-06	4.4431E-06	9.4016E-06
D++	7.6064E-27	6.4347E-15	2.1691E-13
D-	1.4815E-03	1.7685E-03	3.2645E-03
O2	1.3513E-01	6.1772E-02	5.7048E-02
O2+	2.2515E-05	4.8048E-04	7.5163E-04
O2-	1.0238E-05	5.8322E-04	9.9090E-04
C	1.0859E-04	4.7564E-04	8.7770E-02
C+	5.0630E-08	4.7564E-04	1.2631E-03
C++	1.3657E-21	9.4576E-12	1.4480E-10
C-	4.0653E-09	1.3571E-04	4.2227E-04
CO	5.3252E-01	4.4609E-01	3.7945E-01
CO+	7.5810E-06	1.7258E-03	2.9843E-03
CO2	6.9235E-02	1.5346E-02	1.0634E-02
C2	3.0803E-07	3.6023E-03	8.0474E-03

P1 = 5.00E+05 N/SQ-M, US1 = 6.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7039E+02	7.6332E+03	1.0641E+04
T	2.7103E+01	4.7622E+01	5.3330E+01
RHD	1.3652E+01	7.6909E+01	9.0571E+01
H	-1.3364E+00	-3.2897E+00	-4.0688E+00
A	6.5433E+00	9.5698E+00	1.0451E+01
S	2.0432E+00	2.1805E+00	2.2495E+00
Z	1.8118E+00	2.0841E+00	2.2030E+00
GAME	9.8177E-01	9.2274E-01	9.2962E-01
U	2.1947E+01	3.9023E+00	3.8914E+00

SPECIES	MOLE FRACTIONS		
E-	4.3606E-05	1.5012E-03	2.5841E-03
O	3.7031E-01	4.7141E-01	4.9880E-01
O+	1.6325E-05	1.0061E-03	1.9877E-03
O+	1.7140E-22	2.3824E-13	5.2976E-12
O-	7.2032E-05	3.2783E-03	5.3902E-03
O2	7.7786E-02	4.9975E-02	4.7632E-02
O2+	5.9300E-05	6.7910E-04	1.0642E-03
O2-	2.4031E-05	8.3974E-04	1.3160E-03
C	1.3828E-03	8.8075E-02	1.2863E-01
C+	2.4188E-06	1.4669E-03	3.0114E-03
C++	8.5123E-18	1.7781E-10	1.7092E-09
C-	1.8573E-01	4.5992E-04	1.0234E-03
CO	5.2278E-01	3.8095E-01	2.8620E-01
CO+	4.1811E-05	2.9270E-03	4.2504E-03
CO2	2.7449E-02	8.5392E-03	5.6098E-03
C2	1.0983E-05	8.2960E-03	1.2506E-02

P1 = 5.00E+05 N/SQ-M, US1 = 1.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5143E+02	7.0374E+03	9.6360E+03
T	2.4144E+01	4.4207E+01	4.9527E+01
RHD	1.4297E+01	8.0073E+01	9.4855E+01
H	-1.0545E+00	-2.7828E+00	-3.4745E+00
A	6.3282E+00	8.9978E+00	9.7804E+00
S	1.9821E+00	2.1170E+00	2.1828E+00
Z	1.7134E+00	1.7881E+00	2.0937E+00
GAME	9.8805E-01	9.2120E-01	9.2247E-01
U	2.0644E+01	3.6924E+00	3.6694E+00

SPECIES	MOLE FRACTIONS		
E-	1.2441E-05	8.8752E-04	1.6249E-03
O	3.0003E-01	4.4015E-01	4.6995E-01
O+	3.6519E-06	5.9813E-04	1.2235E-03
O++	2.5029E-25	2.4340E-14	6.7560E-13
O-	2.5678E-05	2.2352E-03	3.9282E-03
O2	1.1500E-01	5.7051E-02	5.3678E-02
O2+	3.2738E-05	5.4237E-04	8.4947E-04
O2-	1.4067E-05	6.7105E-04	1.1063E-03
C	2.2514E-04	5.7879E-02	9.5286E-02
C+	1.8857E-07	7.3415E-04	1.1497E-03
C++	2.8104E-20	2.9165E-11	3.5917E-10
C-	1.4667E-08	2.1919E-04	5.9256E-04
CO	5.3151E-01	4.1848E-01	3.4814E-01
CO+	1.5622E-05	2.1382E-03	3.4383E-03
CO2	5.1594E-02	1.2588E-02	8.6508E-03
C2	3.0149E-06	5.1210E-03	9.7802E-03

P1 = 5.00E+05 N/SQ-M, US1 = 6.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.1155E+02	7.9203E+03	1.1031E+04
T	2.8765E+01	4.9299E+01	5.3290E+01
RHD	1.4841E+01	7.5271E+01	8.8299E+01
H	-1.4841E+00	-3.5539E+00	-4.3797E+00
A	7.2155E+00	9.0676E+00	1.0800E+01
S	2.0724E+00	2.2120E+00	2.2827E+00
Z	1.8550E+00	2.1344E+00	2.2595E+00
GAME	9.8115E-01	9.2535E-01	9.3360E-01
U	2.2590E+01	4.0087E+00	4.0091E+00

SPECIES	MOLE FRACTIONS		
E-	8.1394E-05	1.8879E-03	3.1980E-03
O	3.4922E-01	4.8564E-01	5.1171E-01
O+	3.1710E-05	1.2738E-03	2.4968E-03
O+	3.5924E-21	6.5761E-13	1.3813E-11
O-	1.8746E-04	3.8543E-03	6.1895E-03
O2	4.1528E-02	4.7109E-02	4.4789E-02
O2+	7.3491E-05	7.5514E-04	1.1812E-03
O2-	3.0170E-05	9.1992E-04	1.4082E-03
C	3.1333E-03	1.0657E-01	1.4503E-01
C+	8.0390E-06	1.9521E-03	3.8080E-03
C++	3.2408E-16	3.8949E-10	3.4757E-09
C-	6.2644E-07	6.1768E-04	1.2809E-03
CO	4.1572E-01	3.3138E-01	2.5650E-01
CO+	1.1571E-04	3.2988E-03	4.5908E-03
CO2	1.9802E-02	7.0154E-03	4.4574E-03
C2	3.5034E-05	9.7468E-03	1.3358E-02

P1 = 5.00E+05 N/SQ-M, US1 = 6.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3037E+02	7.3424E+03	1.0248E+04
T	2.5538E+01	4.5925E+01	5.1418E+01
RHD	1.3981E+01	7.8567E+01	9.2808E+01
H	-1.1932E+00	-3.0328E+00	-3.7674E+00
A	6.8390E+00	9.2785E+00	1.0111E+01
S	2.0131E+00	2.1488E+00	2.2162E+00
Z	1.7642E+00	2.0350E+00	2.1474E+00
GAME	9.7436E-01	9.2119E-01	9.2577E-01
U	2.1301E+01	3.7984E+00	3.7788E+00

SPECIES	MOLE FRACTIONS		
E-	2.3233E-05	1.1680E-03	2.0664E-03
O	3.3654E-01	4.5621E-01	4.8484E-01
O+	7.9078E-06	7.8218E-04	1.5685E-03
O++	6.9442E-24	7.9889E-14	1.9476E-12
O-	4.3441E-05	2.7258E-03	4.6369E-03
O2	9.6347E-02	5.3255E-02	5.0578E-02
O2+	4.2258E-05	6.0889E-04	9.5374E-04
O2-	1.8642E-05	7.9645E-04	1.2154E-03
C	5.9662E-04	7.2914E-02	1.1198E-01
C+	6.8642E-07	1.0601E-03	2.3261E-03
C++	5.0286E-19	7.5184E-11	8.0565E-10
C-	5.2453E-08	3.2636E-04	7.9337E-04
CO	5.2807E-01	3.9055E-01	3.1689E-01
CO+	3.1556E-05	2.7358E-03	3.8638E-03
CO2	3.7873E-02	1.0382E-02	6.9948E-03
C2	3.3463E-06	6.7130E-03	1.1295E-02

P1 = 5.00E+05 N/SQ-M, US1 = 6.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5421E+02	8.2289E+03	1.1499E+04
T	3.0482E+01	5.1011E+01	5.7352E+01
RHD	1.3064E+01	1.3795E+01	8.6230E+01
H	-1.6363E+00	-3.8263E+00	-4.7047E+00
A	7.4922E+00	1.0175E+01	1.1816E+01
S	2.1067E+00	2.2433E+00	2.3199E+00
Z	1.8933E+00	2.1859E+00	2.3171E+00
GAME	9.7254E-01	9.2868E-01	9.3732E-01
U	2.3236E+01	4.1200E+00	4.1486E+00

SPECIES	MOLE FRACTIONS		
E-	1.4749E-04	2.3391E-03	3.9330E-03
O	4.2311E-01	4.9895E-01	5.2351E-01
O+	5.8839E-05	1.5575E-03	3.1226E-03
O++	5.3913E-20	1.7209E-12	3.5334E-11
O-	1.8260E-04	4.4731E-03	7.0491E-03
O2	4.8599E-02	4.4525E-02	4.2029E-02
O2+	8.6438E-05	9.3828E-04	1.3081E-03
O2-	3.7026E-05	9.9907E-04	1.4951E-03
C	6.8622E-03	1.2048E-01	1.6113E-01
C+	2.3914E-06	2.5255E-03	4.7302E-03
C++	1.4040E-15	8.1138E-10	6.8915E-09
C-	2.0425E-06	8.0099E-04	1.5669E-03
CO	5.0634E-01	3.0207E-01	2.2791E-01
CO+	2.0197E-04	3.6509E-03	4.8832E-03
CO2	1.4450E-02	5.7404E-03	3.5016E-03
C2	1.0259E-04	1.1007E-02	1.3830E-02

Table I. - Continued.

$$P_1 = 500 \text{ kN/m}^2$$

P1 = 5.00E+05 N/SQ-M, US1 = 7.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5792E+02	8.5759E+02	1.1950E+04
T	3.2152E+01	5.2760E+01	5.9515E+01
RHO	1.2867E+01	7.2825E+01	8.4570E+01
H	-1.7931E+00	-4.1077E+00	-5.0405E+00
A	2.7115E+00	1.0493E+01	1.1527E+01
S	2.1281E+00	2.2740E+00	2.3485E+00
Z	1.6288E+00	2.2381E+00	2.3743E+00
GAME	9.5894E-01	9.3237E-01	9.4030E-01
U	2.2889E+01	4.2389E+00	4.2864E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.5659E-04	2.8645E-03	4.7969E-03
C	4.4200E-01	5.1124E-01	5.3387E-01
O*	9.2697E-05	1.9889E-03	3.8798E-03
O**	5.6120E-19	4.4060E-12	8.8187E-11
D-	2.7108E-04	5.1412E-03	7.9403E-03
O2	3.9265E-02	4.2182E-02	3.9403E-02
O2*	9.7822E-05	9.3045E-04	1.4446E-03
O2-	4.4477E-05	1.0791E-03	1.5773E-03
C	1.2157E-02	1.3617E-01	1.7646E-01
C+	6.0452E-05	3.1947E-03	5.7848E-03
C**	1.1222E-14	1.6295E-09	1.3296E-08
C-	5.8148E-04	1.0103E-03	1.4873E-03
CC	4.9372E-01	2.7552E-01	2.0121E-01
ED*	3.2117E-04	3.9809E-03	5.1191E-03
CO2	1.0861E-02	4.6794E-03	2.7306E-03
C2	2.5845E-04	1.2025E-02	1.3913E-02

P1 = 5.00E+05 N/SQ-M, US1 = 7.20E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4347E+02	8.9824E+02	1.2530E+04
T	3.3450E+01	5.4403E+01	6.1811E+01
RHO	1.2752E+01	7.1809E+01	8.3394E+01
H	-1.9547E+00	-4.3993E+00	-5.3905E+00
A	1.5105E+00	1.0821E+01	1.1898E+01
S	2.1545E+00	2.3043E+00	2.3805E+00
Z	1.9629E+00	2.2908E+00	2.4308E+00
GAME	9.4605E-01	9.3610E-01	9.4232E-01
U	2.4553E+01	4.3688E+00	4.4317E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.9396E-04	3.4776E-03	5.8132E-03
C	4.5711E-01	5.2242E-01	5.4278E-01
O*	2.9122E-18	2.4456E-03	4.7573E-03
O**	3.7931E-04	1.1018E-11	2.1669E-10
D-	3.2921E-04	5.8655E-03	8.9285E-03
O2	3.2921E-04	4.0009E-02	3.0849E-02
O2*	1.0768E-04	1.0333E-03	1.5295E-03
O2-	5.2612E-05	1.1609E-03	1.6580E-03
C	2.1588E-02	1.5149E-01	1.9093E-01
C+	1.2730E-04	7.9460E-04	9.9103E-04
C**	6.1893E-14	3.1896E-09	2.9104E-08
C-	1.2538E-05	1.2450E-03	2.1983E-03
CC	4.7747E-01	2.4602E-01	1.7650E-01
CO*	4.6488E-04	4.2849E-03	5.2936E-03
CO2	8.4830E-03	3.7853E-03	2.1122E-03
C2	5.4402E-04	1.2763E-02	1.3632E-02

P1 = 5.00E+05 N/SQ-M, US1 = 7.40E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9063E+02	9.4424E+02	1.3192E+04
T	3.5095E+01	5.8538E+01	6.4234E+01
RHO	1.2702E+01	7.1263E+01	8.2617E+01
H	-2.1210E+00	-4.7009E+00	-5.7542E+00
A	8.1043E+00	1.1157E+01	1.2771E+01
S	2.1981E+00	2.3381E+00	2.4121E+00
Z	1.9770E+00	2.3464E+00	2.4854E+00
GAME	9.3676E-01	9.3954E-01	9.4293E-01
U	2.5224E+01	4.5036E+00	4.5830E+00

SPECIES ----- MOLE FRACTIONS -----

E-	5.7307E-04	4.1923E-03	6.9978E-03
C	4.7046E-01	5.3248E-01	5.5014E-01
O*	1.9159E-04	3.0428E-03	5.8941E-03
O**	1.9492E-17	2.7041E-11	5.2111E-10
D-	5.0321E-04	6.0448E-03	9.9397E-03
O2	2.8678E-02	3.7934E-02	3.4489E-02
O2*	1.1744E-04	1.1463E-03	1.7893E-03
O2-	4.0768E-05	1.2428E-03	1.7282E-03
C	3.2693E-02	1.6625E-01	2.0439E-01
C+	2.3212E-04	4.8415E-03	8.1474E-03
C**	2.4770E-13	6.0974E-09	4.6269E-08
C-	2.5476E-05	1.5051E-03	2.5299E-03
CC	4.5801E-01	2.1994E-01	1.5099E-01
CO*	8.2098E-04	4.9542E-03	5.9404E-03
CO2	6.8594E-03	3.0431E-03	1.6229E-03
C2	9.7237E-04	1.3109E-02	1.3028E-02

P1 = 5.00E+05 N/SQ-M, US1 = 7.60E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3934E+02	9.9899E+02	1.3922E+04
T	3.6377E+01	5.8564E+01	6.4769E+01
RHO	1.2698E+01	7.0924E+01	8.2122E+01
H	-2.2919E+00	-5.0122E+00	-6.1307E+00
A	8.2952E+00	1.1695E+01	1.2640E+01
S	2.2072E+00	2.3632E+00	2.4432E+00
Z	2.0336E+00	2.3994E+00	2.5391E+00
GAME	9.3109E-01	9.4230E-01	9.4246E-01
U	2.5507E+01	4.4480E+00	4.7381E+00

SPECIES ----- MOLE FRACTIONS -----

E-	7.8430E-04	5.0130E-03	8.3637E-03
C	4.8238E-01	5.4126E-01	5.5811E-01
O*	2.9368E-04	3.7281E-03	7.1828E-03
O**	7.5457E-17	6.4465E-11	1.2166E-09
D-	6.4008E-04	7.4648E-03	1.0973E-02
O2	2.5745E-02	3.9949E-02	3.2101E-02
O2*	1.2756E-04	1.2677E-03	1.9108E-03
O2-	6.9527E-05	1.3216E-03	1.7899E-03
C	4.5410E-02	1.8013E-01	2.1658E-01
C+	3.7512E-04	5.8068E-03	9.4470E-03
C**	7.7527E-13	1.1314E-08	8.2878E-08
C-	4.4131E-05	1.7809E-03	2.8561E-03
CC	4.3617E-01	1.9577E-01	1.3377E-01
CO*	7.8188E-04	4.7777E-03	5.4416E-03
CO2	5.6926E-03	2.4346E-03	1.2394E-03
C2	1.5263E-03	1.3295E-02	1.2184E-02

P1 = 5.00E+05 N/SQ-M, US1 = 7.80E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.8953E+02	1.0482E+04	1.4705E+04
T	3.7563E+01	6.0677E+01	6.9396E+01
RHO	1.2719E+01	7.0580E+01	8.1815E+01
H	-2.4675E+00	-5.3325E+00	-6.3191E+00
A	8.4591E+00	1.1842E+01	1.3005E+01
S	2.2331E+00	2.3925E+00	2.4738E+00
Z	2.0711E+00	2.4477E+00	2.5900E+00
GAME	9.2808E-01	9.4422E-01	9.4108E-01
U	2.6595E+01	4.7994E+00	4.8946E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.0255E-03	5.9869E-03	9.0199E-03
C	4.9358E-01	5.4911E-01	5.6077E-01
O*	3.2386E-04	4.5601E-03	8.6695E-03
O**	2.4523E-16	1.5258E-10	2.7400E-09
D-	7.8872E-04	8.3391E-03	1.2002E-02
O2	2.3633E-02	3.3923E-02	2.9917E-02
O2*	1.3839E-04	1.3974E-03	2.0720E-03
O2-	7.8882E-05	1.3846E-03	1.8376E-03
C	5.5164E-02	1.9349E-01	2.2758E-01
C+	5.5753E-04	6.8878E-03	1.0776E-02
C**	2.0602E-12	2.0738E-08	1.4387E-07
C-	6.5955E-05	2.0751E-03	3.1640E-03
CC	4.1271E-01	1.7288E-01	1.1583E-01
CO*	9.4269E-04	4.9503E-03	5.4061E-03
CO2	4.6674E-03	1.9213E-03	9.4266E-04
C2	2.1813E-03	1.3083E-02	1.1120E-02

P1 = 5.00E+05 N/SQ-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0411E+03	1.1044E+04	1.5827E+04
T	3.8085E+01	6.2871E+01	7.2105E+01
RHO	1.2755E+01	7.0320E+01	8.1617E+01
H	-2.6478E+00	-5.6016E+00	-6.9185E+00
A	8.6587E+00	1.2283E+01	1.3367E+01
S	2.2568E+00	2.4212E+00	2.5040E+00
Z	2.1102E+00	2.4981E+00	2.6385E+00
GAME	9.2653E-01	9.4506E-01	9.3918E-01
U	2.7281E+01	4.9546E+00	5.0509E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.2967E-03	7.0958E-03	1.1679E-02
C	5.0429E-01	5.5568E-01	5.6425E-01
O*	4.0380E-04	5.5282E-03	1.0361E-02
O**	7.0169E-16	3.4821E-10	5.9433E-09
D-	9.4891E-04	9.2315E-03	1.3008E-02
O2	2.2041E-02	3.1946E-02	2.7744E-02
O2*	1.5014E-04	1.5306E-03	2.2284E-03
O2-	8.8218E-05	1.4587E-03	1.8688E-03
C	7.3536E-02	2.0575E-01	2.3735E-01
C+	7.4012E-04	8.0359E-03	1.2106E-02
C**	4.8530E-12	3.6603E-08	2.4202E-07
C-	3.0215E-04	2.3710E-03	3.4428E-03
CC	3.6894E-01	1.5221E-01	9.9981E-02
CO*	1.1019E-03	4.0620E-03	5.3029E-03
CO2	6.1044E-03	1.9098E-03	7.1463E-04
C2	2.8582E-03	1.2595E-02	9.9724E-03

Table 1. - Continued.

$$P_1 = 500 \text{ KN/m}^2$$

P1 = 5.00E+05 N/SQ-M, US1 = 8.20E+03 M/SEC				P1 = 5.00E+05 N/SQ-M, US1 = 8.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0940E+03	1.1621E+04	1.6374E+04	P	1.2606E+03	1.3444E+04	1.9049E+04
T	3.9770E+01	6.5134E+01	7.4898E+01	T	4.2913E+01	7.2247E+01	8.3508E+01
RHD	1.2788E+01	7.0051E+01	8.1494E+01	RHD	1.2885E+01	6.9240E+01	8.1256E+01
H	-2.8925E+00	-5.9988E+00	-7.3277E+00	H	-2.8132E+00	-7.0612E+00	-8.6151E+00
A	8.9055E+00	1.2520E+01	1.3722E+01	A	9.5521E+00	2.5324E+00	2.6205E+00
S	2.2844E+00	2.4494E+00	2.5336E+00	S	2.3611E+00	2.5324E+00	2.6205E+00
Z	2.1510E+00	2.5470E+00	2.6841E+00	Z	2.2758E+00	2.6828E+00	2.8073E+00
GAME	9.2710E-01	9.4486E-01	9.3715E-01	GAME	9.3265E-01	9.4010E-01	9.3287E-01
U	2.7949E+01	5.1134E+00	5.2054E+00	U	3.0025E+01	5.5896E+00	5.657CE+00

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	1.4031E-03	8.3617E-03	1.3626E-02	E-	2.7327E-03	1.3197E-02	2.0785E-02
O	5.1470E-01	5.6112E-01	5.6666E-01	O	5.4366E-01	5.7128E-01	5.6894E-01
O+	4.9271E-04	6.6494E-03	1.2233E-02	O+	8.6198E-04	1.1010E-02	1.9027E-02
O++	1.8424E-15	7.6462E-10	1.2310E-08	O++	2.3592E-14	6.8235E-09	8.8313E-08
D-	1.1217E-03	1.0133E-02	1.3957E-02	D-	1.1715E-03	1.2737E-02	1.9353E-02
D2	2.0771E-02	7.9991E-02	7.5686E-02	D2	1.8615E-02	2.4382E-02	1.9884E-02
D2+	1.6258E-04	1.6649E-03	2.3749E-03	D2+	2.0837E-04	2.0520E-03	2.7255E-03
D2+	9.8124E-05	1.5113E-03	1.8821E-03	D2+	1.2924E-04	1.5929E-03	1.8131E-03
C	6.9315E-02	2.1697E-01	2.4583E-01	C	1.3240E-01	2.4422E-01	2.6482E-01
C+	1.0459E-11	7.2410E-03	1.3394E-02	C+	2.1149E-02	1.2966E-02	1.6919E-02
C-	1.4252E-04	2.6420E-03	3.9271E-07	C+	7.4144E-11	2.7687E-07	1.4231E-06
CO	3.6311E-01	1.3352E-01	3.6814E-03	CO	1.1028E-04	3.4235E-03	4.1280E-03
CO+	1.2588E-03	5.1127E-03	6.5020E-02	CO+	2.8812E-01	8.8649E-02	5.4382E-02
CO2	3.5218E-03	1.1792E-03	5.1477E-04	CO+	1.7008E-03	4.9195E-03	6.4026E-03
C2	3.4488E-03	1.1881E-02	8.2044E-03	CO2	2.2429E-03	5.4818E-04	2.3264E-04
				C2	5.7792E-03	8.7844E-03	5.8821E-03

P1 = 5.00E+05 N/SQ-M, US1 = 8.40E+03 M/SEC				P1 = 5.00E+05 N/SQ-M, US1 = 9.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1482E+03	1.2223E+04	1.7257E+04	P	1.3185E+03	1.4466E+04	1.9755E+04
T	4.0820E+01	6.7471E+01	7.7685E+01	T	4.3573E+01	7.4781E+01	8.6454E+01
RHD	1.2830E+01	6.9835E+01	8.1450E+01	RHD	1.2855E+01	6.3808E+01	8.1171E+01
H	-3.0220E+00	-6.3453E+00	-7.7480E+00	H	-3.1173E+00	-7.4312E+00	-9.0615E+00
A	9.1816E+00	1.2852E+01	1.4077E+01	A	9.7801E+00	1.3820E+01	1.5141E+01
S	2.3100E+00	2.4774E+00	2.5628E+00	S	2.3866E+00	2.6594E+00	2.6483E+00
Z	2.1524E+00	2.5941E+00	2.7273E+00	Z	2.3246E+00	2.7223E+00	2.8435E+00
GAME	9.2824E-01	9.4378E-01	9.3917E-01	GAME	9.3547E-01	9.3307E-01	9.3256E-01
U	2.8664E+01	5.2732E+00	5.3582E+00	U	3.4720E+01	5.7450E+00	5.7986E+00

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	1.9345E-03	9.7470E-03	1.5788E-02	E-	3.2046E-03	1.5175E-02	2.3570E-02
O	5.2465E-01	5.6544E-01	5.6681E-01	O	5.5261E-01	5.7230E-01	5.6837E-01
O+	6.0022E-04	7.9370E-03	1.4311E-02	O+	1.0238E-03	1.2912E-02	2.1600E-02
O++	4.4908E-15	1.6508E-09	2.4614E-08	O++	5.1785E-14	1.3188E-08	1.5747E-07
D-	1.3052E-03	1.1035E-02	1.4845E-02	D-	1.6384E-03	1.3530E-02	1.6939E-02
D2	1.9739E-02	2.8071E-02	2.3669E-02	D2	1.7279E-02	3.2011E-02	1.8149E-02
D2+	1.7684E-04	1.7097E-03	2.5098E-03	D2+	2.2610E-04	2.1673E-03	2.8043E-03
D2+	1.0530E-04	1.5526E-03	1.8741E-03	D2+	1.4001E-04	1.5920E-03	1.7574E-03
C	1.0304E-01	3.2713E-01	3.5919E-01	C	1.4474E-01	4.5121E-01	2.6914E-01
C+	1.3526E-02	1.0485E-02	1.4636E-02	C+	1.5318E-01	1.4205E-02	1.7928E-02
C+	2.0946E-11	1.3678E-07	6.1970E-07	C+	4.2849E-07	2.0675E-06	4.1820E-06
C-	1.9028E-04	2.9649E-03	3.8774E-03	C-	3.6389E-04	4.7500E-03	4.4652E-03
CO	3.3803E-01	1.1675E-01	7.4129E-02	CO	1.6237E-01	7.7009E-02	4.1122E-02
CO+	1.8146E-03	7.1033E-03	4.9307E-03	CO+	1.6168E-03	4.7500E-03	6.1122E-03
CO2	3.0356E-03	9.1549E-04	4.0972E-04	CO2	1.9429E-03	4.2243E-04	1.7591E-04
C2	4.3517E-03	1.1000E-02	7.6584E-03	C2	6.1752E-03	7.9530E-03	4.7105E-03

P1 = 5.00E+05 N/SQ-M, US1 = 8.60E+03 M/SEC				P1 = 5.00E+05 N/SQ-M, US1 = 9.20E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2038E+03	1.2829E+04	1.8147E+04	P	1.2774E+03	1.4687E+04	2.0867E+04
T	4.1861E+01	6.9931E+01	8.0556E+01	T	4.5052E+01	7.7307E+01	8.9506E+01
RHD	1.2842E+01	6.9635E+01	8.1380E+01	RHD	1.2901E+01	6.8807E+01	8.0968E+01
H	-3.2159E+00	-6.6997E+00	-8.1787E+00	H	-3.8248E+00	-7.6892E+00	-9.5197E+00
A	9.3305E+00	1.3175E+01	1.4430E+01	A	1.0015E+01	1.4136E+01	1.5504E+01
S	2.3354E+00	2.5044E+00	2.5917E+00	S	2.4120E+00	2.5882E+00	2.6762E+00
Z	2.2357E+00	2.6383E+00	2.7682E+00	Z	2.3766E+00	2.7611E+00	2.8787E+00
GAME	9.3012E-01	9.4211E-01	9.3381E-01	GAME	9.3914E-01	9.3632E-01	9.3390E-01
U	2.9348E+01	5.4316E+00	5.5086E+00	U	3.1404E+01	5.8940E+00	5.9503E+00

SPECIES				SPECIES			
	MOLE FRACTIONS				MOLE FRACTIONS		
E-	2.3124E-03	1.1381E-02	1.8159E-02	E-	3.7349E-03	1.7347E-02	2.6667E-02
O	5.3453E-01	5.6977E-01	5.6889E-01	O	5.8115E-01	5.7378E-01	5.6726E-01
O+	1.0878E-04	3.3850E-03	1.6566E-02	O+	1.2175E-03	1.4762E-02	2.4380E-02
O++	1.5024E-03	1.1404E-02	1.7295E-08	O++	1.1105E-13	2.4881E-08	2.7807E-07
D-	1.8829E-02	2.6236E-02	2.1750E-02	D-	2.1788E-03	1.4282E-02	1.7413E-02
D2	1.9198E-04	1.9282E-03	2.6275E-03	D2	1.6558E-02	2.0975E-02	1.6457E-02
D2+	1.1872E-04	1.5804E-03	1.8551E-03	D2+	2.4531E-04	2.3732E-03	2.8630E-03
D2+	1.1780E-01	2.3608E-01	2.5947E-01	D2+	1.5063E-04	1.5734E-03	1.6845E-03
C	3.7061E-03	1.1723E-02	1.5808E-02	C	1.6073E-04	2.5729E-01	2.7271E-01
C+	4.0151E-11	1.7326E-07	1.5808E-02	C+	3.1042E-03	1.5332E-02	1.8845E-02
C-	2.4636E-04	3.1437E-03	9.4525E-07	C+	2.3441E-10	6.8695E-07	2.9623E-06
CO	3.1295E-01	1.0205E-01	6.3625E-02	C-	4.6374E-04	3.7724E-03	4.1951E-03
CO+	1.5584E-03	5.0392E-03	4.6823E-03	CO+	2.7899E-01	6.6771E-02	3.4627E-02
CO2	2.6127E-03	7.1256E-04	3.0954E-04	CO+	1.8541E-03	4.5633E-03	3.8089E-03
C2	5.1110E-03	1.0031E-02	6.5805E-03	CO2	1.4241E-03	3.2493E-04	1.3182E-04
				C2	6.8810E-03	6.9582E-03	3.9302E-03

Table I. - Continued.

$$P_1 = 500 \text{ kN/m}^2$$

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 9.40E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4383E+03	1.5306E+04	2.1774E+04
T	4.8126E+01	7.9872E+01	9.2617E+01
RHO	1.2891E+01	6.8495E+01	8.0726E+01
M	-4.0368E+00	-1.1945E+00	-9.9859E+00
A	1.0257E+01	1.4453E+01	1.5871E+01
S	2.4374E+00	2.6127E+00	2.7038E+00
Z	2.4170E+00	2.7977E+00	2.9123E+00
GAME	9.4298E-01	9.3472E-01	9.3390E-01
U	3.2084E-01	6.0474E-01	6.0967E-01

SPECIES	MOLE FRACTIONS		
E-	4.3405E-03	1.9718E-02	2.9972E-02
C	5.6923E-01	5.7401E-01	5.6565E-01
O+	1.4429E-03	1.6886E-02	2.7314E-02
O+	2.3794E-13	4.4779E-08	4.7053E-07
O-	2.4350E-03	1.4939E-02	1.7798E-02
O2	1.5851E-02	1.9292E-02	1.9849E-02
O2+	2.6584E-04	2.3618E-03	2.8921E-03
O2-	1.6107E-04	1.5693E-03	1.5983E-03
C	1.7430E-01	2.6243E-01	2.7552E-01
C+	3.6998E-03	1.6506E-02	1.9777E-02
C++	4.0160E-10	9.5474E-07	4.1680E-06
C-	5.5695E-04	3.8893E-03	4.1673E-03
CO	2.1858E-01	5.7784E-02	3.2561E-02
CO+	2.0845E-03	4.3403E-03	3.5032E-03
CO2	1.3723E-02	2.4951E-04	9.4581E-05
C2	7.2816E-03	6.0257E-03	3.2562E-03

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 1.00E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4244E+03	1.7131E+04	2.4444E+04
T	4.9768E+01	8.7818E+01	1.0244E+02
RHO	1.2779E+01	6.7318E+01	7.9370E+01
M	-4.6958E+00	-9.3951E+00	-1.1441E+01
A	1.1029E+01	1.5401E+01	1.7027E+01
S	2.3125E+00	2.6908E+00	2.7849E+00
Z	2.5573E+00	2.8977E+00	3.0065E+00
GAME	9.5560E-01	9.3312E-01	9.4088E-01
U	3.4107E+01	6.4849E+00	6.5449E+00

SPECIES	MOLE FRACTIONS		
E-	6.7268E-03	2.8098E-02	4.1617E-02
C	5.5022E-01	5.7135E-01	5.5801E-01
O+	2.4025E-03	2.4021E-02	3.7054E-02
O+	2.2420E-12	2.2760E-07	2.0538E-06
O-	3.3047E-03	1.6379E-02	1.7578E-02
O2	1.3704E-02	1.4795E-02	1.0529E-02
O2+	3.3727E-04	2.5423E-03	2.8478E-03
O2-	1.4940E-04	1.3939E-03	1.2801E-03
C	2.4119E-01	2.7527E-01	2.7998E-01
C+	5.9804E-03	1.7959E-02	2.2227E-02
C++	2.0033E-09	2.7324E-06	2.2227E-02
C-	6.8049E-04	4.0127E-03	3.6833E-03
CO	1.5576E-01	1.6985E-02	2.3149E-02
CO+	2.3771E-03	3.5802E-03	2.6205E-03
CO2	7.7406E-04	1.1165E-04	4.0160E-05
C2	7.7497E-03	3.7220E-03	1.7935E-03

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 9.60E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4496E+03	1.5922E+04	2.2674E+04
T	4.7314E+01	1.9175E+02	5.5803E+01
RHO	1.2867E+01	6.8150E+01	8.0395E+01
M	-4.2533E+00	-8.5874E+00	-1.0461E+01
A	1.0507E+01	1.4769E+01	1.6246E+01
S	2.4627E+00	2.6390E+00	2.7311E+00
Z	2.4637E+00	2.8326E+00	2.9446E+00
GAME	9.4706E-01	9.3367E-01	9.3560E-01
U	3.2722E+01	6.1948E+00	6.2440E+00

SPECIES	MOLE FRACTIONS		
E-	5.0288E-03	2.2295E-02	3.3566E-02
C	5.7481E-01	5.7364E-01	5.6356E-01
O+	1.7093E-02	1.9175E-02	3.0409E-02
O+	5.0370E-13	7.8979E-08	7.8192E-07
O-	2.7078E-03	1.5513E-02	1.7909E-02
O2	1.5144E-02	1.7720E-02	1.3323E-02
O2+	2.8800E-04	2.4380E-03	2.9304E-03
O2-	1.7118E-04	1.5086E-03	1.5005E-03
C	1.7118E-04	2.6679E-02	2.7763E-01
C+	4.3732E-03	1.7574E-02	1.7019E-02
C++	6.9609E-10	1.3801E-06	5.7915E-06
C-	6.5612E-04	3.9673E-03	4.1035E-03
CO	1.9.86E-01	4.9507E-02	2.8462E-02
CO+	2.1534E-03	4.0977E-03	3.2012E-03
CO2	1.1461E-03	1.9125E-04	7.3431E-05
C2	7.5648E-03	5.1712E-03	2.6798E-03

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 1.051E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7508E+03	1.8578E+04	2.6578E+04
T	5.3210E+01	9.4761E+01	1.1131E+02
RHO	1.2600E+01	6.5961E+01	7.7507E+01
M	-5.2829E+00	-1.0444E+01	-1.2720E+01
A	1.1411E+01	1.6237E+01	1.8061E+01
S	2.5748E+00	1.6237E+00	2.8507E+00
Z	2.6712E+00	2.6723E+00	3.0807E+00
GAME	9.6315E-01	9.3547E-01	9.5126E-01
U	3.5728E+01	6.8424E+00	6.9419E+00

SPECIES	MOLE FRACTIONS		
E-	9.6809E-03	3.6641E-02	5.2419E-02
C	6.0305E-01	5.6589E-01	5.4848E-01
O+	3.7042E-03	3.1367E-02	4.4239E-02
O+	1.4716E-11	7.5655E-07	6.2724E-06
O-	4.1445E-02	1.6880E-02	1.7231E-02
O2	1.1521E-02	1.1527E-02	7.5577E-03
O2+	4.0823E-04	2.7684E-03	2.8639E-03
O2-	2.0731E-04	1.2025E-03	1.2094E-03
C	2.3740E-01	2.7783E-01	2.7949E-01
C+	8.6171E-03	2.1725E-02	2.4168E-02
C++	7.4007E-09	5.9150E-06	2.2160E-05
C-	1.2017E-03	3.8895E-03	3.4877E-03
CO	1.6540E-01	2.5097E-02	1.2790E-02
CO+	2.9604E-03	2.9508E-03	1.9435E-03
CO2	4.4175E-04	5.6163E-05	1.9337E-05
C2	7.2646E-03	2.3849E-03	1.0433E-03

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 9.90E+03 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5626E+03	1.6532E+04	2.3506E+04
T	4.8512E+01	8.5127E+01	9.9026E+01
RHO	1.2838E+01	6.7763E+01	7.9980E+01
M	-4.0742E+00	-8.9878E+00	-1.0947E+01
A	1.0742E+01	1.5086E+01	1.6623E+01
S	2.4475E+00	2.6650E+00	2.7576E+00
Z	2.5106E+00	2.8659E+00	2.9755E+00
GAME	9.5138E-01	9.3313E-01	9.3785E-01
U	3.5426E+01	6.3392E+00	6.3943E+00

SPECIES	MOLE FRACTIONS		
E-	5.8179E-03	2.5086E-02	3.7373E-02
C	5.8382E-01	5.7274E-01	5.6105E-01
O+	2.0256E-03	2.1617E-02	1.3599E-02
O+	1.0630E-12	1.3571E-07	1.2711E-06
O-	2.9976E-03	1.5996E-02	1.8046E-02
O2	1.4430E-02	1.6226E-02	1.2886E-03
O2+	3.1177E-04	2.4986E-03	2.7576E+00
O2-	1.8079E-04	1.4565E-03	1.3961E-03
C	1.9581E-01	2.7039E-01	2.7490E-01
C+	5.1332E-03	1.8584E-02	2.1409E-02
C++	1.1844E-09	1.9583E-06	7.8747E-06
C-	7.8445E-04	4.0078E-03	4.0104E-03
CO	1.7374E-01	4.3011E-02	2.4063E-02
CO+	2.2902E-03	3.8424E-03	2.9128E-03
CO2	9.4734E-04	1.4629E-04	5.4738E-05
C2	7.7223E-03	4.4025E-03	2.1998E-03

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 1.10E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4823E+03	1.9973E+04	2.8667E+04
T	5.7132E+01	1.0209E+02	1.2102E+02
RHO	1.2375E+01	6.9323E+01	7.5105E+01
M	-5.8594E+00	-1.1539E+01	-1.4069E+01
A	1.2400E+01	1.7095E+01	1.9199E+01
S	2.4390E+00	2.4163E+00	2.9151E+00
Z	2.7759E+00	3.0417E+00	2.9541E+00
GAME	9.6952E-01	9.4119E-01	9.6573E-01
U	3.7414E+01	7.2024E+00	7.3814E+00

SPECIES	MOLE FRACTIONS		
E-	1.3925E-02	4.6698E-02	6.7287E-02
C	6.1669E-01	5.9780E-01	5.3588E-01
O+	5.7270E-03	5.9418E-02	5.6451E-02
O+	4.6574E-11	2.2614E-06	1.7829E-05
O-	5.0575E-03	1.6717E-02	1.5798E-02
O2	9.9426E-02	8.7281E-03	5.1943E-03
O2+	4.8922E-04	2.5104E-03	2.3869E-03
O2-	2.1723E-04	9.8354E-04	7.0774E-04
C	2.5879E-01	2.7917E-01	2.7693E-01
C+	1.1898E-02	2.3727E-02	2.6329E-02
C++	2.6767E-08	1.1994E-05	4.4660E-05
C-	1.5379E-03	3.6164E-03	3.0123E-03
CO	7.4721E-02	1.6762E-02	7.9147E-03
CO+	7.5273E-03	2.3322E-03	1.4735E-03
CO2	2.3377E-04	2.7750E-05	8.0777E-06
C2	6.1517E-03	1.4867E-03	5.9577E-04

Table I. - Continued.

$P_1 = 500 \text{ kN/m}^2$

$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad U_{S1} = 1.15E+04 \text{ M/SEC}$				$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad U_{S1} = 1.30E+04 \text{ M/SEC}$			
P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
T	2.1411E+03	2.1360E+04	3.0811E+04	T	2.7263E+03	2.5898E+04	3.8279E+04
RHD	2.1490E+01	1.0988E+02	1.3173E+02	RHD	7.5954E+01	1.3693E+02	1.6995E+02
H	-6.5330E+00	-1.2677E+01	-1.5493E+01	H	-8.4211E+00	-5.7188E+01	-6.4785E+01
A	1.3051E+01	1.8014E+01	2.0455E+01	A	1.4683E+01	-1.6385E+01	-2.0291E+01
S	2.6930E+00	2.8763E+00	2.9775E+00	S	2.8584E+00	2.1214E+01	2.4723E+01
Z	2.8663E+00	3.1081E+00	3.2289E+00	Z	3.0656E+00	3.0026E+00	3.1508E+00
GAME	9.6650E-01	9.5021E-01	9.870E-01	GAME	9.4379E-01	9.9373E-01	1.0345E+00
U	3.9050E+01	7.5967E+00	7.8703E+00	U	4.3990E+01	9.0097E+00	9.6799E+00

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	1.9750E-02	5.8267E-02	8.3185E-02	E-	4.8869E-02	1.0117E-01	1.4079E-01
O	6.1256E-01	5.4724E-01	5.2008E-01	O	5.5029E-01	5.0199E-01	4.5495E-01
O+	8.7755E-03	4.8304E-02	6.7699E-02	O+	2.5602E-02	7.9237E-02	1.0642E-01
C-	5.9684E-03	6.2111E-06	4.7685E-05	C-	6.0206E-08	8.7371E-05	5.9345E-04
O2	8.1573E-04	6.4241E-02	1.3792E-02	O2	7.8806E+03	1.1375E-02	7.7188E-03
O2+	5.7605E-04	2.3603E-03	2.0537E-03	O2+	4.2924E-03	2.2013E-03	8.6681E-04
O2-	2.1742E-04	7.6494E-04	4.7706E-04	O2-	1.7551E-04	1.6404E-03	1.0936E-03
C	2.6950E-01	2.7794E-01	2.7154E-01	C	2.7421E-01	2.6311E-01	1.651E-04
C+	1.5969E-02	2.5091E-02	2.8888E-02	C+	2.8915E-02	1.2724E-02	2.4429E-01
C+	9.087E-08	2.214E-05	8.7223E-05	C+	1.8527E-06	1.4066E-04	5.4398E-04
C+	1.829E-05	3.2515E-03	2.5147E-03	C-	2.1547E-02	2.0442E-03	1.3333E-03
CF	4.9821E-02	1.1041E-02	4.7568E-03	CF	1.7894E-03	2.9785E-03	1.0479E-03
CF+	2.4241E-02	1.8164E-03	1.0679E-03	CF+	1.4556E-04	7.9456E-04	3.8809E-04
CO2	1.2012E-04	1.3494E-05	3.4628E-06	CO2	1.5418E-05	1.4667E-06	2.7868E-07
C2	4.7742E-04	5.1001E-04	3.5546E-04	C2	1.6540E-03	2.0204E-04	8.2726E-05

$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad U_{S1} = 1.20E+04 \text{ M/SEC}$				$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad U_{S1} = 1.35E+04 \text{ M/SEC}$			
P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
T	2.3278E+03	2.2773E+04	3.3054E+04	T	2.9386E+03	2.7810E+04	4.1285E+04
RHD	6.0201E+01	6.0717E+01	1.4522E+02	RHD	8.0835E+01	1.4744E+02	1.8421E+02
H	-7.2004E+00	-1.3843E+01	-1.2994E+01	H	1.1633E+01	5.5156E+01	6.2776E+01
A	1.3661E+01	1.8776E+01	2.1921E+01	A	-9.3746E+00	-1.7720E+01	-2.2081E+01
S	2.7501E+00	2.9337E+00	3.0378E+00	S	1.5412E+01	2.2435E+01	2.6177E+01
Z	2.8434E+00	2.1751E+00	3.3070E+00	Z	2.9056E+00	3.0943E+00	3.2047E+00
GAME	9.3847E-01	9.6230E-01	1.0033E+00	GAME	9.4029E-01	1.0202E+00	1.0720E+00
U	4.0686E+01	0.0185E+00	8.4124E+00	U	4.5860E+01	9.5943E+00	1.0396E+01

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	2.7350E-02	7.1197E-02	1.0100E-01	E-	5.8074E-02	1.1807E-01	1.6228E-01
O	1.3114E-02	9.3441E-01	5.0105E-02	O	5.7701E-01	4.8257E-01	4.2871E-01
O+	3.3442E-04	1.5821E-02	7.6938E-02	O+	3.3481E-02	9.0861E-02	1.2025E-01
O-	6.7529E-03	1.4697E-02	1.1987E-04	O+	1.9704E-07	1.8933E-04	1.1484E-03
O2	6.657E-04	4.6110E-03	2.1927E-03	O-	8.1040E-02	9.6321E-03	6.2193E-03
O2+	6.6364E-04	1.1506E-03	1.7056E-03	O2	3.5757E-03	1.4760E-03	5.4946E-04
O2-	2.0872E-04	3.6479E-04	3.0497E-04	O2+	8.5881E-04	1.3799E-03	8.5447E-04
C	2.7469E-01	2.7465E-01	2.8602E-01	C	2.7066E-01	2.5525E-01	5.2150E-05
C+	2.0421E-02	3.7752E-02	3.2003E-02	C+	3.2571E-02	3.5859E-02	4.4184E-02
C-	2.0610E-02	2.8457E-02	1.6730E-04	C+	3.5731E-06	2.4446E-04	9.0064E-04
CF	3.2934E-02	7.2073E-03	4.0684E-03	C-	2.1381E-03	1.6940E-03	1.0791E-03
CF+	2.2533E-03	1.3956E-03	7.6336E-04	CF	1.0666E-02	1.4001E-03	6.5328E-04
CO2	9.8309E-05	8.5077E-06	1.4633E-06	CO	1.5575E-03	5.9249E-04	2.7892E-04
C2	3.4551E-05	5.9344E-04	1.8824E-04	CO2	8.3782E-03	6.9407E-07	1.2980E-07

$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad U_{S1} = 1.25E+04 \text{ M/SEC}$				$P_1 = 5.00E+05 \text{ N/SQ-M}, \quad U_{S1} = 1.40E+04 \text{ M/SEC}$			
P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
T	2.5224E+03	2.4294E+04	2.5041E+04	T	3.1589E+03	2.9369E+04	4.4383E+04
RHD	7.1035E+01	1.4730E+02	1.5044E+02	RHD	8.5776E+01	1.5831E+02	1.9816E+02
H	-7.8964E+00	-1.5001E+01	-1.8601E+01	H	-1.0157E+01	-1.9102E+01	-6.1105E+01
A	1.4255E+01	3.0078E+01	2.3274E+01	A	1.6005E+01	2.7659E+01	2.3921E+01
S	2.9088E+00	3.2601E+00	2.9959E+00	S	2.9598E+00	3.1432E+00	2.7552E+00
Z	3.0099E+00	3.2601E+00	3.3901E+00	Z	3.1754E+00	3.4536E+00	3.6654E+00
GAME	9.5004E-01	9.7734E-01	1.0214E+00	GAME	9.3931E-01	1.0238E+00	1.0451E+00
U	4.2334E+01	0.4413E+00	9.0221E+00	U	4.7221E+01	1.0209E+01	1.1057E+01

SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
E-	3.6474E-02	8.5749E-02	1.2049E-01	E-	7.0157E-02	1.3548E-01	1.8340E-01
O	6.0134E-01	5.1908E-01	4.7098E-01	O	5.6180E-01	6.6184E-01	4.0229E-01
O+	1.8711E-02	6.8304E-02	9.3043E-02	O+	4.2303E-02	1.0261E-01	1.3351E-01
O-	1.5650E-04	3.8624E-05	2.8105E-04	O+	5.7032E-07	3.7826E-04	1.9740E-03
O2	7.4403E-05	1.5091E-02	9.5197E-03	O-	5.7032E-07	3.7826E-04	1.9740E-03
O2+	5.4423E-05	3.2053E-03	1.3734E-03	O2	2.8956E-03	8.0620E-03	5.0734E-03
O2-	7.1538E-04	1.8998E-03	1.3764E-03	O2+	8.8920E-04	1.1441E-03	3.6106E-04
C	2.7744E-01	2.6959E-01	1.8849E-04	O2-	1.3552E-04	1.2183E-04	4.6410E-05
C+	2.4744E-02	7.0102E-02	1.5706E-02	C	2.6605E-01	2.4649E-01	2.2143E-01
C+	7.6467E-07	7.9506E-05	3.1092E-04	C+	3.5852E-02	3.9292E-02	4.8318E-02
C-	2.1788E-02	2.4281E-03	1.6540E-03	C-	7.8635E-06	4.0740E-04	1.3773E-03
CF	2.2387E-02	4.6220E-02	1.7124E-03	CF	1.5643E-03	1.4018E-03	8.9134E-04
CF+	2.027E-02	1.0529E-03	5.4186E-04	CF+	2.0279E-03	1.2320E-03	4.2731E-04
CO2	2.9582E-05	3.0664E-06	8.2257E-07	CO+	1.3382E-02	4.6426E-04	2.0599E-04
C2	2.4158E-03	3.3208E-04	1.0669E-04	CO2	4.6459E-06	1.3958E-07	6.8975E-08

Table I. - Concluded.

$$P_1 = 500 \text{ kN/m}^2$$

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 1.45E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3671E+03	3.1138E+04	4.7572E+04
T	9.0814E+01	1.6957E+02	2.1166E+02
RHO	1.1531E+01	5.1989E+01	5.9658E+01
H	-1.0967E+01	-2.0528E+01	-2.5633E+01
A	1.6625E+01	2.4878E+01	2.8888E+01
S	3.0092E+00	3.1908E+00	3.3039E+00
Z	3.2256E+00	3.5531E+00	3.7639E+00
GAME	7.4074E-01	1.0334E+00	1.0665E+00
U	4.9601E+02	1.0865E+01	1.1720E+01

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 1.55E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8863E+03	7.4705E+04	5.4090E+04
T	1.0120E+02	1.9171E+02	2.3824E+02
RHO	1.1407E+01	4.9001E+01	5.7211E+01
H	-1.2672E+01	-2.3515E+01	-2.9839E+01
A	1.7940E+01	2.7156E+01	3.1497E+01
S	3.1044E+00	3.2794E+00	3.3969E+00
Z	3.3490E+00	3.6944E+00	3.9684E+00
GAME	9.4657E-01	1.0412E+00	1.0493E+00
U	5.2326E+01	1.2210E+01	1.3007E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	8.3063E-02	1.5364E-01	2.0433E-01
O	5.4500E-01	4.3975E-01	3.7578E-01
O+	5.2135E-02	1.1845E-01	1.4625E-01
O++	1.4960E-06	7.0397E-04	3.1011E-03
U-	7.8842E-03	6.6735E-03	4.1529E-03
O2	2.2247E-02	8.6657E-04	2.4346E-04
O2+	8.9792E-04	5.5579E-04	5.2642E-04
O2-	1.1407E-04	3.0074E-05	3.0772E-05
C	2.6073E-01	2.3693E-01	2.1016E-01
C+	3.8921E-02	4.5016E-02	5.2320E-02
C++	1.4629E-05	6.5004E-04	1.9787E-03
C-	1.8823E-03	1.1605E-03	7.4464E-04
CC	5.3956E-03	3.0537E-04	2.9001E-04
CO+	1.1364E-03	2.3477E-04	1.5403E-04
CO2	2.6078E-06	1.7075E-07	3.5651E-08
C2	5.2427E-04	4.8667E-05	1.0414E-05

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.1055E-01	1.8965E-01	2.4489E-01
O	5.0802E-01	3.9484E-01	3.2611E-01
O+	7.3567E-02	1.3740E-01	1.6955E-01
O++	8.0562E-06	1.8982E-03	6.2287E-03
U-	7.2360E-03	4.6840E-03	2.9256E-03
O2	1.4563E-03	3.2054E-04	1.1952E-04
O2+	8.5883E-04	6.2297E-04	3.2810E-04
O2-	7.7311E-05	3.6738E-05	1.4606E-05
C	2.4872E-01	2.1734E-01	1.8869E-01
C+	4.3744E-02	5.0377E-02	5.8843E-02
C-	1.5461E-03	4.2732E-04	3.5381E-03
CC	2.7799E-03	3.8216E-04	3.5070E-04
CO+	7.9480E-04	1.9737E-04	1.4623E-04
CO2	8.4592E-07	5.0831E-08	1.2249E-08
C2	2.4366E-04	2.2129E-05	8.2963E-06

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 1.50E+04 \text{ M/SEC}$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6230E+03	3.2932E+04	5.0830E+04
T	5.5941E+01	1.8065E+02	2.2525E+02
RHO	1.1479E+01	5.0479E+01	5.8384E+01
H	-1.1801E+01	-2.2000E+01	-2.7809E+01
A	1.7266E+01	2.6033E+01	3.0701E+01
S	3.0573E+00	3.2355E+00	3.3511E+00
Z	3.2508E+00	3.6114E+00	3.8651E+00
GAME	5.4420E-01	1.0388E+00	1.0471E+00
U	5.0668E+01	1.1526E+01	1.2378E+01

$P_1 = 5.00E+05 \text{ N/SQ-M}$, $U_{S1} = 1.60E+04 \text{ M/SEC}$

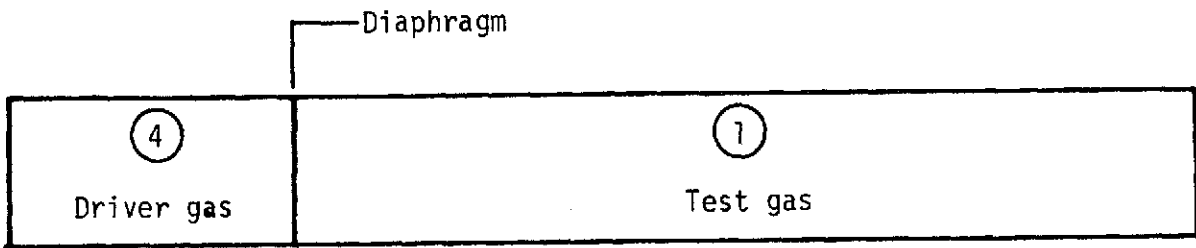
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1164E+03	3.6546E+04	5.7335E+04
T	1.0644E+02	2.0259E+02	2.5096E+02
RHO	1.1323E+01	4.7650E+01	5.6074E+01
H	-1.3567E+01	-2.5078E+01	-3.1934E+01
A	1.8650E+01	2.4248E+01	3.2792E+01
S	3.1505E+00	3.2222E+00	3.4417E+00
Z	3.4096E+00	3.7797E+00	4.0743E+00
GAME	5.5679E-01	1.0421E+00	1.0517E+00
U	5.3977E+01	1.2849E+01	1.3641E+01

SPECIES ----- MOLE FRACTIONS -----

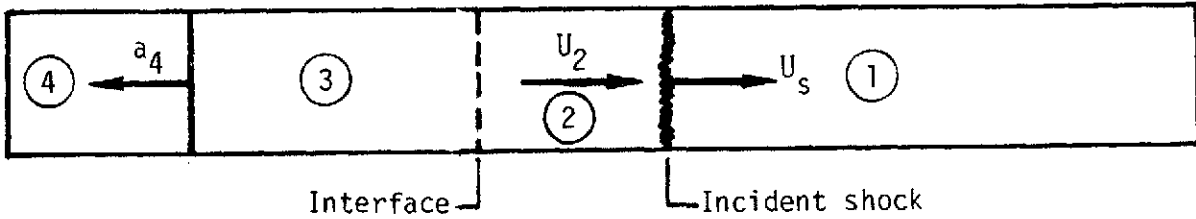
SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	9.6518E-02	1.7154E-01	2.2468E-01
O	5.2701E-01	4.1756E-01	3.4499E-01
O+	6.2572E-02	1.2609E-01	1.5832E-01
O++	3.5940E-06	1.1957E-03	4.5265E-03
U-	7.6751E-03	5.5915E-03	3.6489E-03
O2	1.8503E-02	4.5918E-04	1.6893E-04
O2+	6.8654E-04	7.6520E-04	4.1471E-04
O2-	9.5307E-05	5.3893E-05	2.0458E-05
C	2.5493E-01	2.2725E-01	1.9921E-01
C+	4.1533E-02	4.6710E-02	5.3719E-02
C++	2.5866E-05	9.7602E-04	2.7013E-03
C-	1.7182E-03	9.7515E-04	6.3811E-04
CC	3.8701E-03	5.9029E-04	2.0315E-04
CO+	9.5658E-04	2.5569E-04	1.1743E-04
CO2	1.4816E-06	7.1374E-08	2.0432E-08
C2	3.5720E-04	3.2360E-05	1.1477E-05

SPECIES ----- MOLE FRACTIONS -----

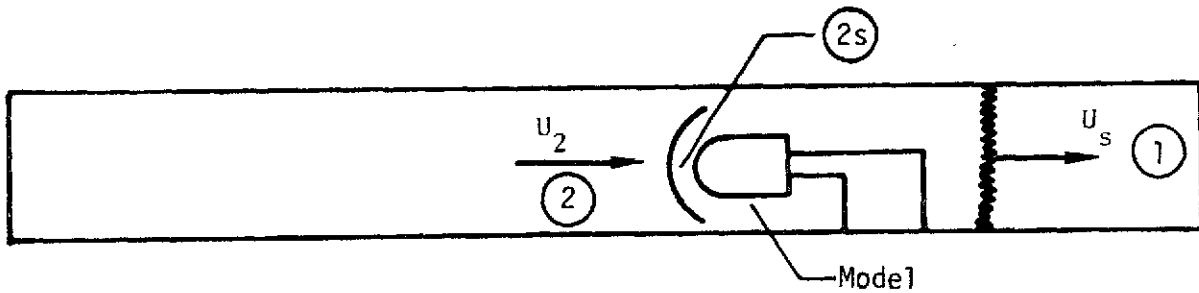
SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.2508E-01	2.0760E-01	2.6433E-01
O	4.8821E-01	3.7216E-01	2.9938E-01
O+	8.4498E-02	1.4826E-01	1.7993E-01
O++	1.7047E-06	2.8264E-03	8.2064E-03
U-	6.7059E-03	3.9504E-03	2.4701E-03
O2	1.1320E-03	2.2791E-04	8.5801E-05
O2+	8.1154E-04	5.0731E-04	2.6009E-04
O2-	6.1215E-05	2.5544E-05	1.0331E-05
C	2.4214E-01	2.0751E-01	1.7855E-01
C+	4.6584E-02	5.3856E-02	6.1617E-02
C-	7.1856E-05	1.9262E-03	4.4960E-03
CC	1.3742E-03	7.0346E-04	4.7926E-04
CO	1.9955E-03	2.7207E-04	1.0727E-04
CO+	6.6116E-04	1.5617E-04	7.1124E-05
CO2	4.8362E-07	2.9554E-08	7.5829E-09
C2	1.6640E-04	1.5608E-05	6.1433E-06



(a) Prior to diaphragm rupture.



(b) Incident (moving) normal shock in test gas.

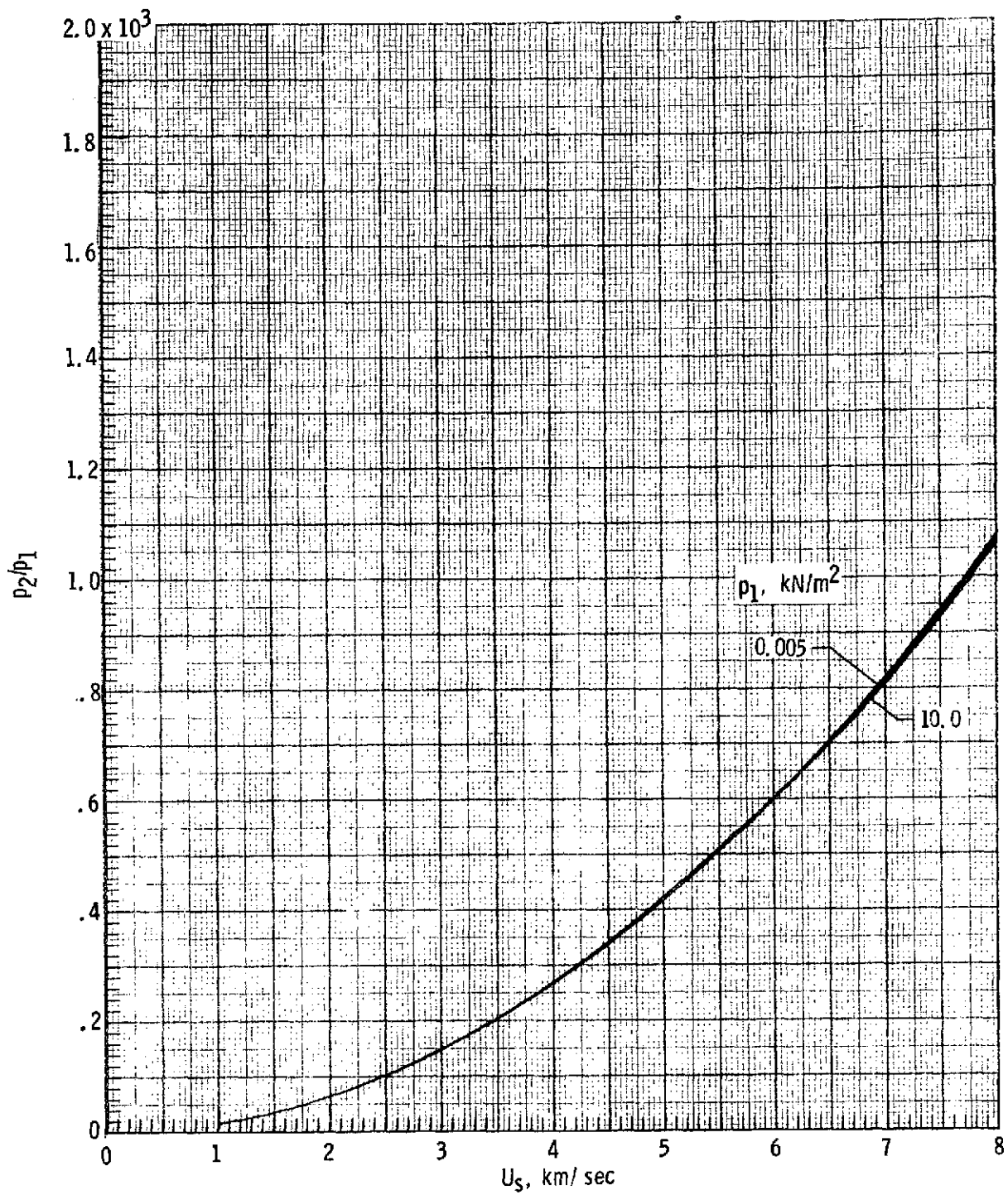


(c) Standing normal shock at test model.



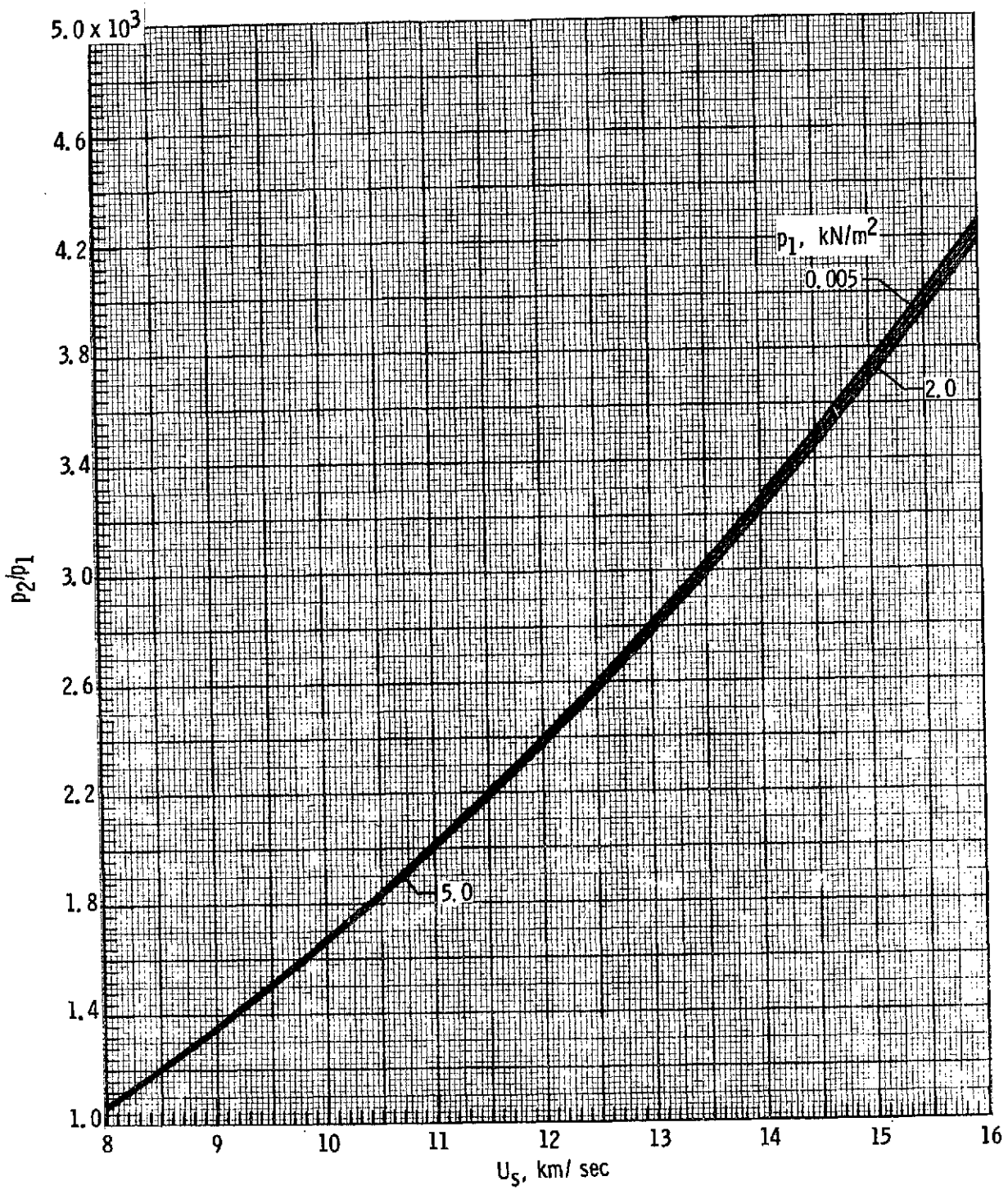
(d) Reflected normal shock from end wall.

Figure 1.- Sketches illustrating shock-tube regions of interest: Regions ②, ②s and ②r.



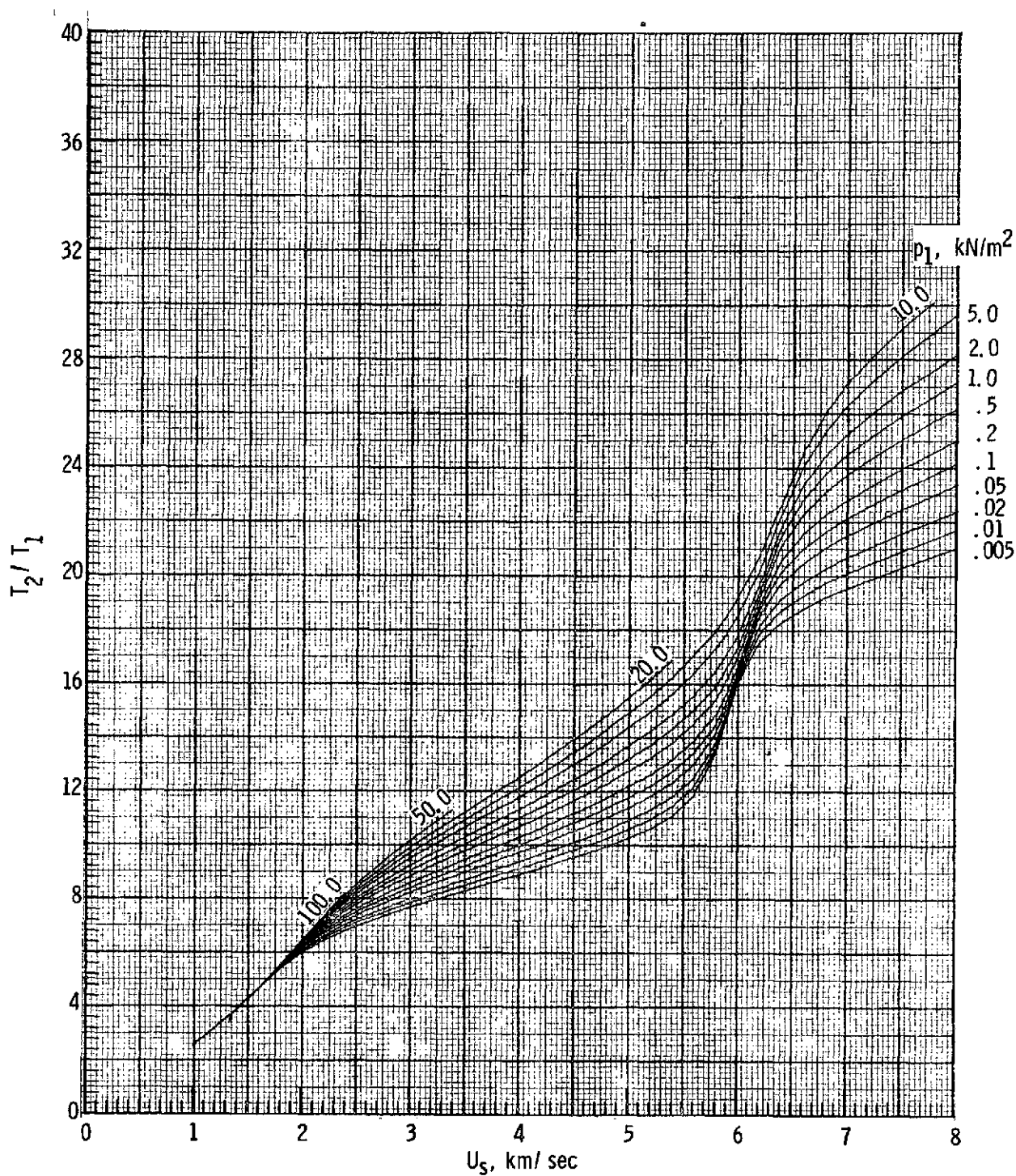
(a) Pressure, p_2/p_1 .

Figure 2. - Thermodynamic properties and flow velocity behind an incident normal shock into pure CO_2 .



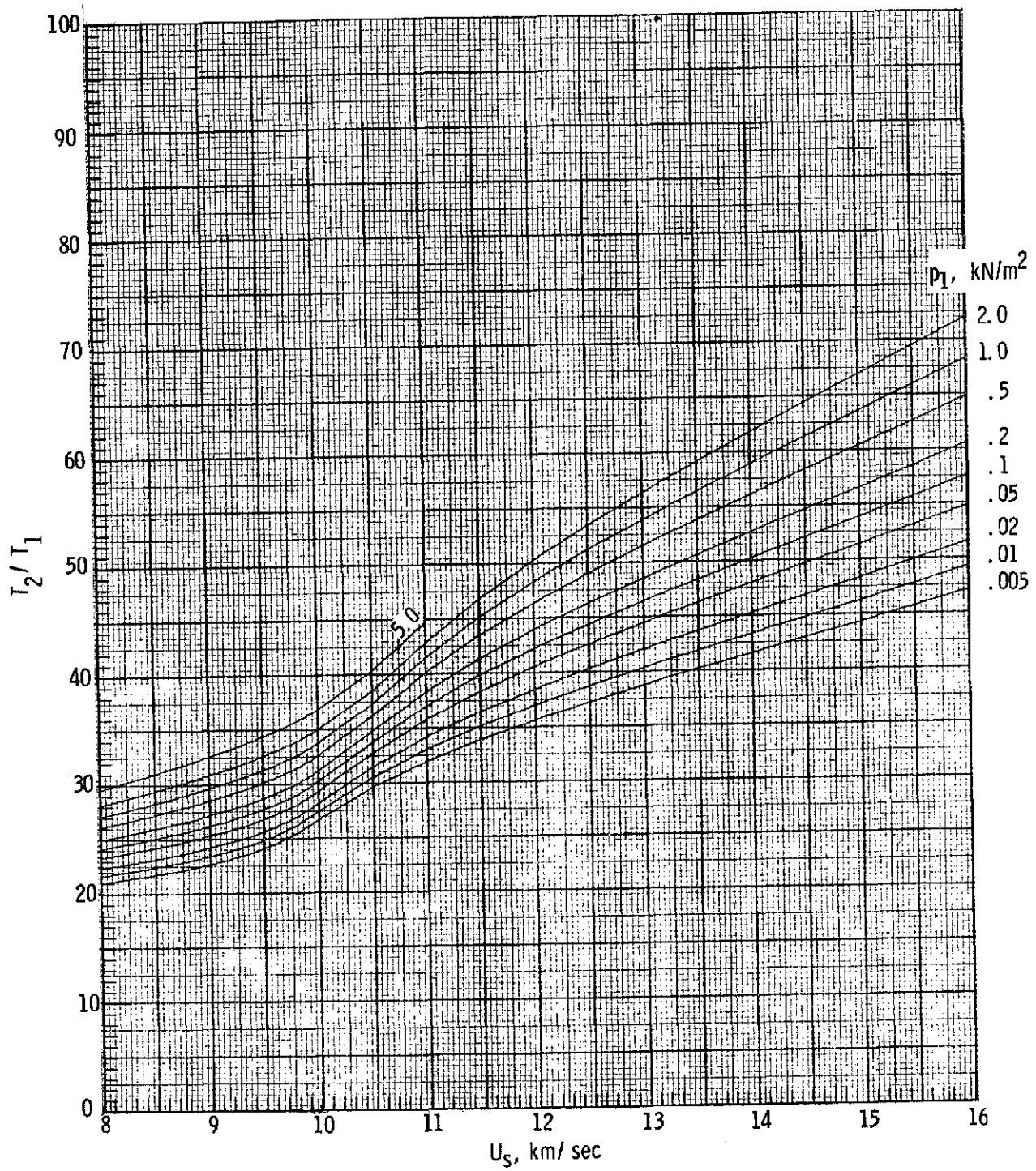
(a) Pressure, p_2/p_1 .

Figure 2. - Continued.



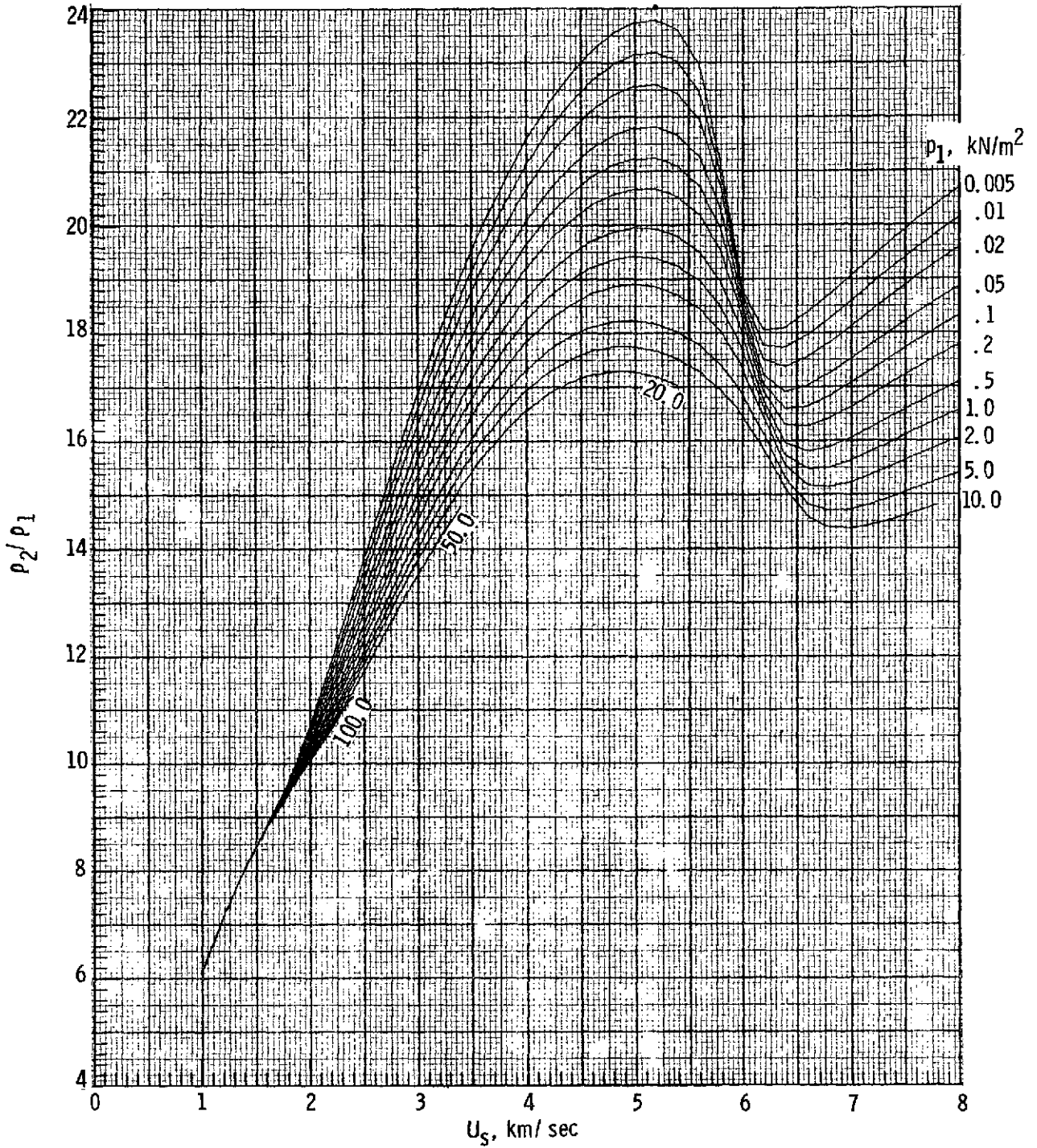
(b) Temperature, T_2/T_1 .

Figure 2. - Continued.



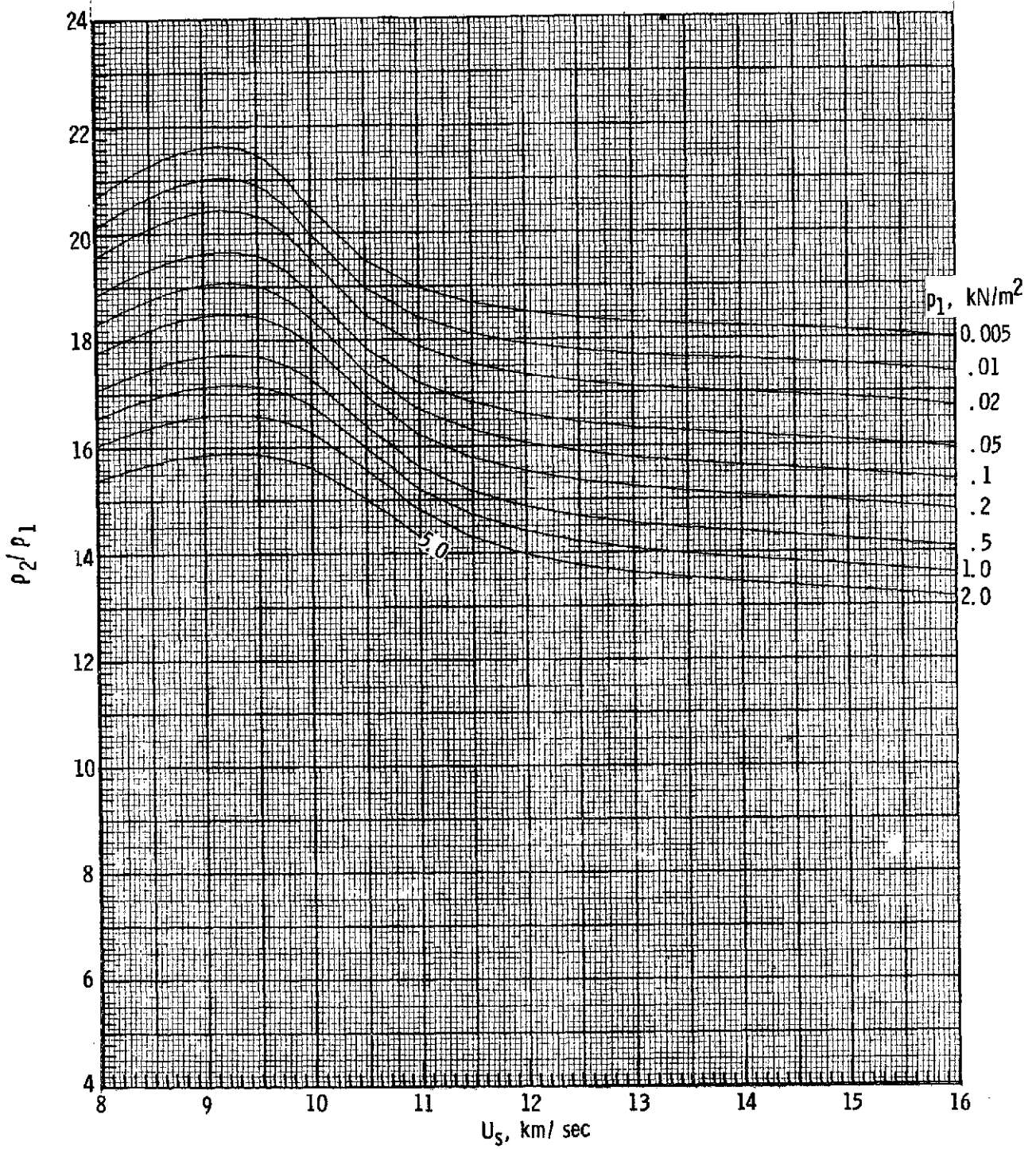
(b) Temperature, T_2/T_1 .

Figure 2. - Continued.



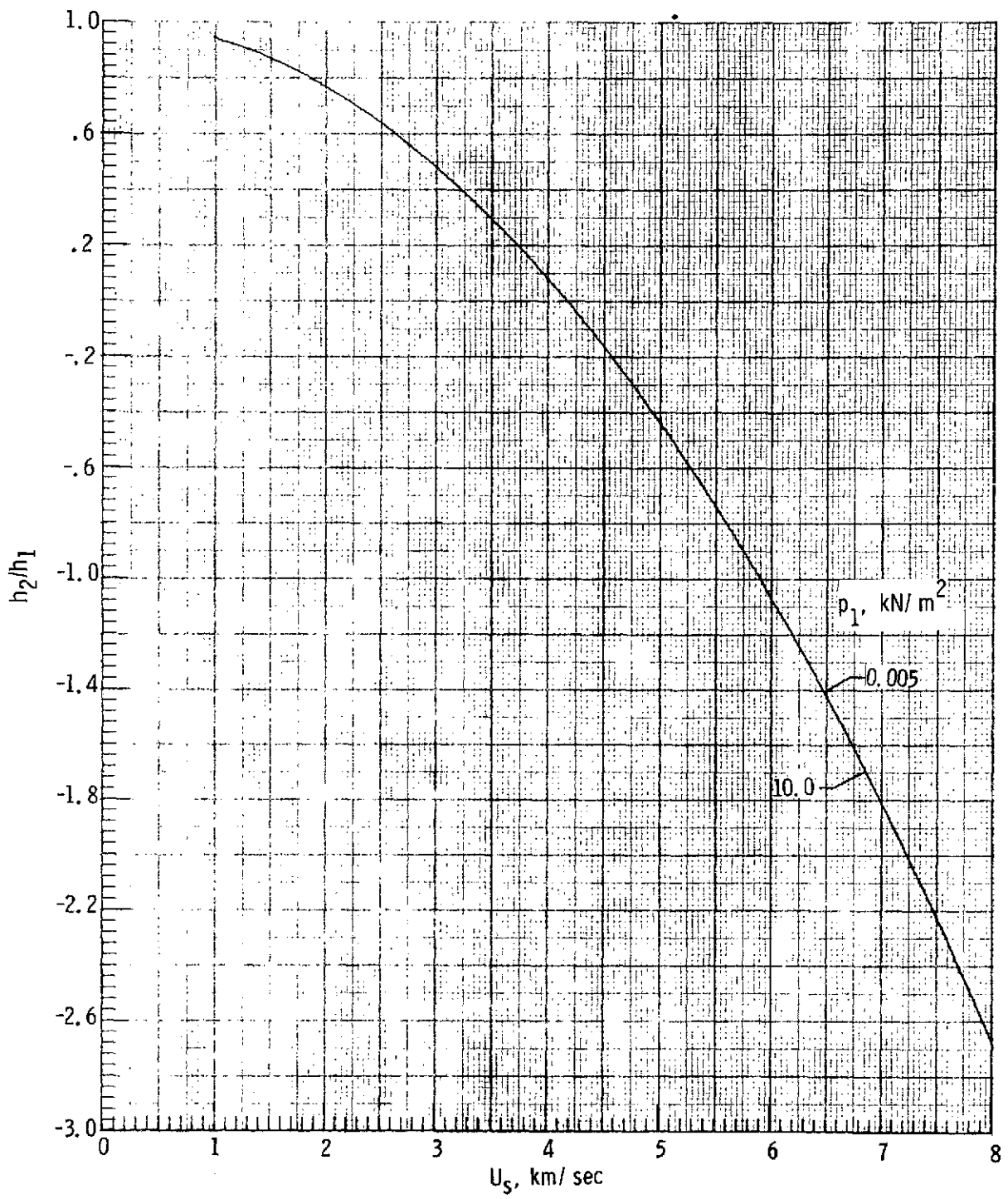
(c) Density ratio, ρ_2/ρ_1 .

Figure 2. - Continued.



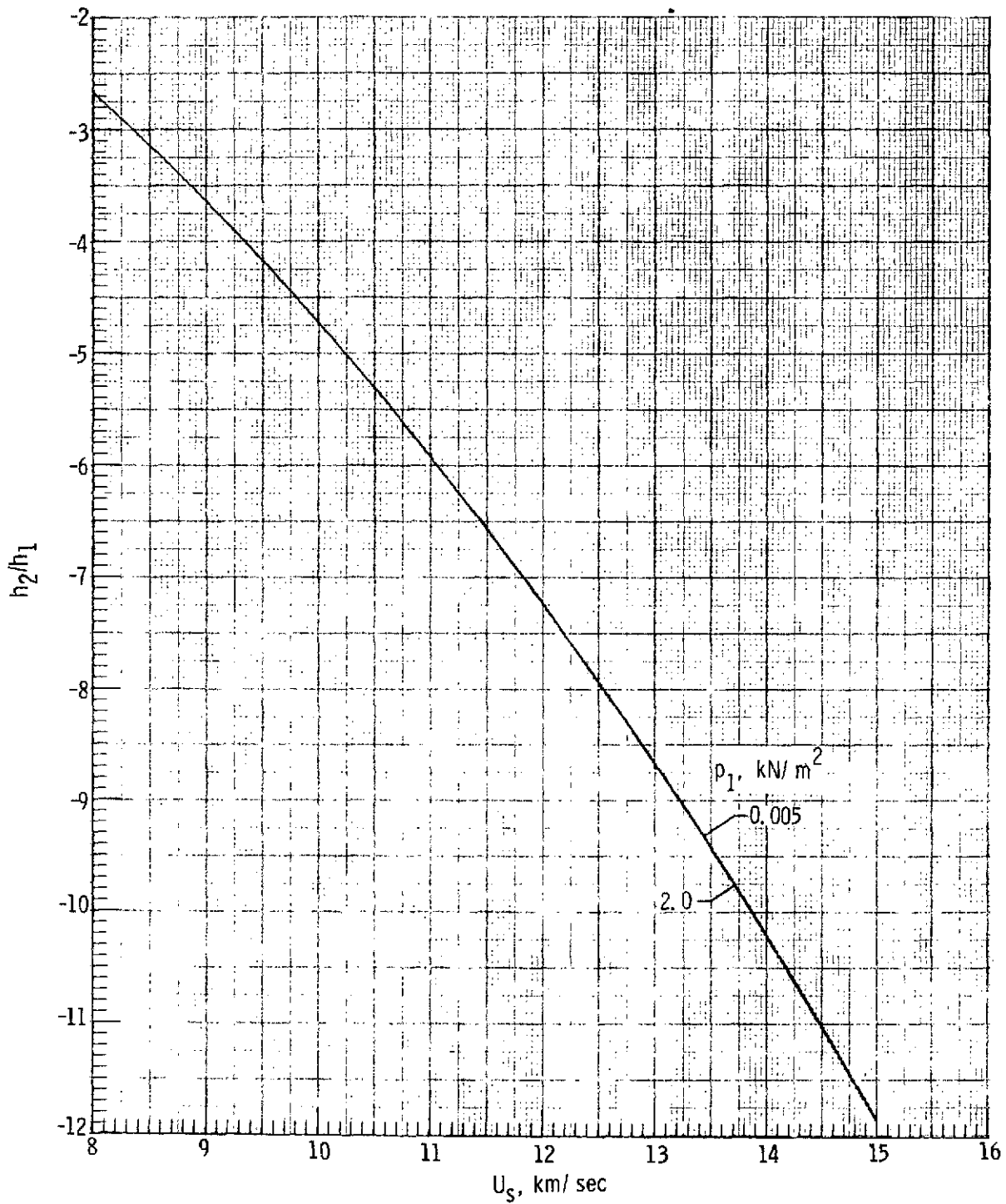
(c) Density ratio, ρ_2/ρ_1 .

Figure 2. - Continued.



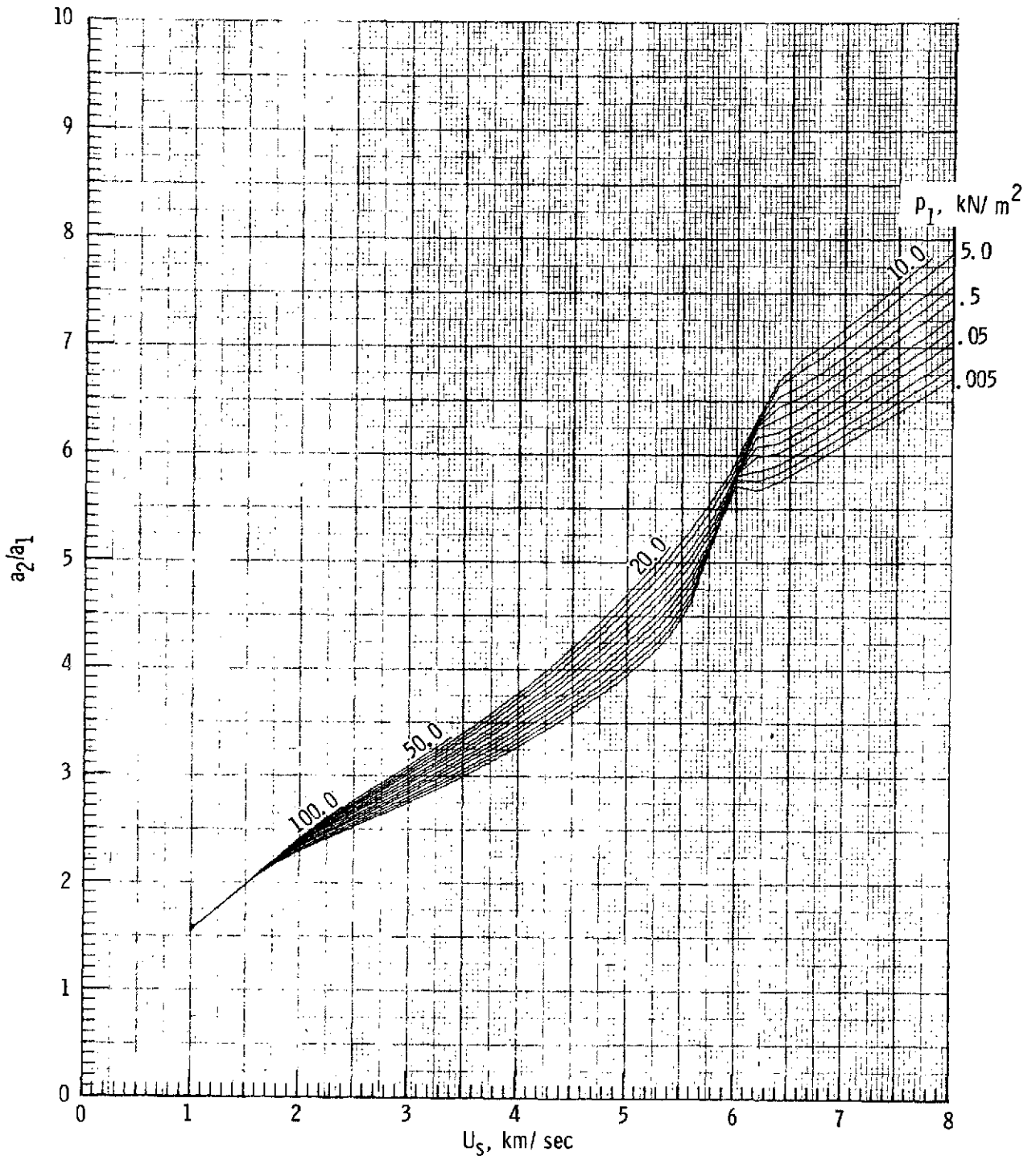
(d) Enthalpy, h_2/h_1 .

Figure 2. - Continued.



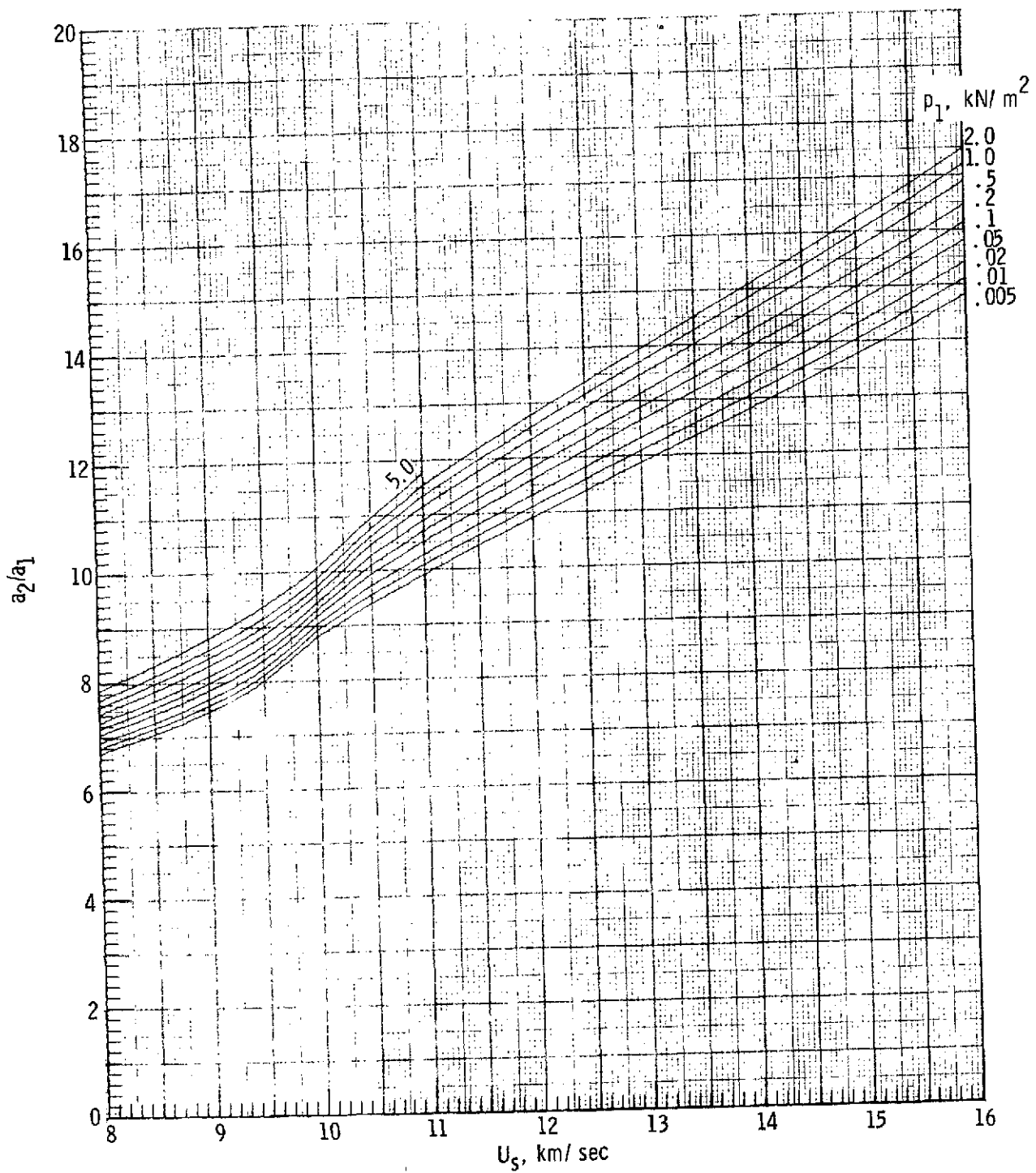
(d) Enthalpy, h_2/h_1 .

Figure 2. - Continued.



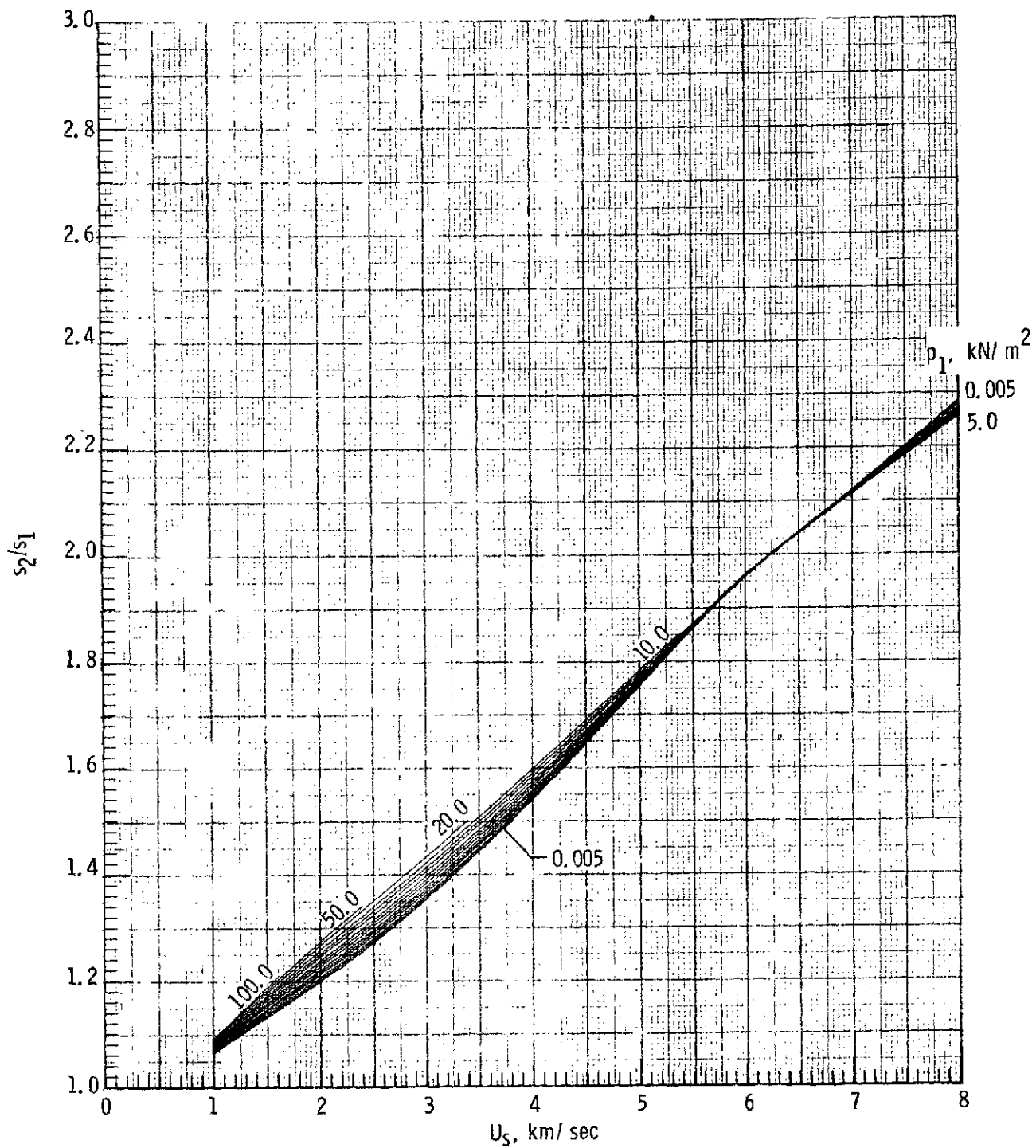
(e) Speed of sound, a_2/a_1 .

Figure 2. - Continued.



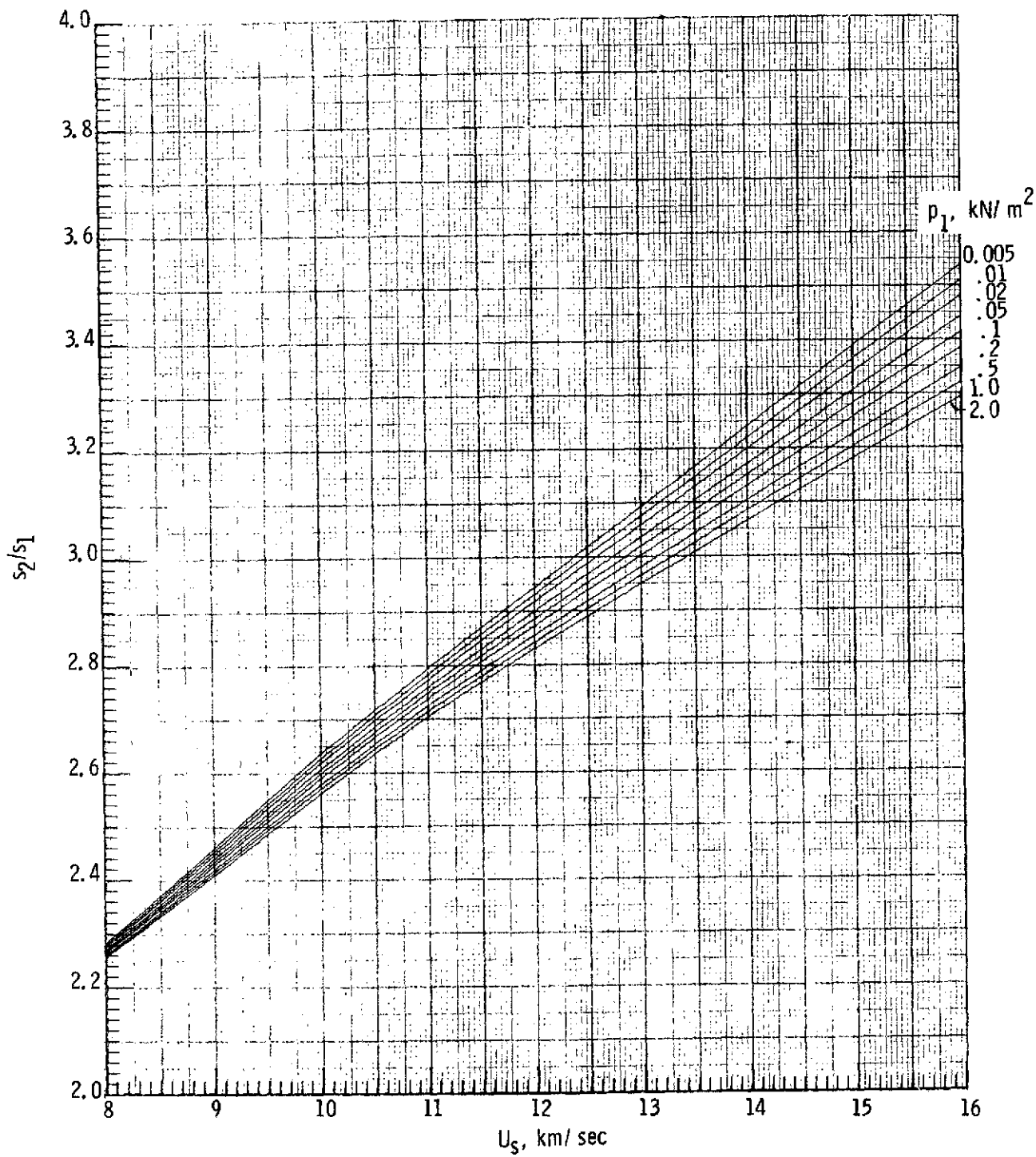
(e) Speed of sound, a_2/a_1 .

Figure 2. - Continued.



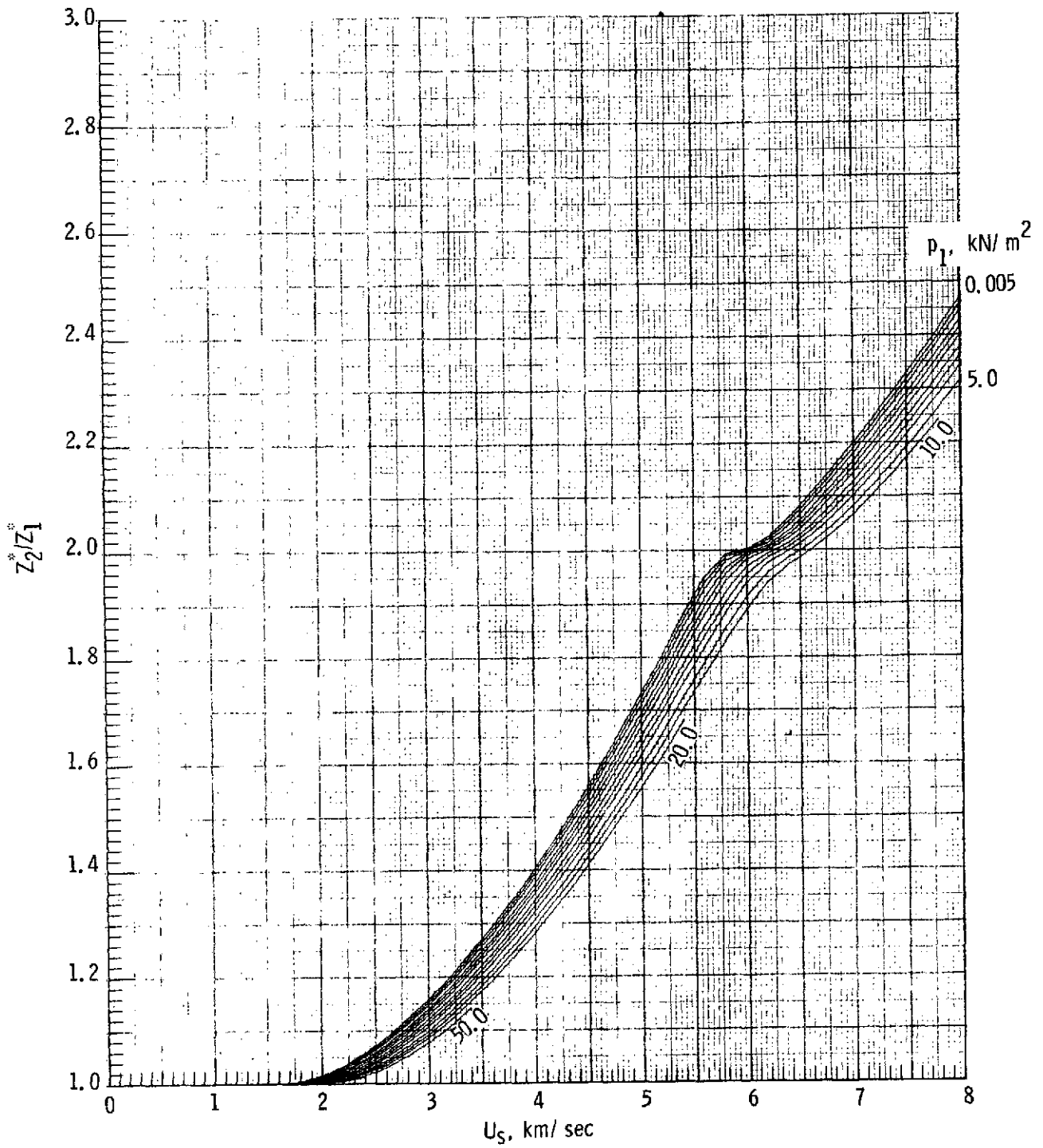
(f) Entropy, s_2/s_1 .

Figure 2. - Continued.



(f) Entropy, s_2/s_1 .

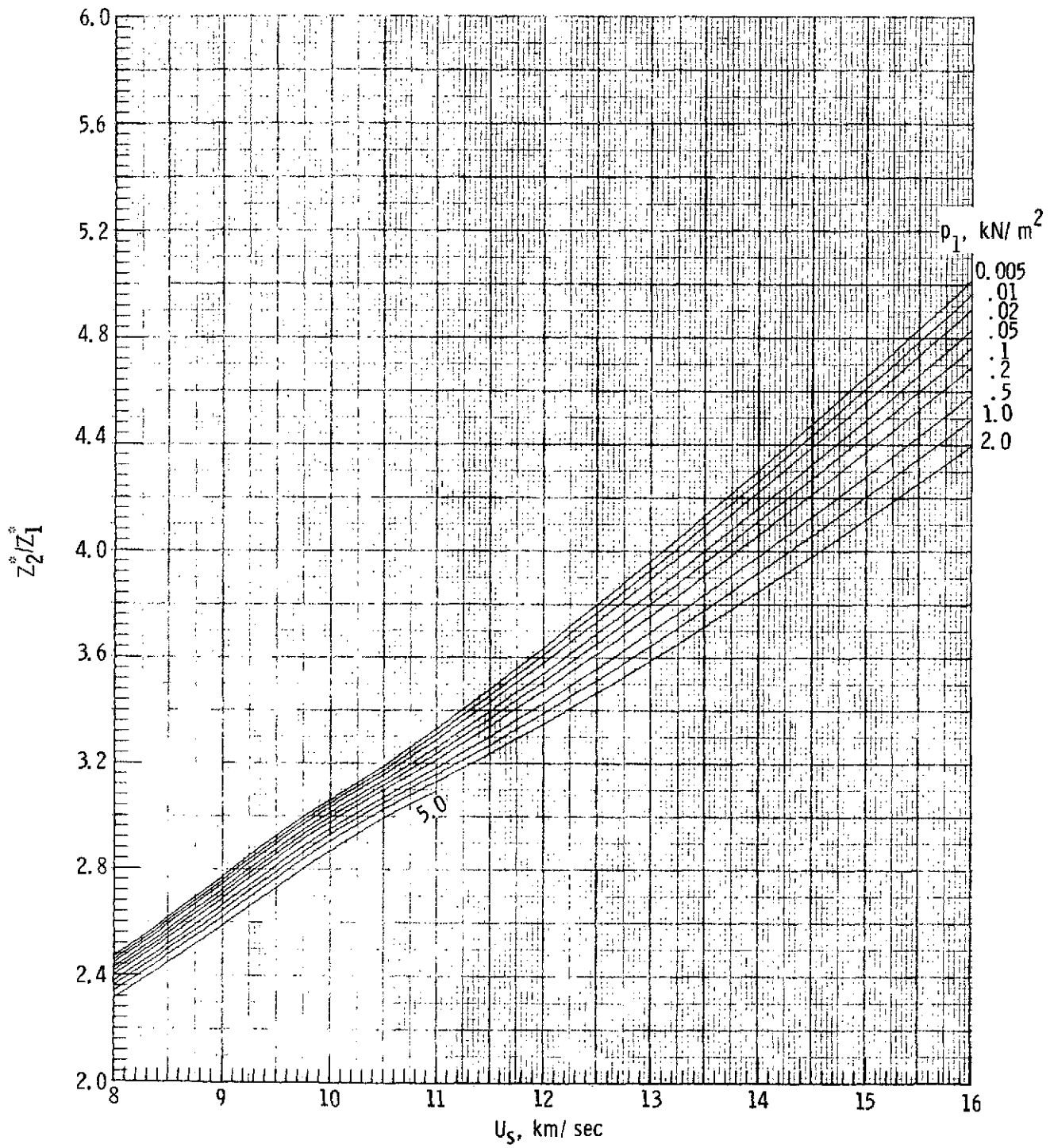
Figure 2. - Continued.



(g) Molecular weight ratio, Z_2^*/Z_1^* .

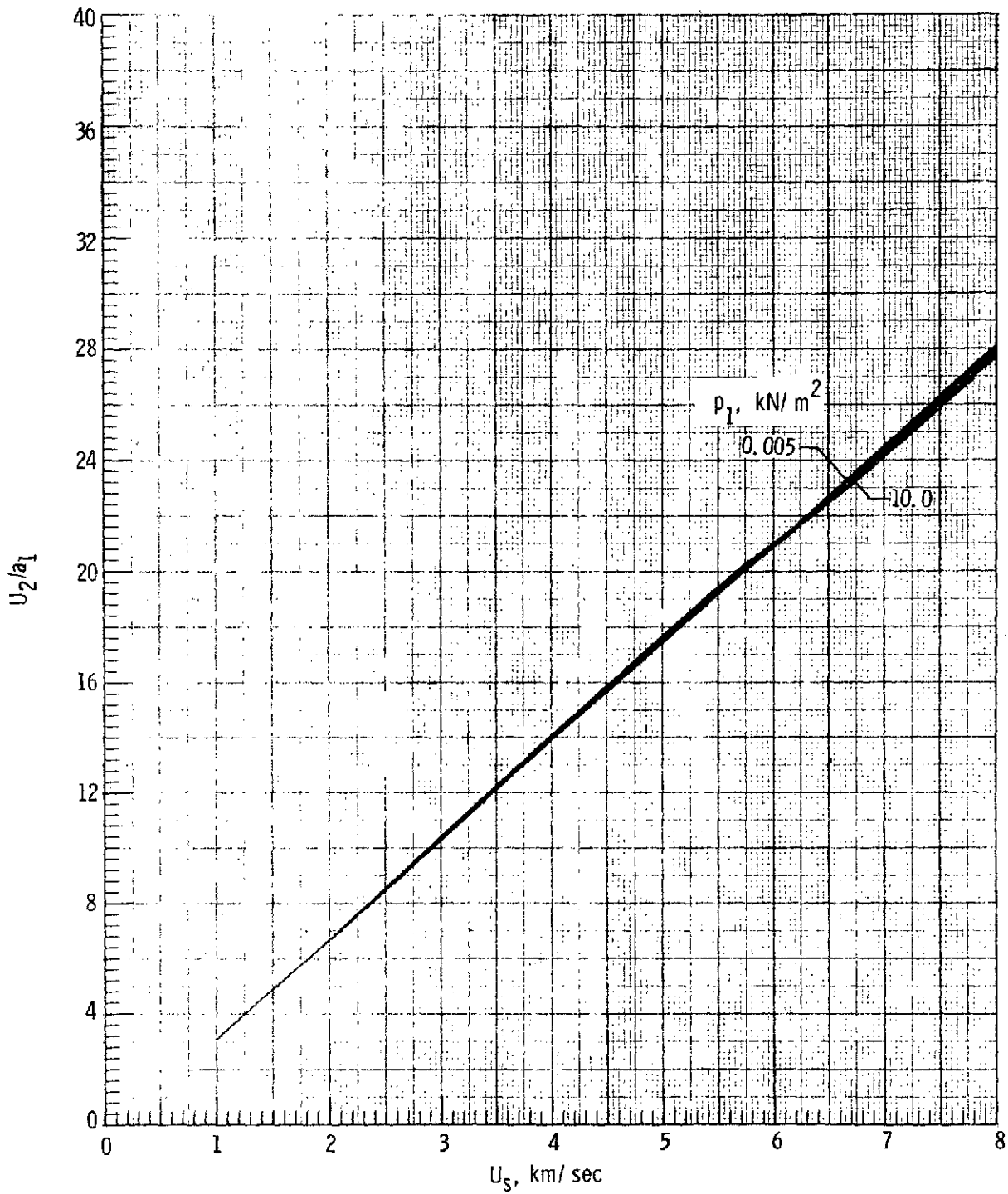
Figure 2. - Continued.

C-3



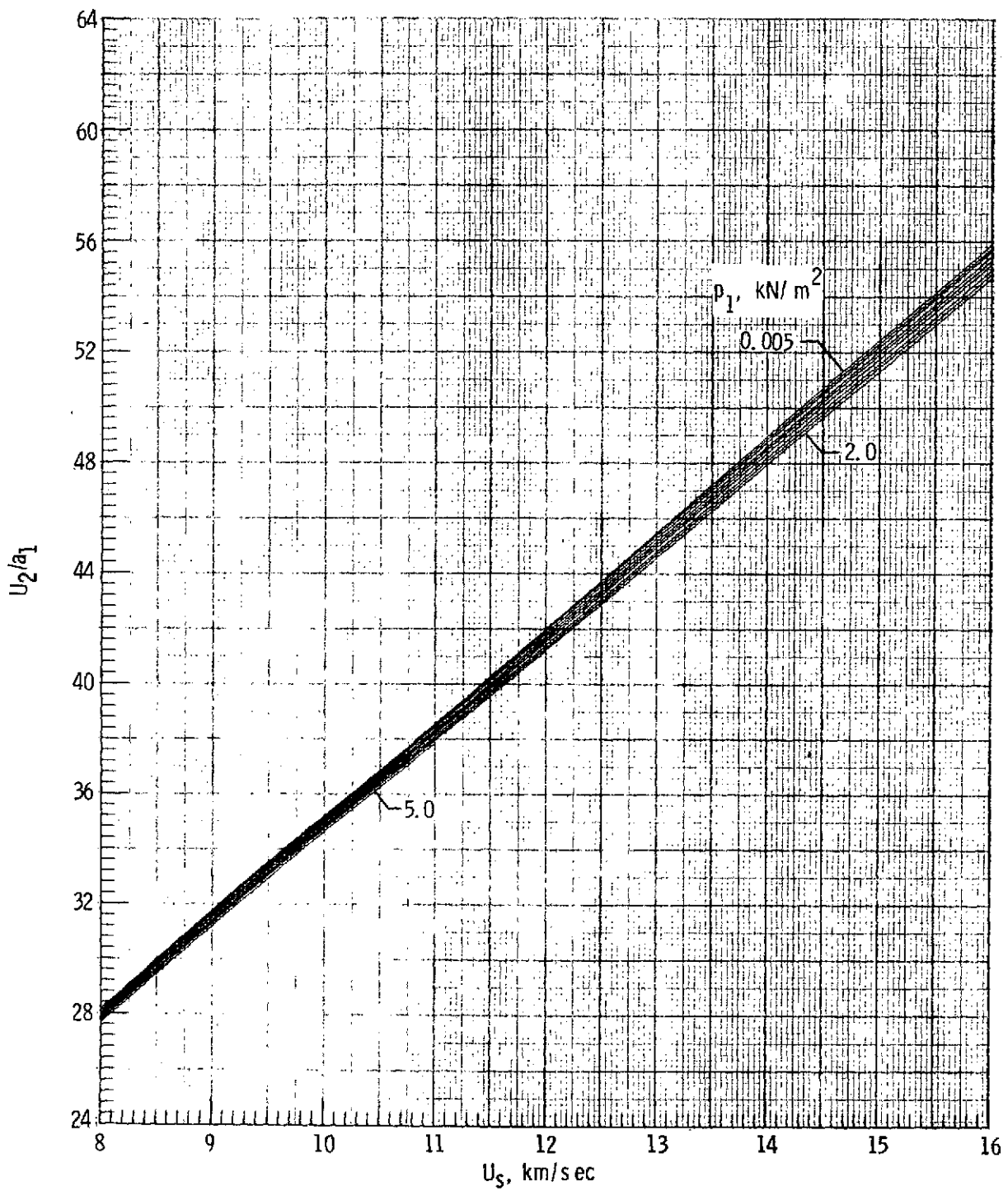
(g) Molecular weight ratio, Z_2^*/Z_1^* .

Figure 2. - Continued.



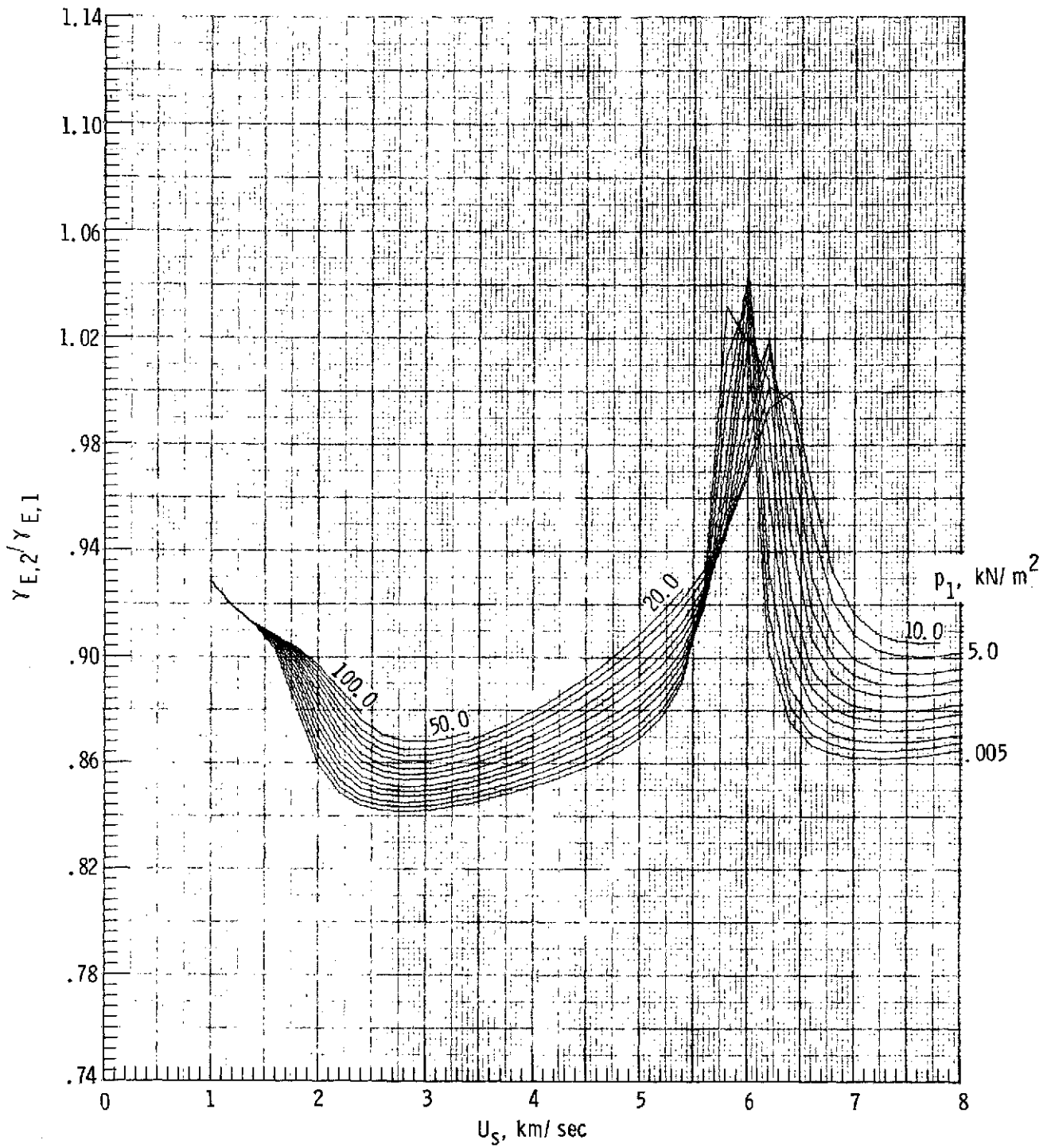
(i) Velocity, U_2/a_1 .

Figure 2. - Continued.



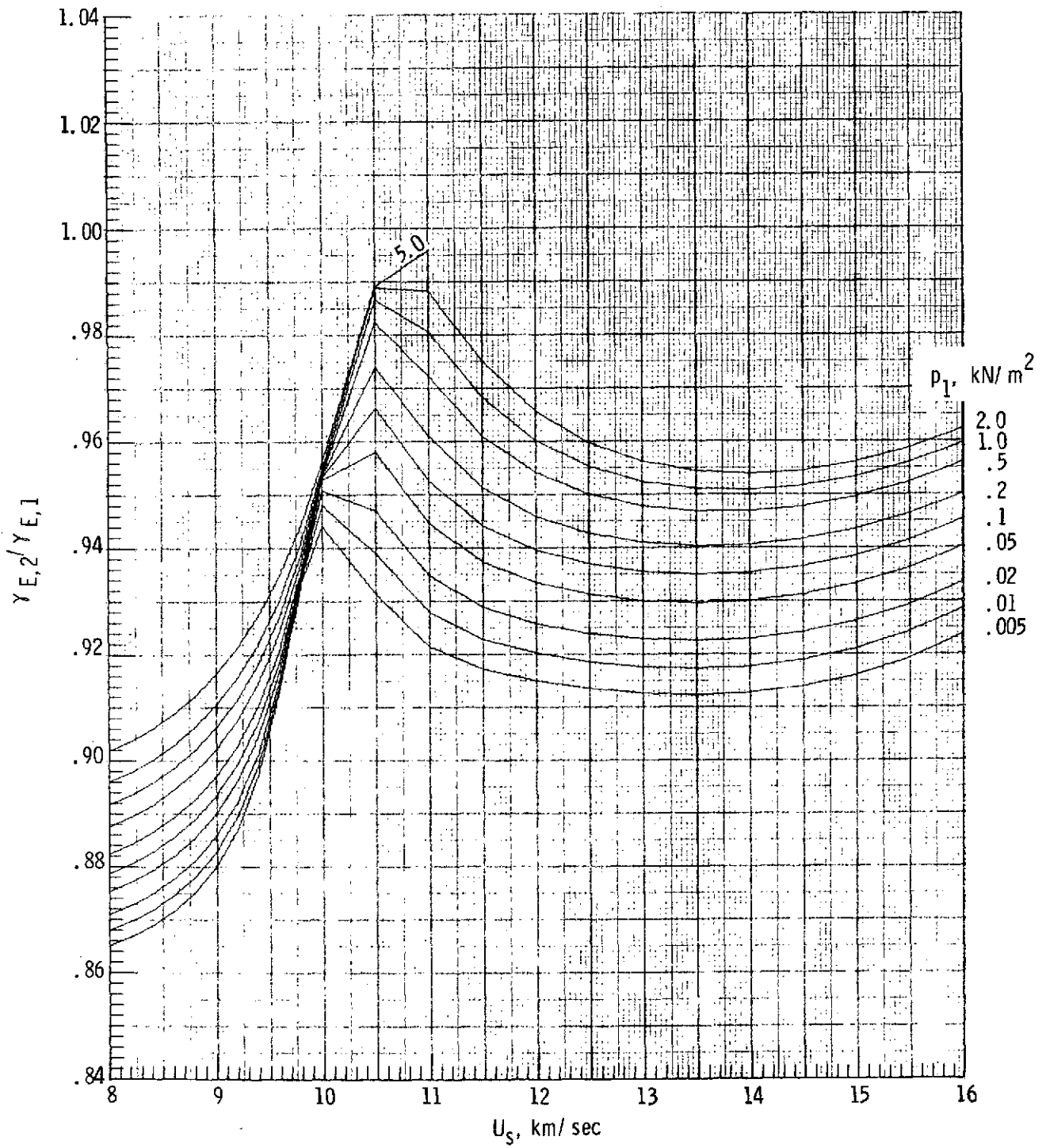
(i) Velocity, U_2/a_1 .

Figure 2. - Concluded.



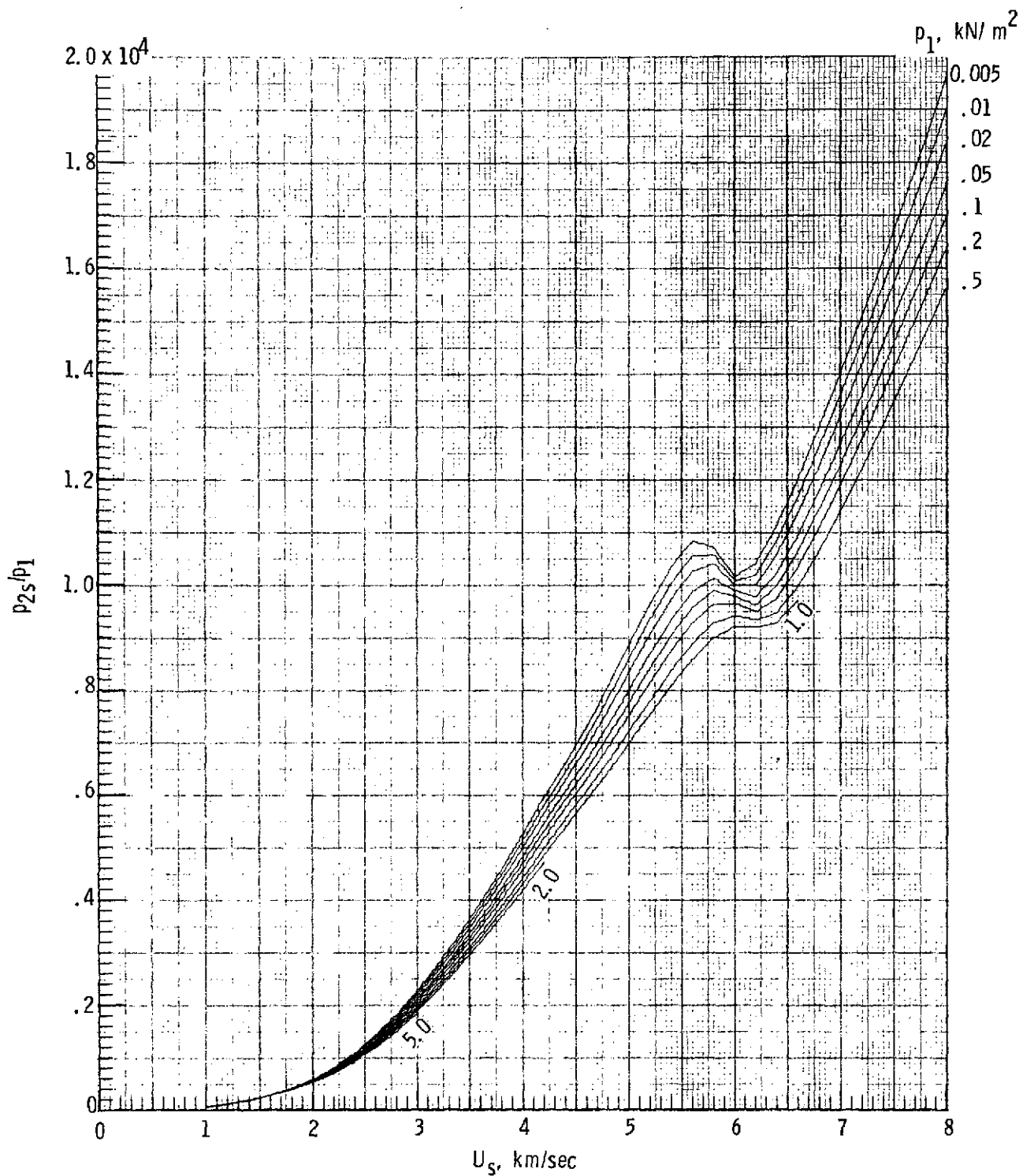
(h) - Isentropic exponent, $\gamma_{E,2}/\gamma_{E,1}$

Figure 2. - Continued.



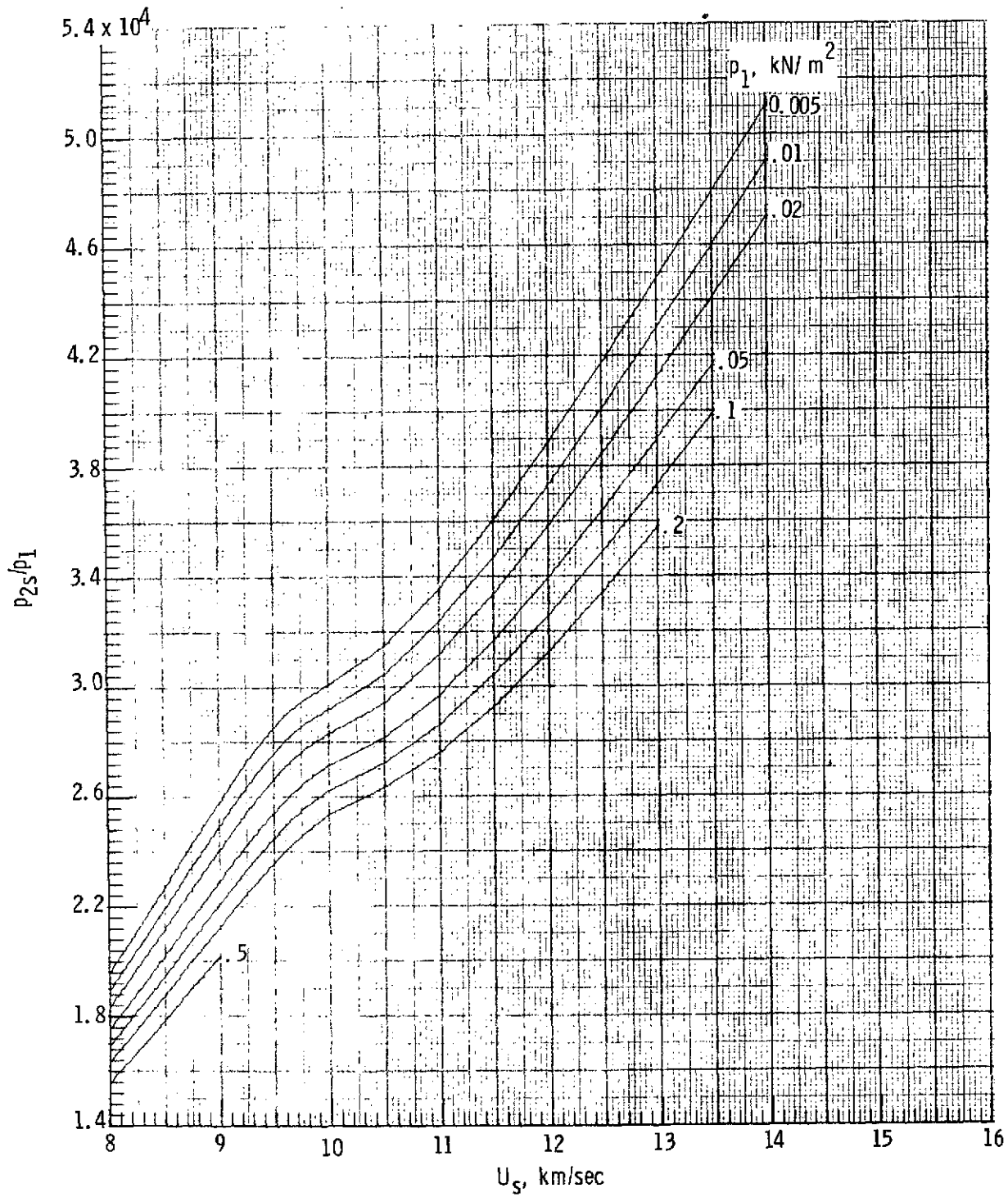
(h) Isentropic exponent, $\gamma_{E,2}/\gamma_{E,1}$

Figure 2. - Continued.



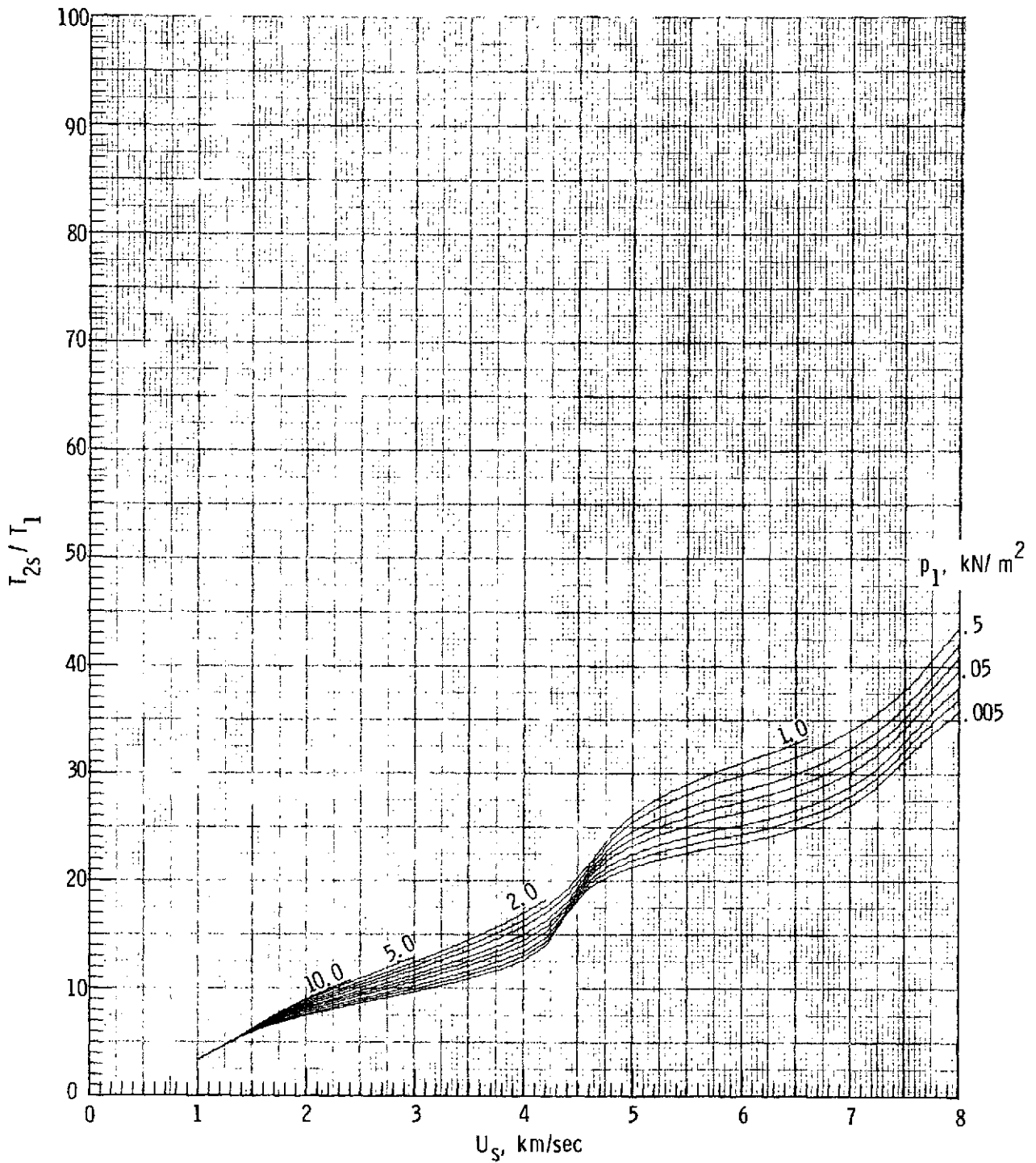
(a) Pressure, p_{2s}/p_1 .

Figure 3. - Thermodynamic properties and flow velocity behind a standing normal shock for pure CO_2 .



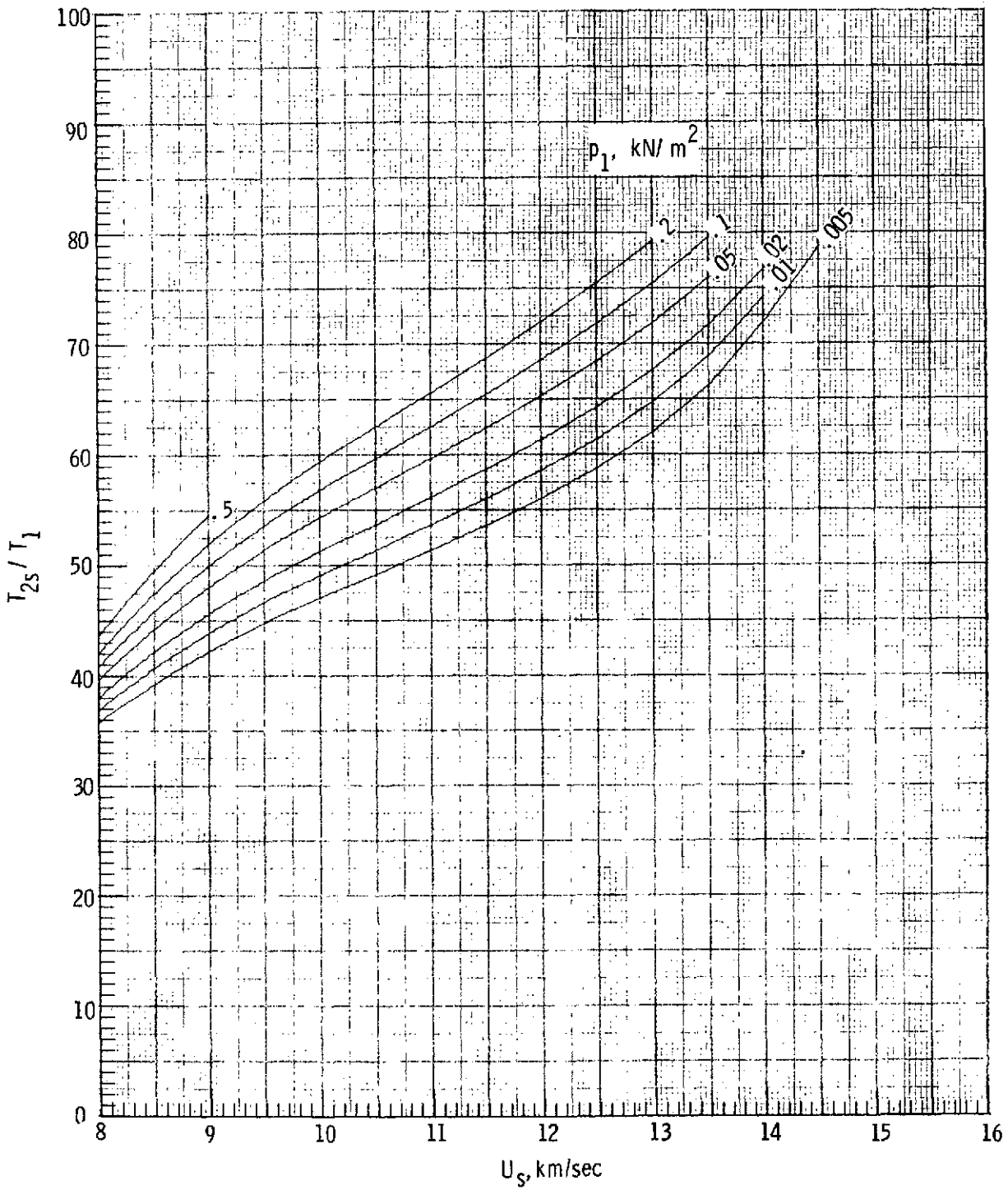
(a) Pressure, p_{2s}/p_1 .

Figure 3. - Continued.



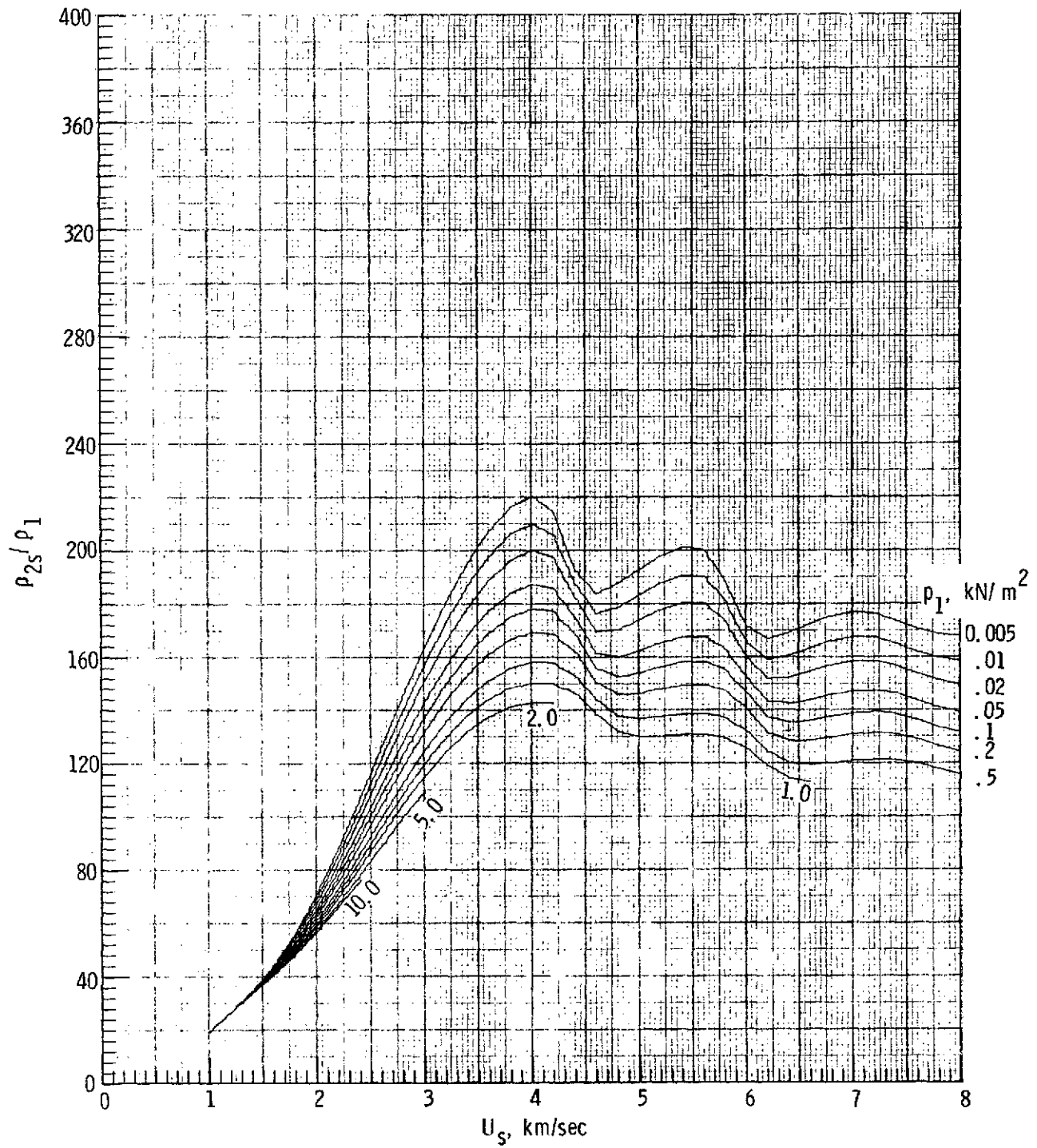
(b) Temperature, T_{2s}/T_1 .

Figure 3. - Continued.



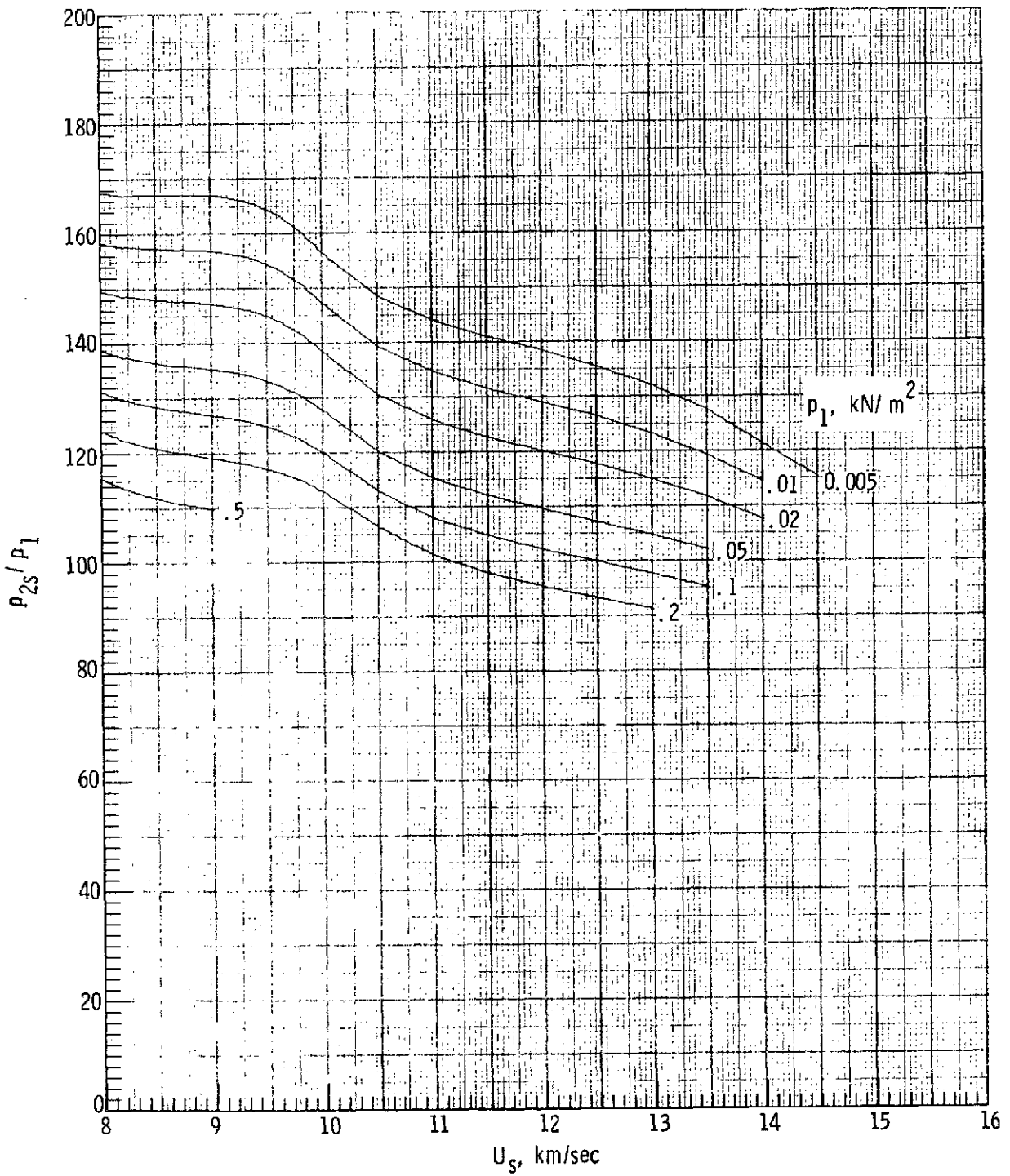
(b) Temperature, T_{2s}/T_1 .

Figure 3. - Continued.



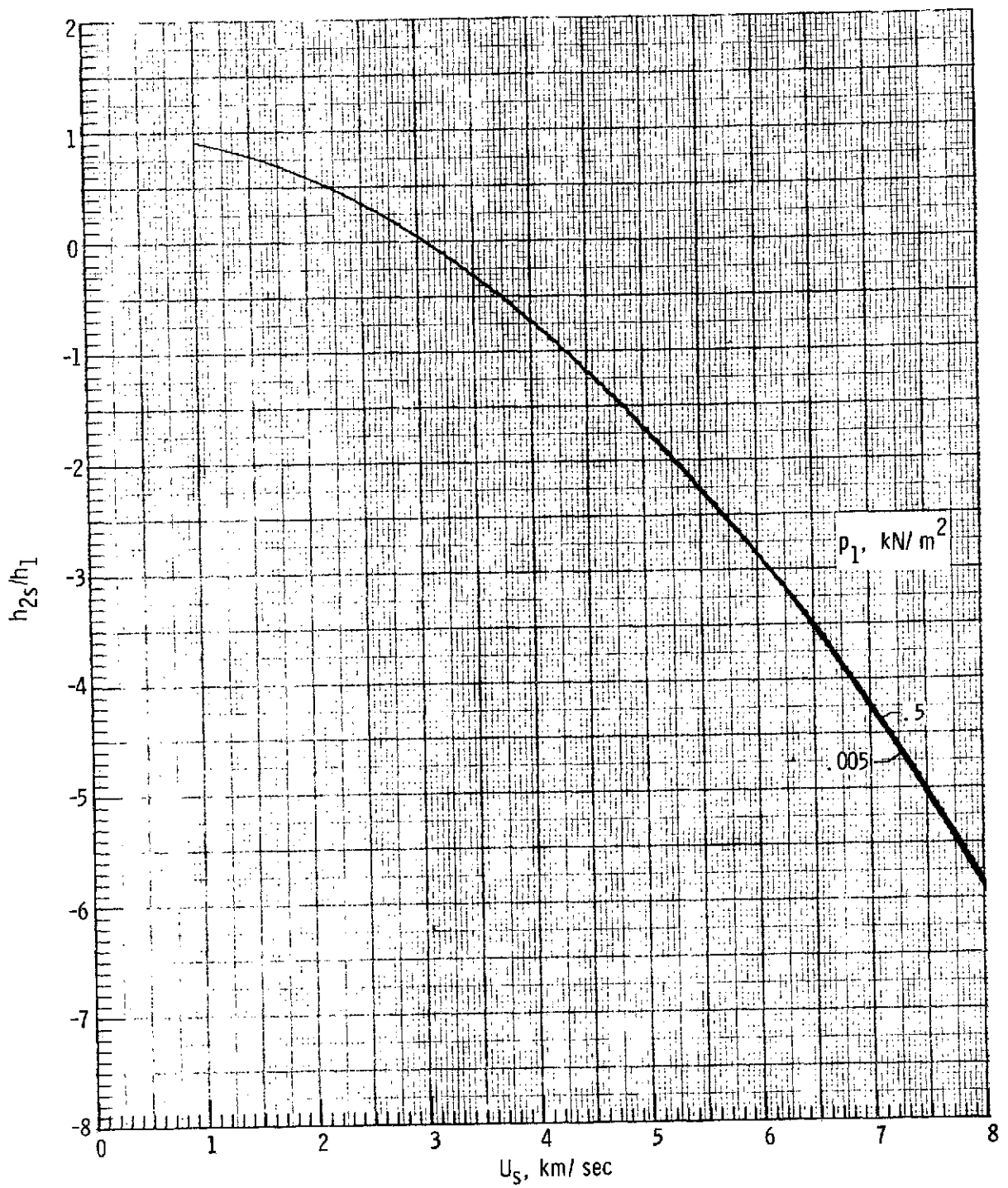
(c) Density ratio, ρ_{2s}/ρ_1 .

Figure 3. - Continued.



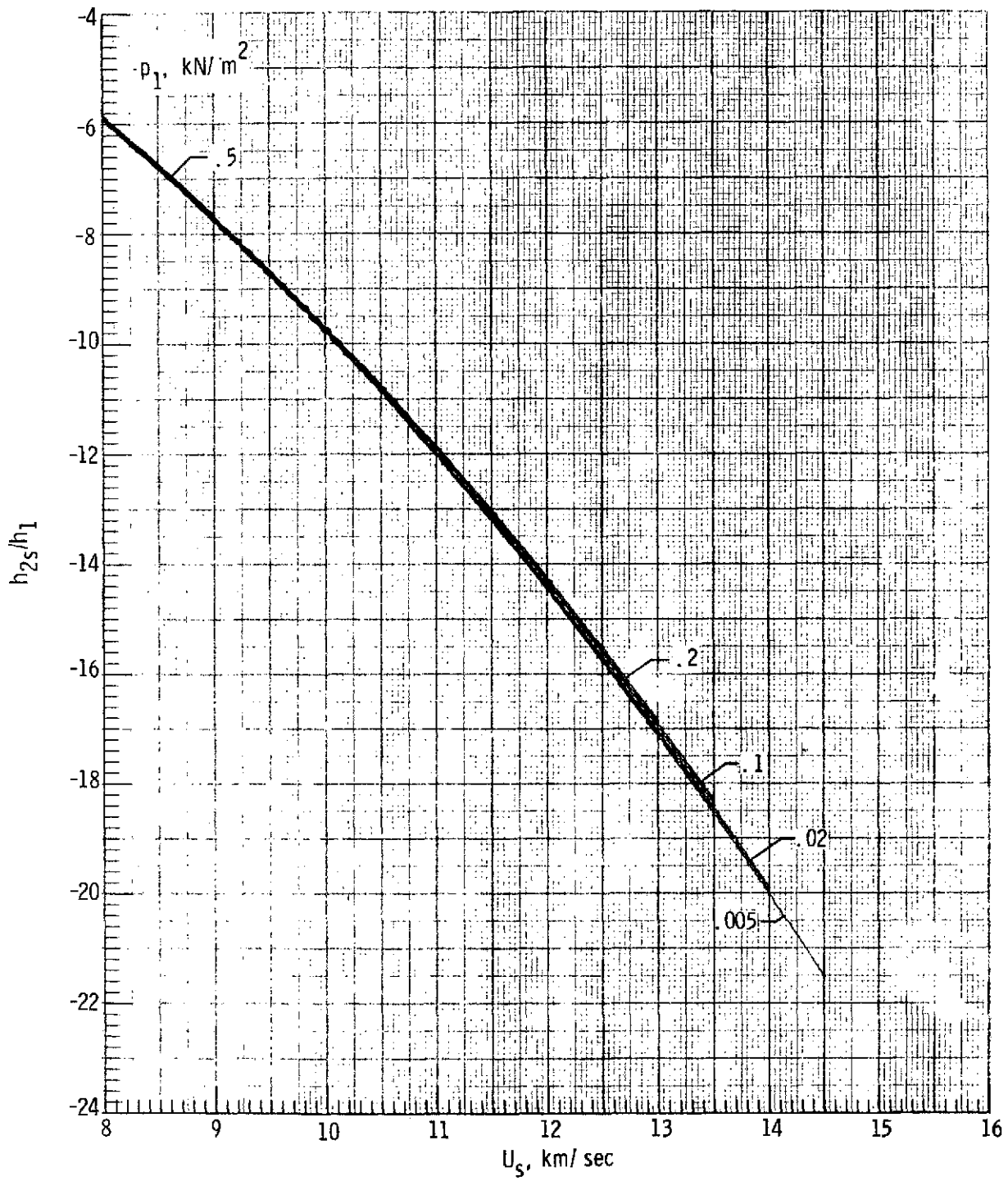
(c) Density ratio, ρ_{2s}/ρ_1 .

Figure 3. - Continued.



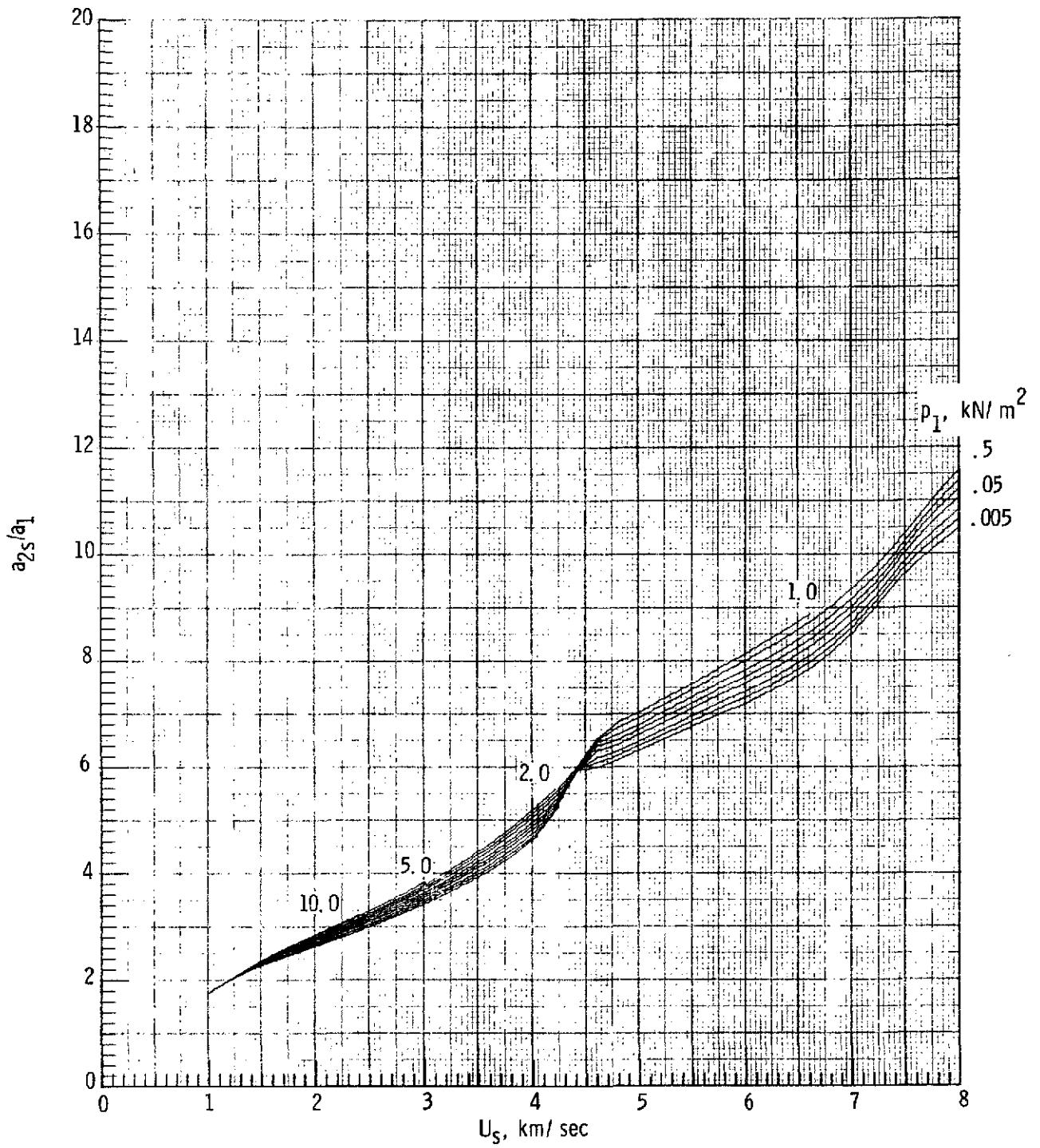
(d) Enthalpy, h_{2s}/h_1 .

Figure 3. - Continued.



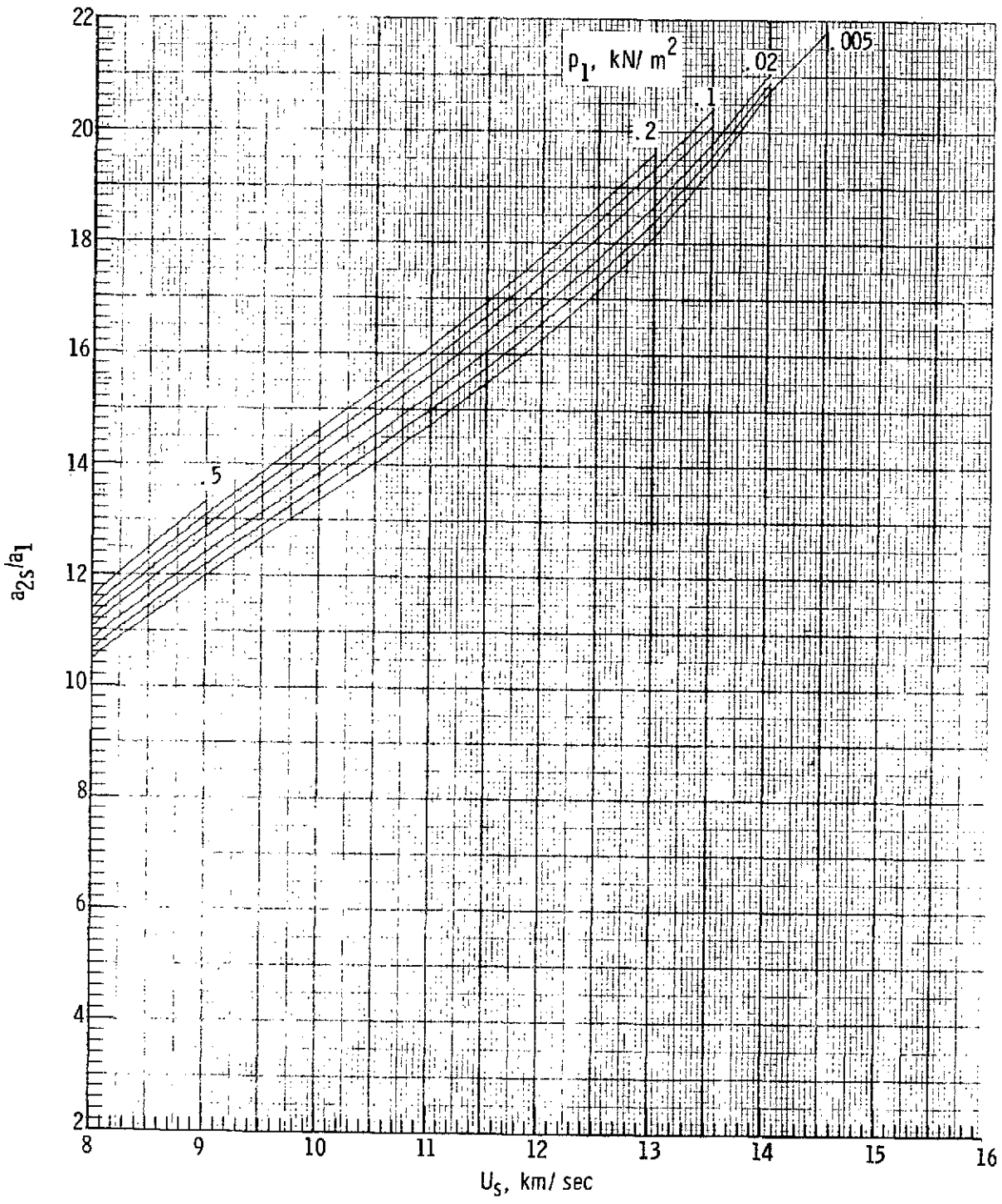
(d) Enthalpy, h_{2s}/h_1 .

Figure 3. - Continued.



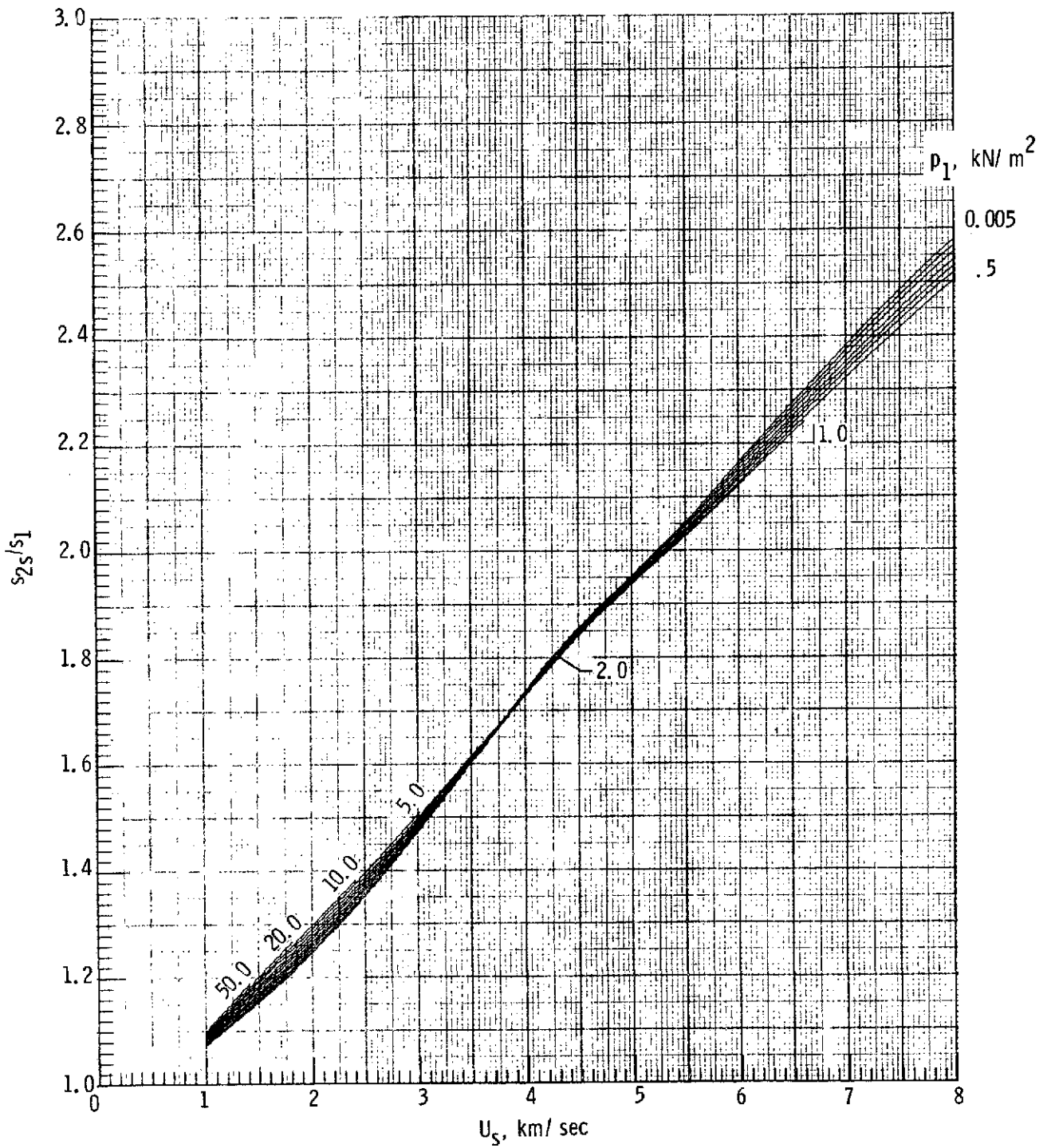
(e) Speed of sound, a_{2s}/a_1 .

Figure 3. - Continued.



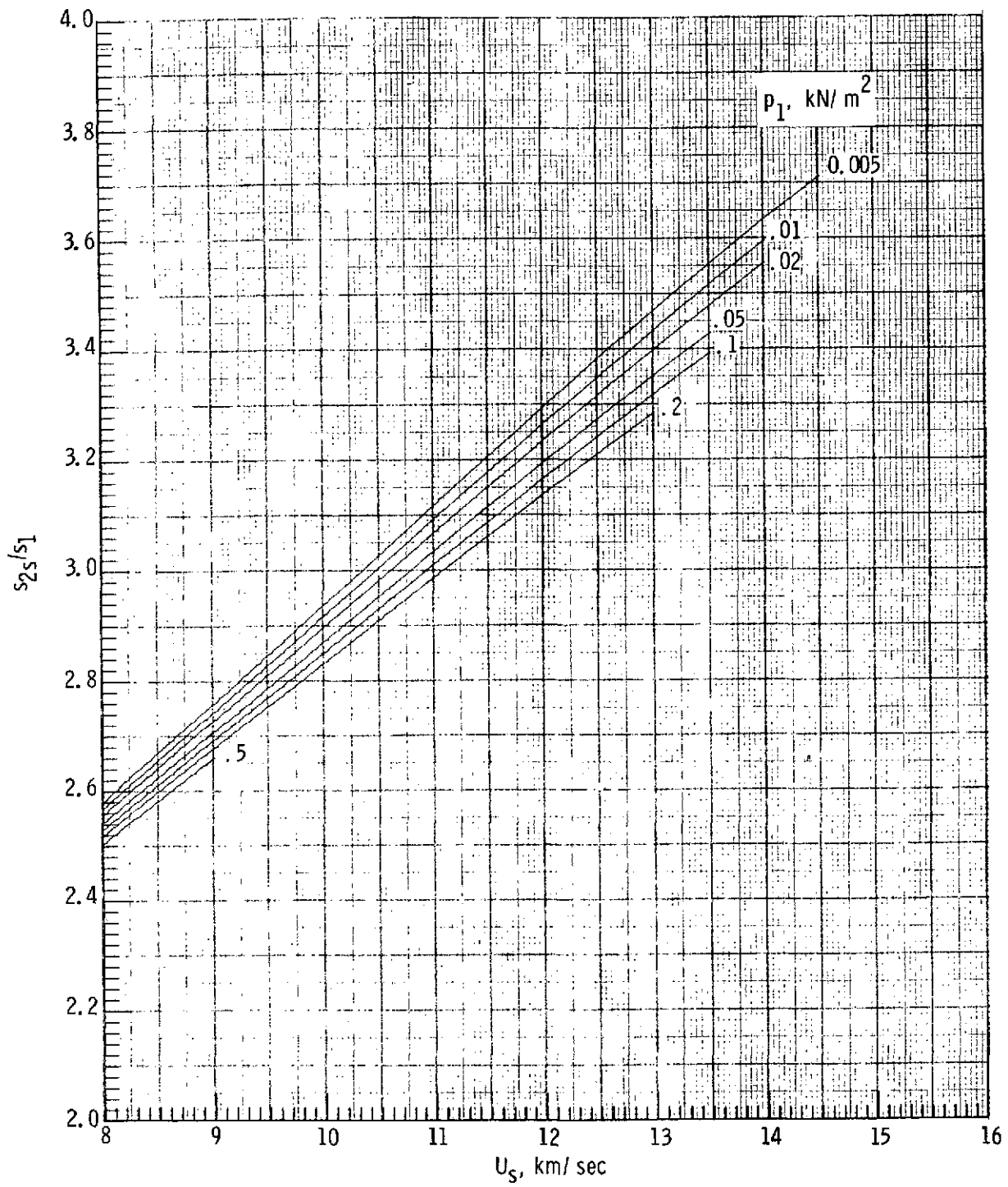
(e) Speed of sound, a_{2s}/a_1 .

Figure 3. - Continued.



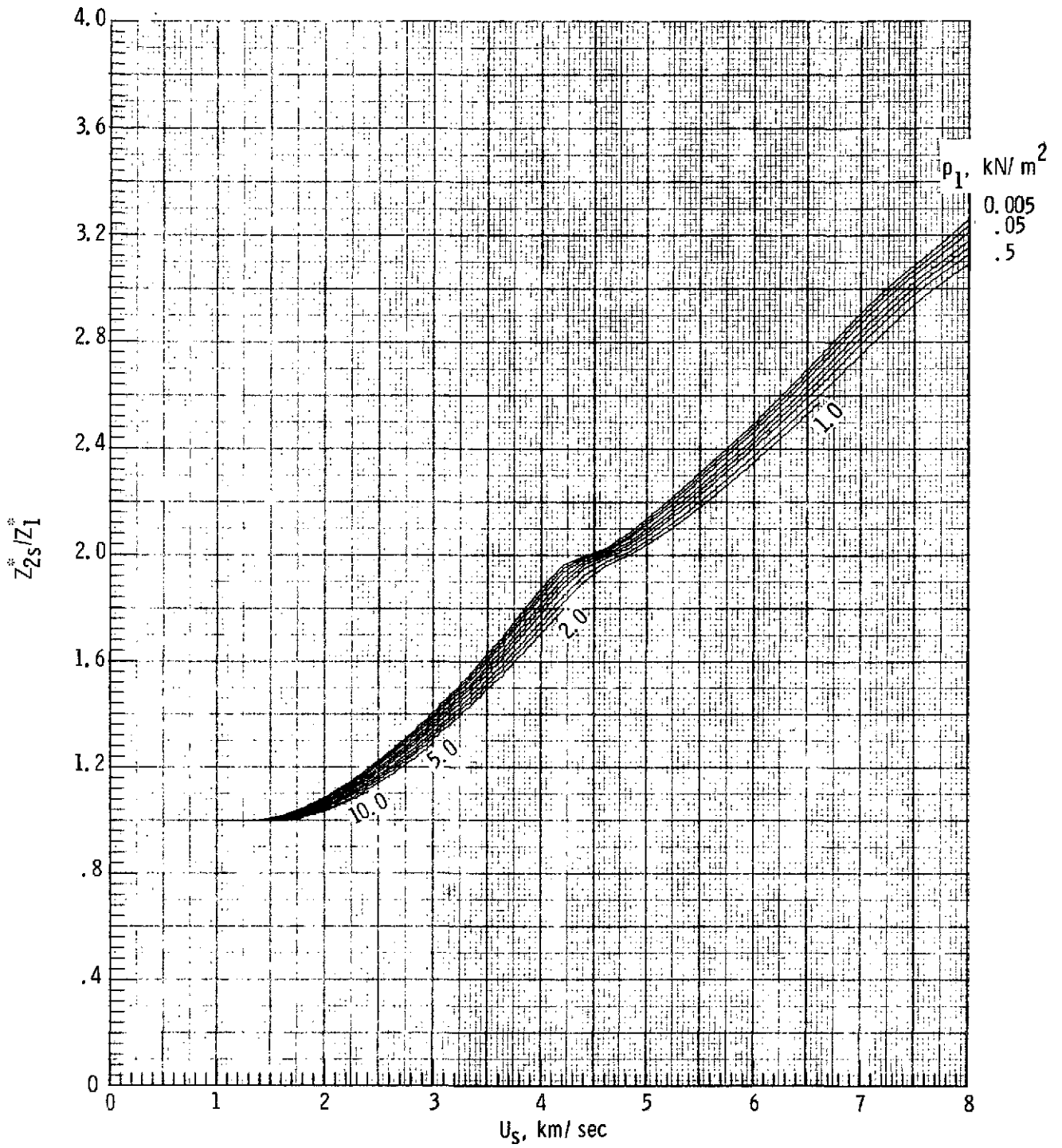
(f) Entropy, s_{2s}/s_1 .

Figure 3. - Continued.



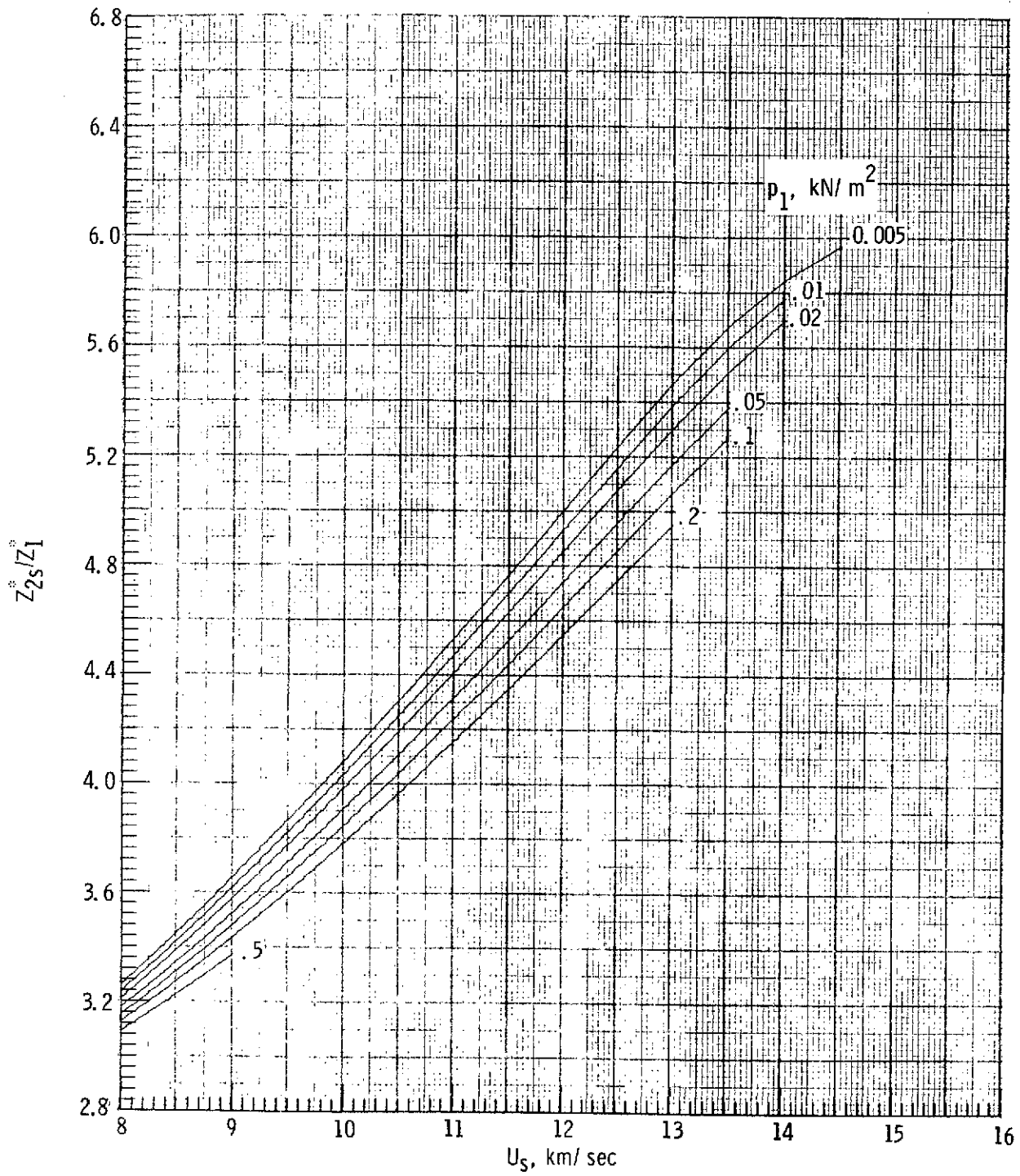
(f) Entropy, s_{2s}/s_1 .

Figure 3. - Continued.



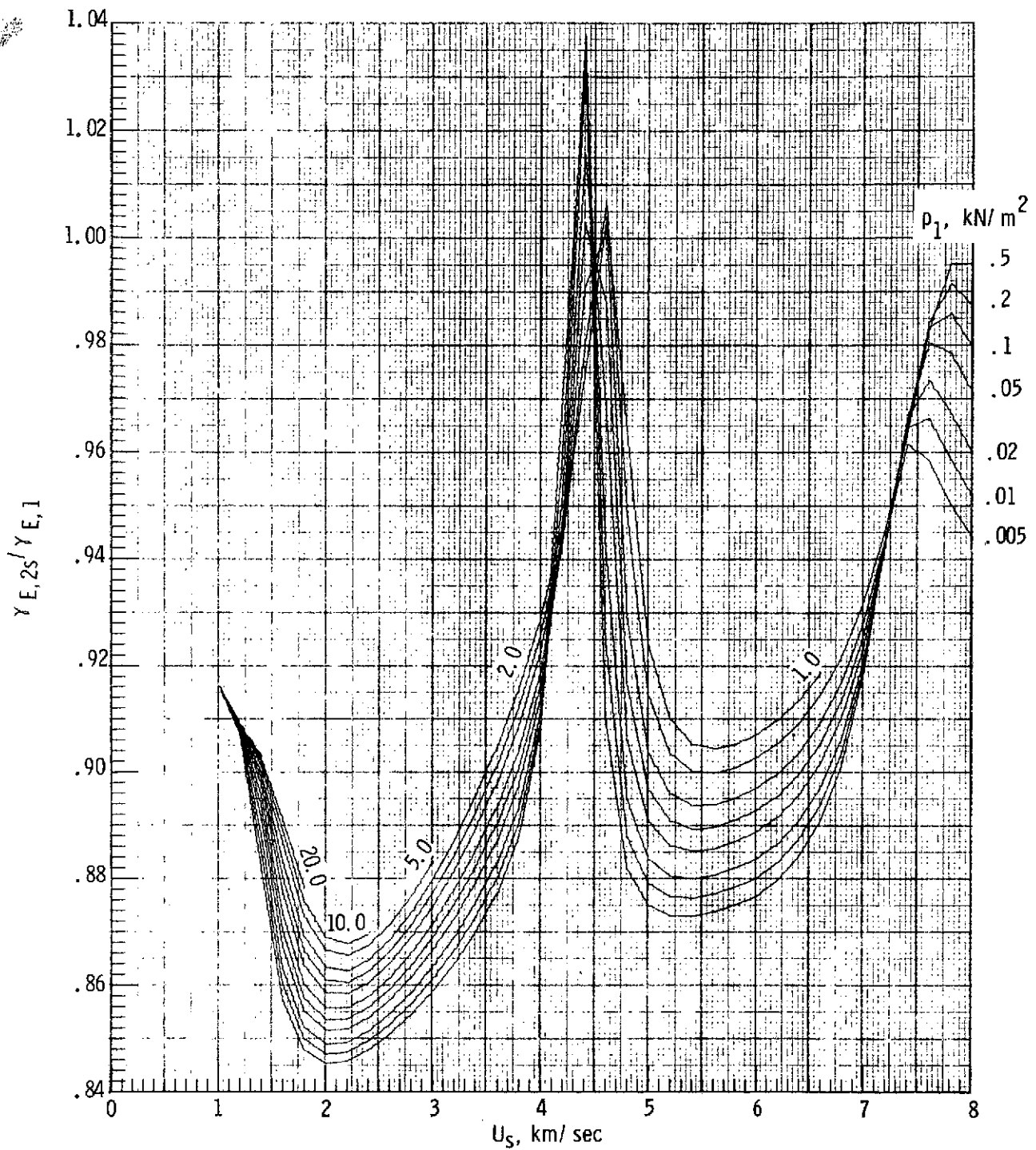
(g) Molecular weight ratio, Z_{2s}^*/Z_1^* .

Figure 3. - Continued.



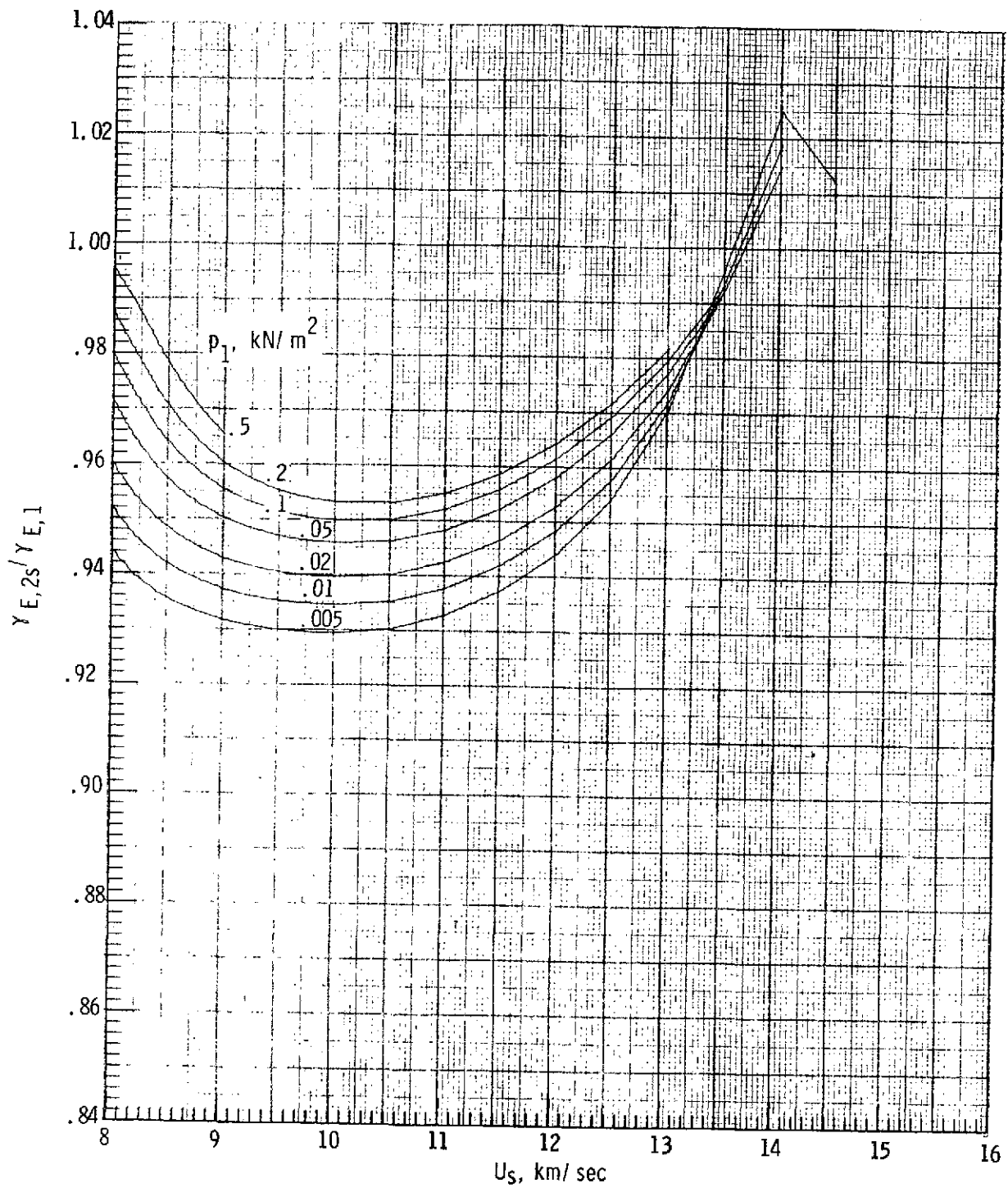
(g) Molecular weight ratio, Z_{2s}^*/Z_1^* .

Figure 3. - Continued.



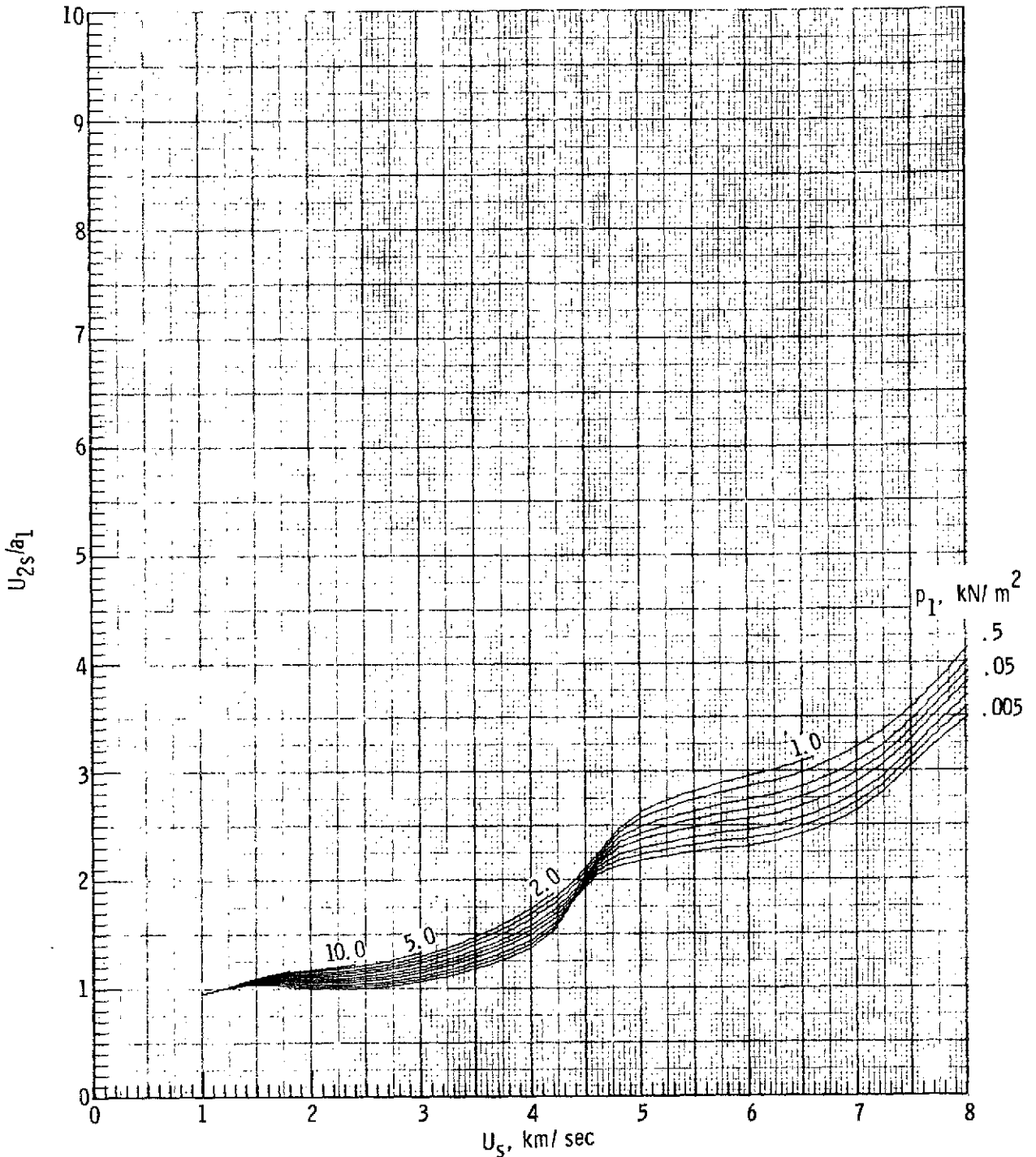
(h) Isentropic exponent, $\gamma_{E,2s} / \gamma_{E,1}$

Figure 3. - Continued.



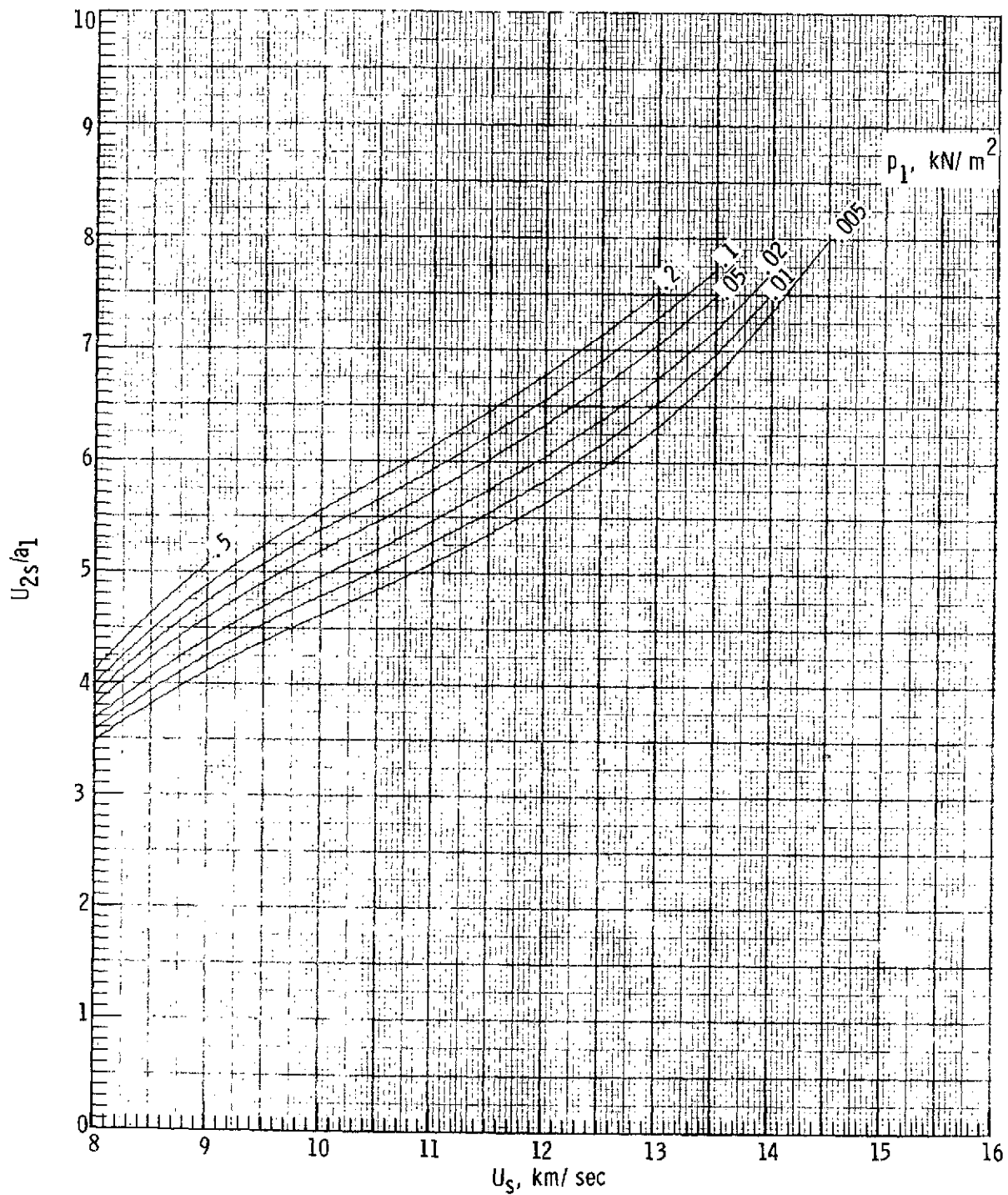
(h) Isentropic exponent, $\gamma_{E,2s}/\gamma_{E,1}$

Figure 3. - Continued.



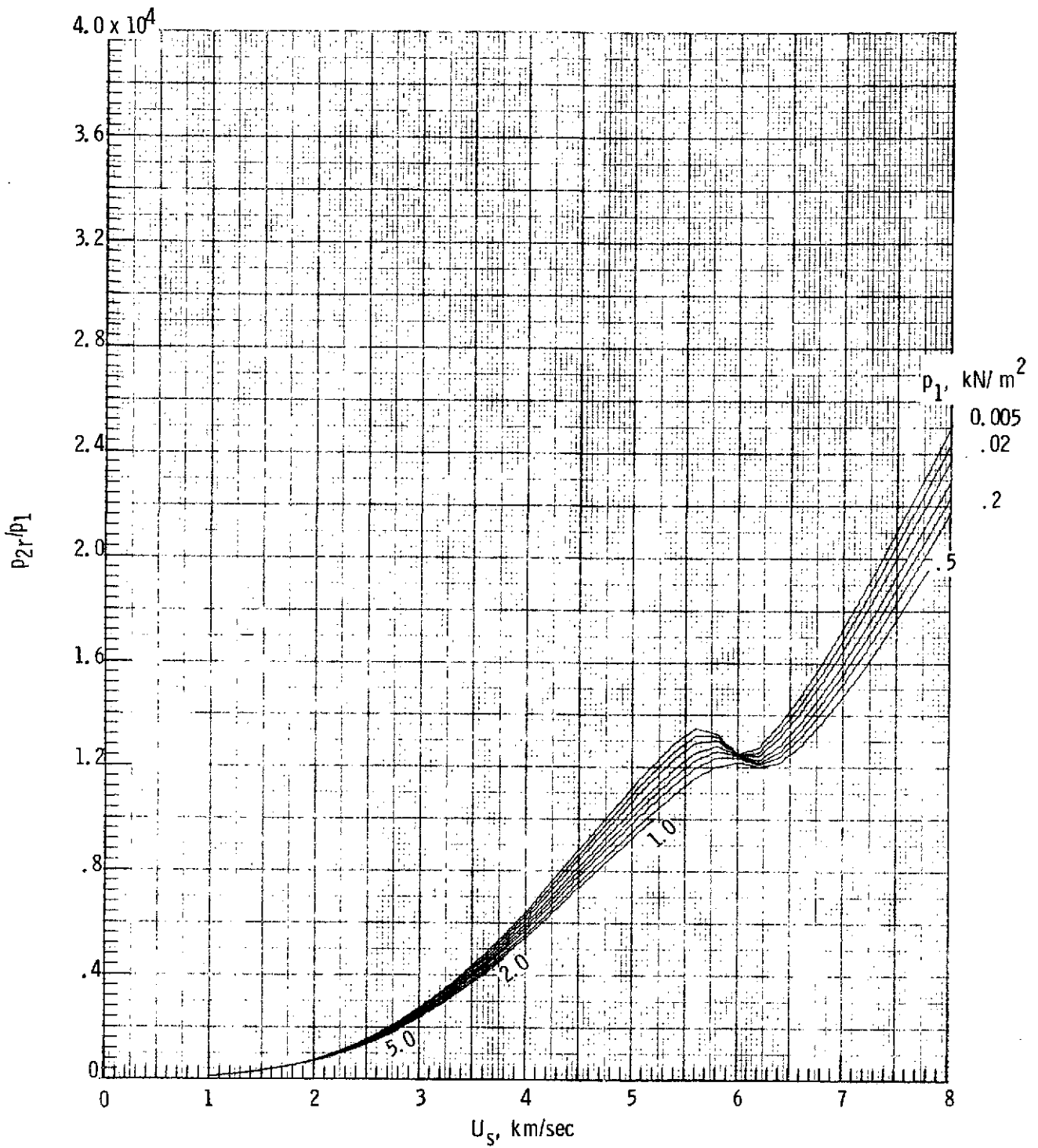
(i) Velocity, U_{2s}/a_1 .

Figure 3. - Continued.



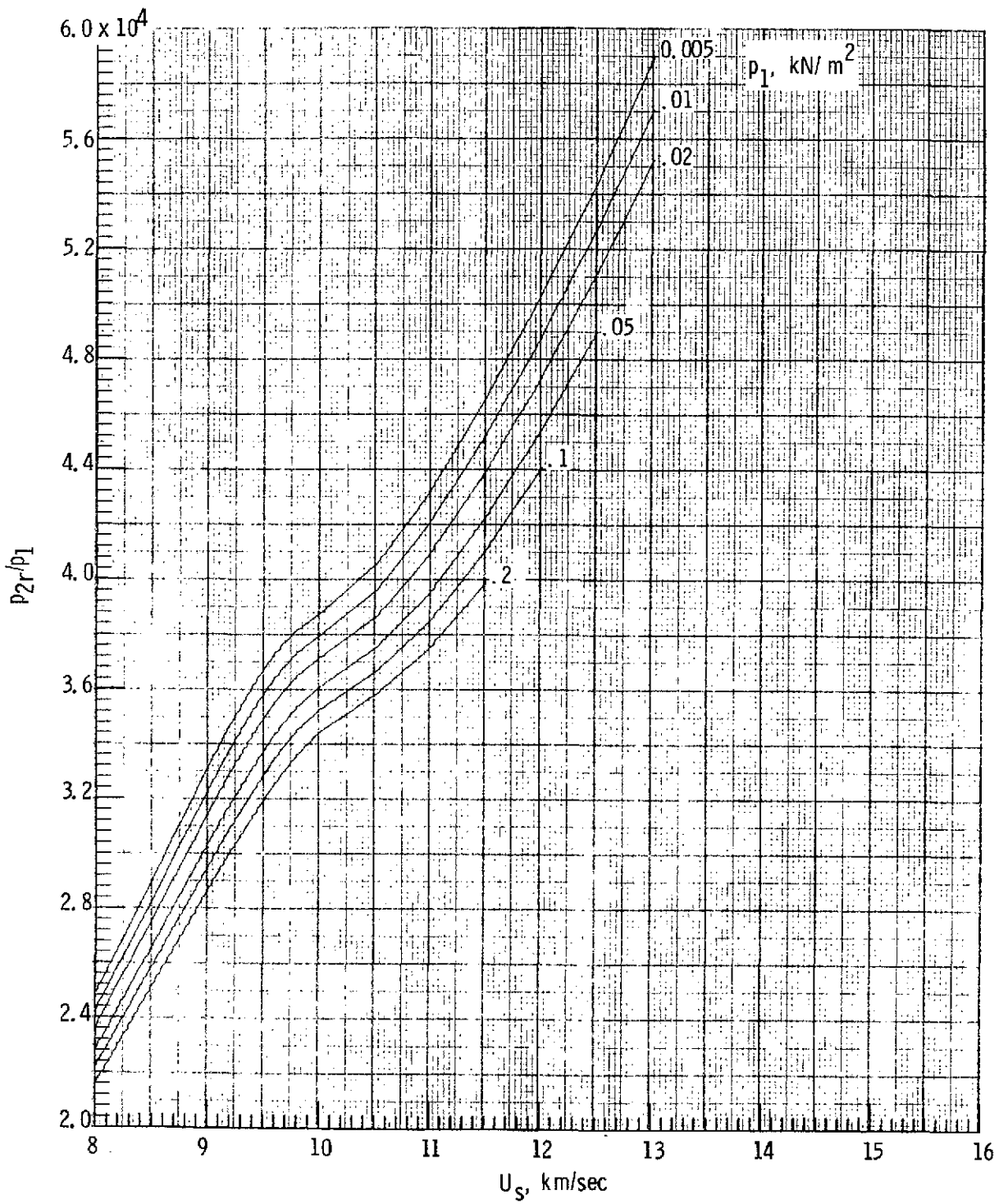
(i) Velocity, U_{2s}/a_1 .

Figure 3. - Concluded.



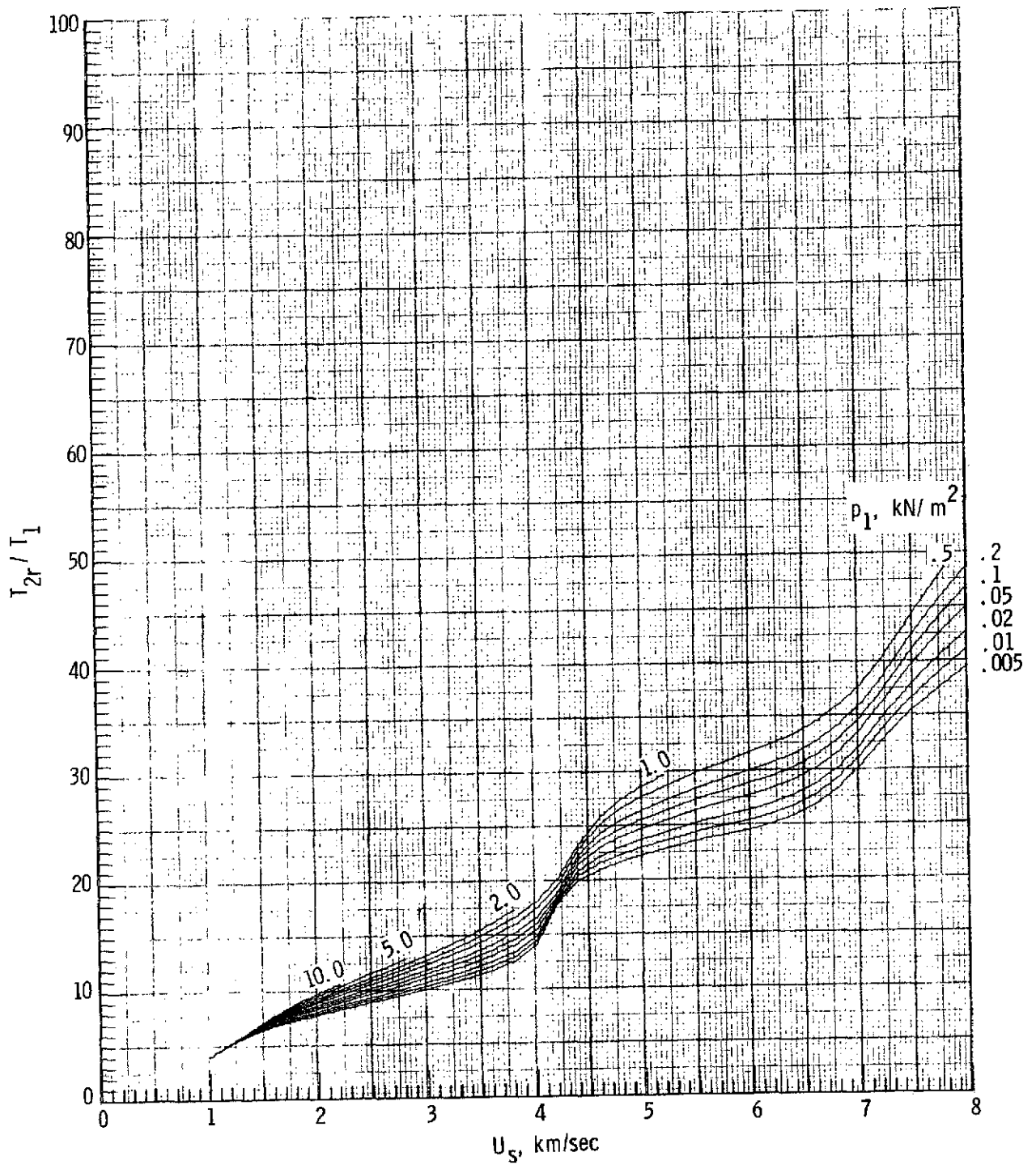
(a) Pressure, p_{2r}/p_1 .

Figure 4. - Thermodynamic properties behind a reflected normal shock and reflected shock velocity for pure CO_2 .



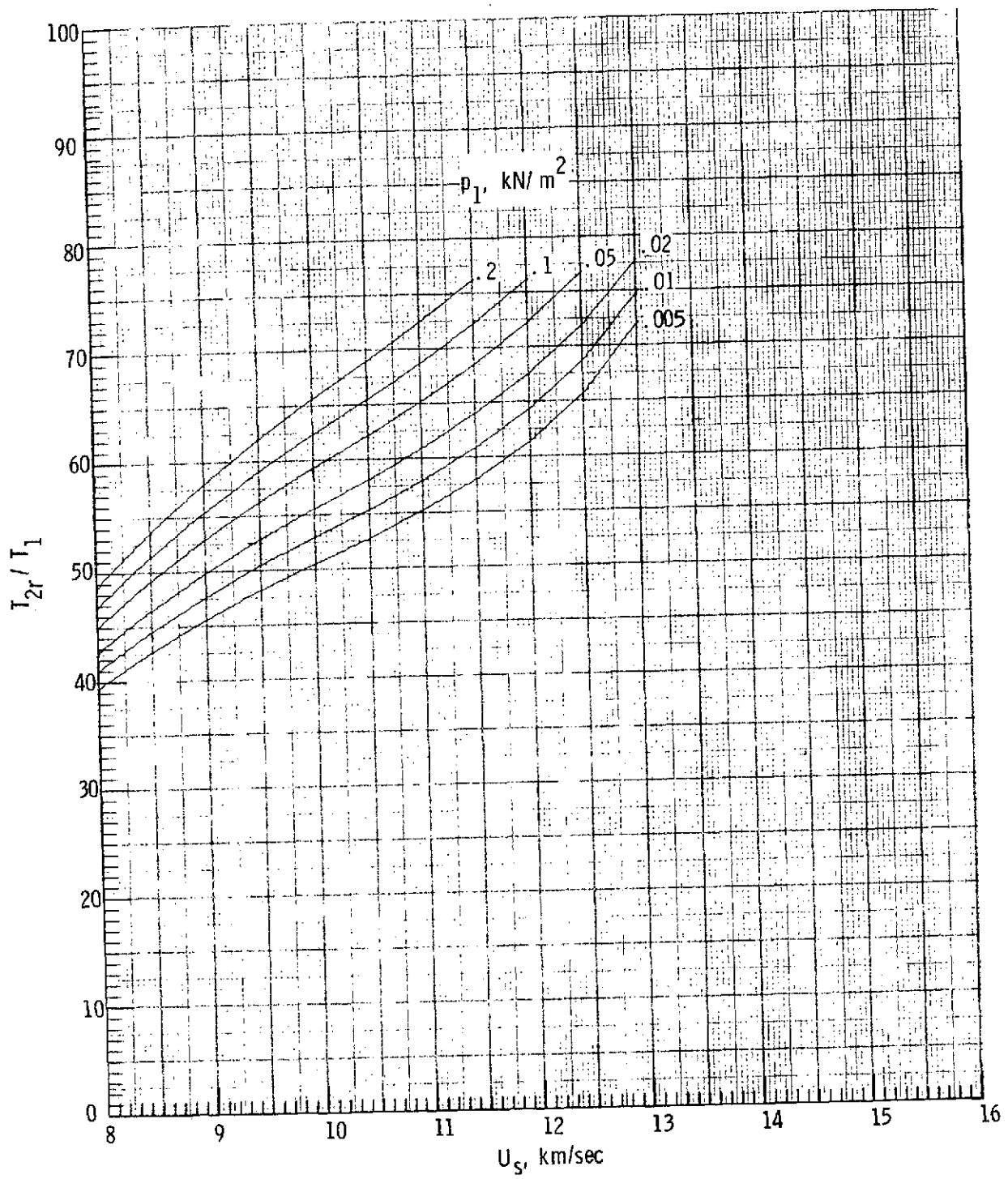
(a) Pressure, p_{2r}/p_1 .

Figure 4. - Continued.



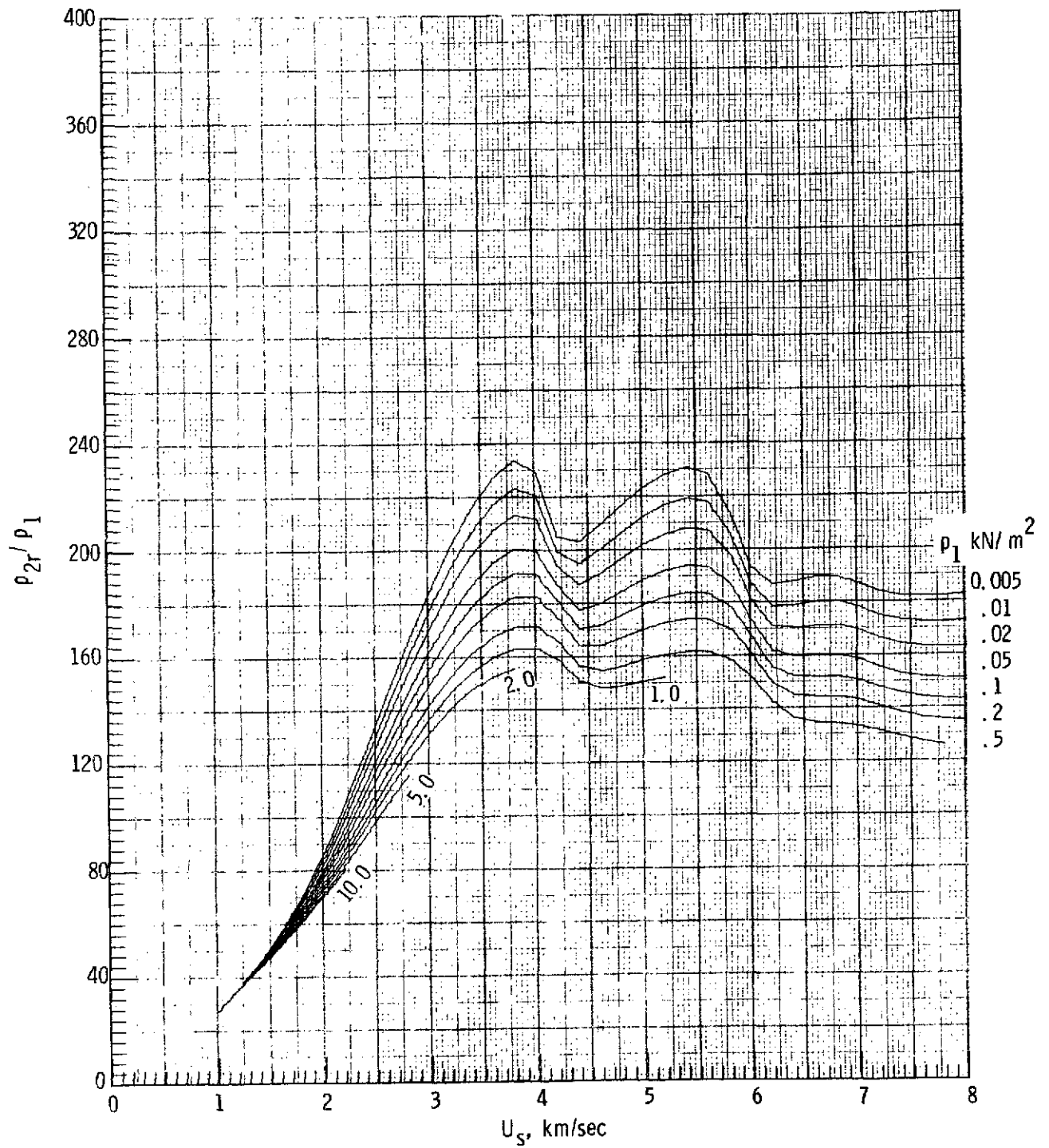
(b) Temperature, T_{2r}/T_1 .

Figure 4. - Continued.



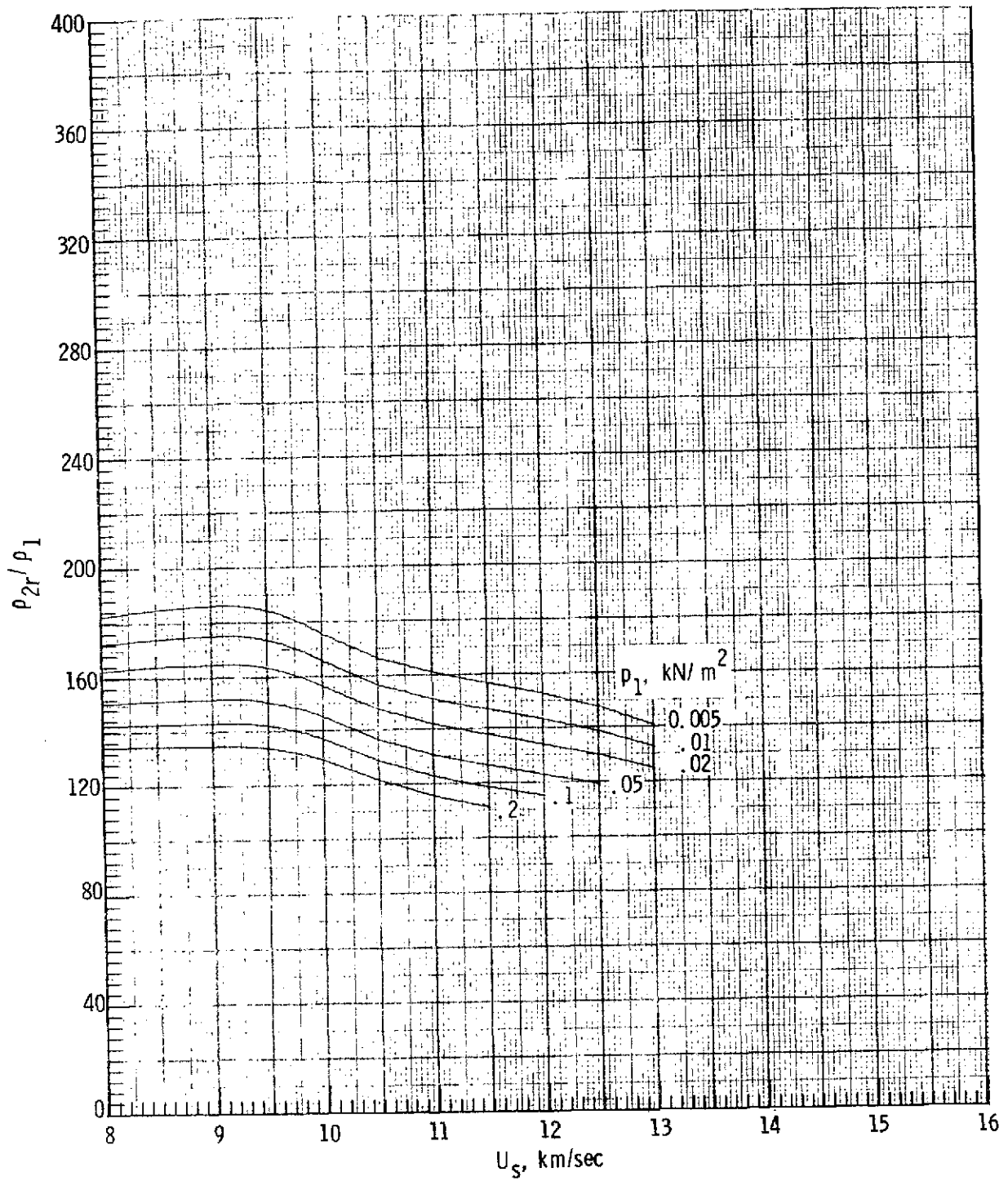
(b) Temperature, T_{2r}/T_1 .

Figure 4. - Continued.



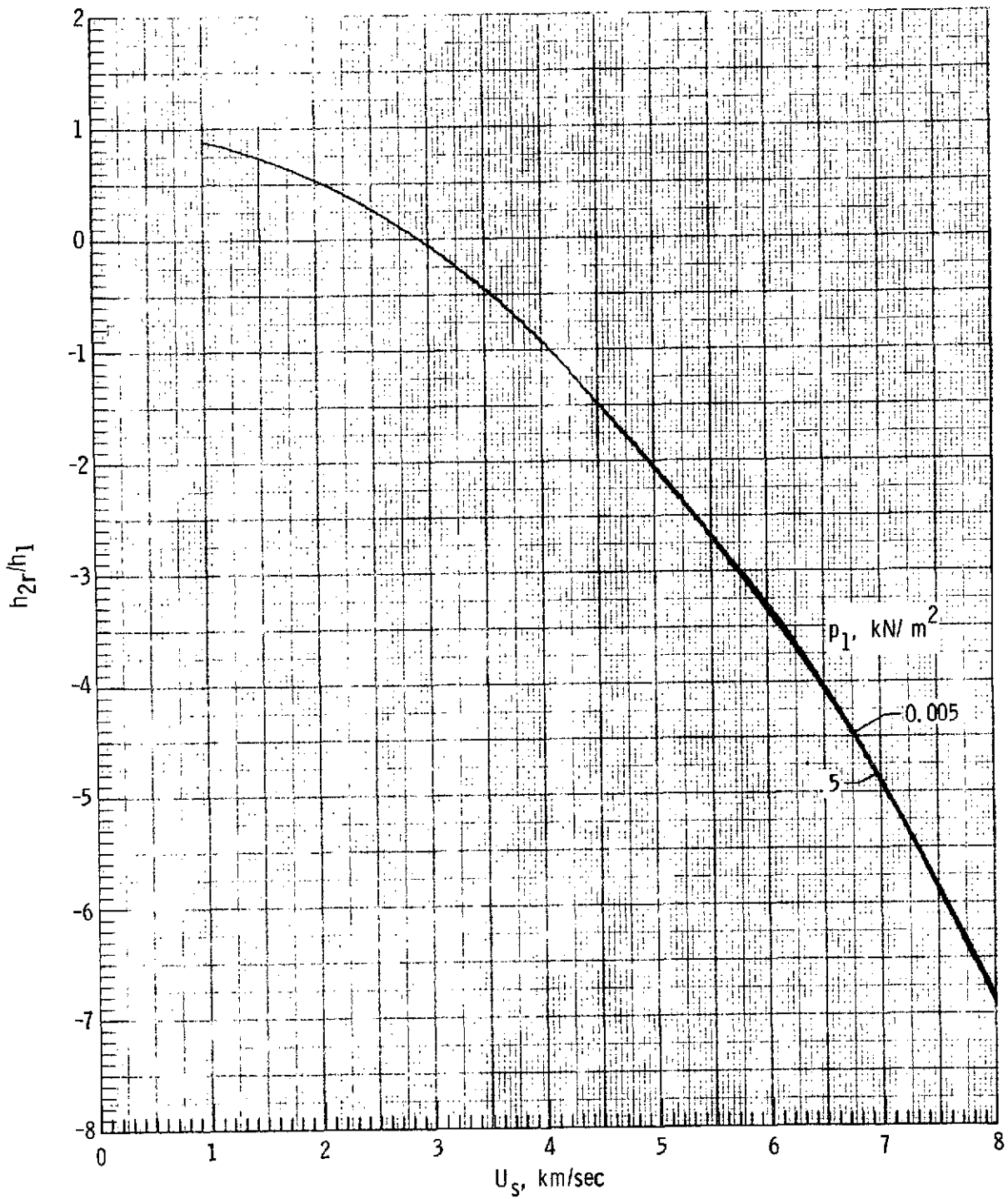
(c) Density ratio, ρ_{2r}/ρ_1 .

Figure 4. - Continued.



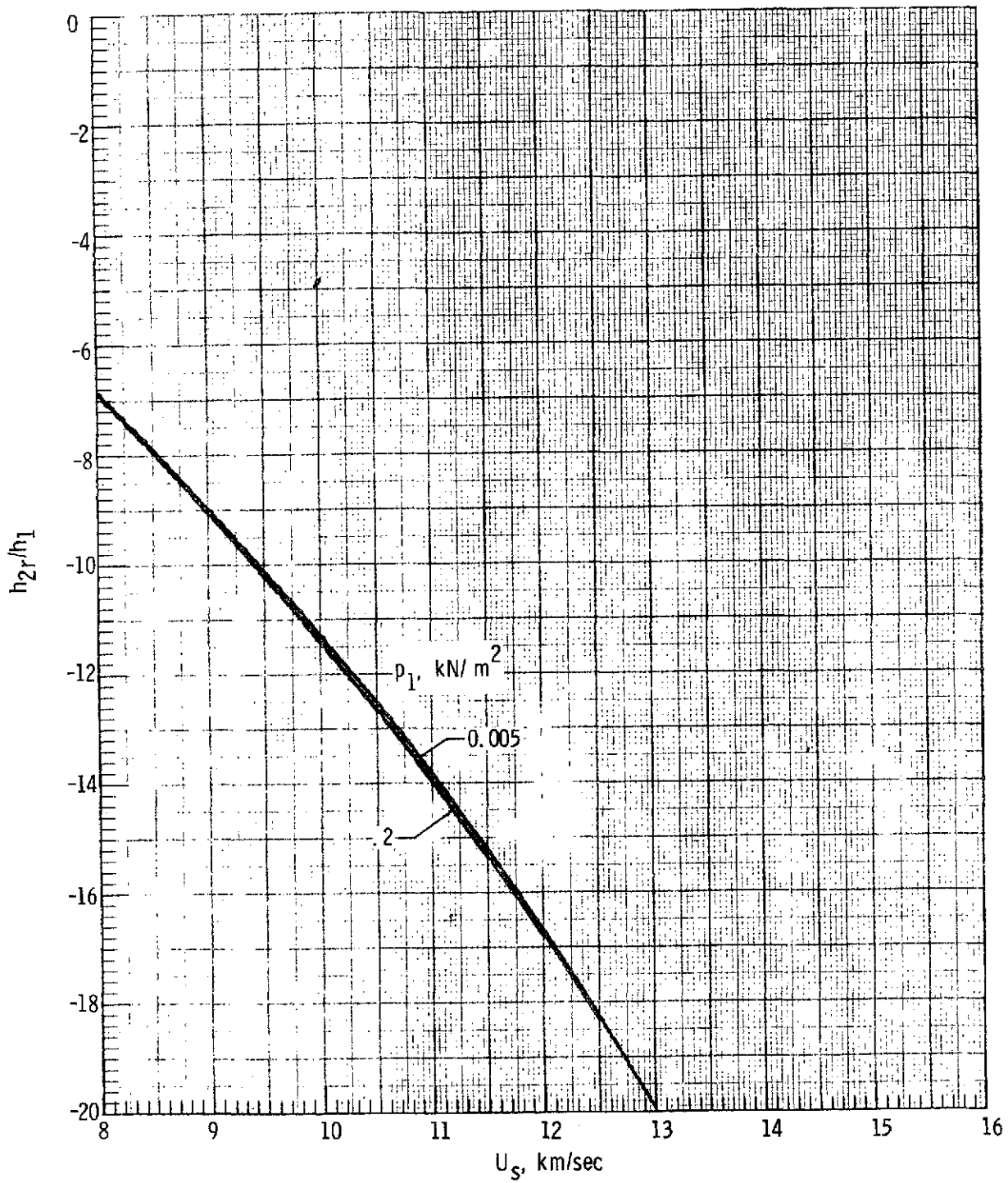
(c) Density ratio, ρ_{2r}/ρ_1 .

Figure 4. - Continued.



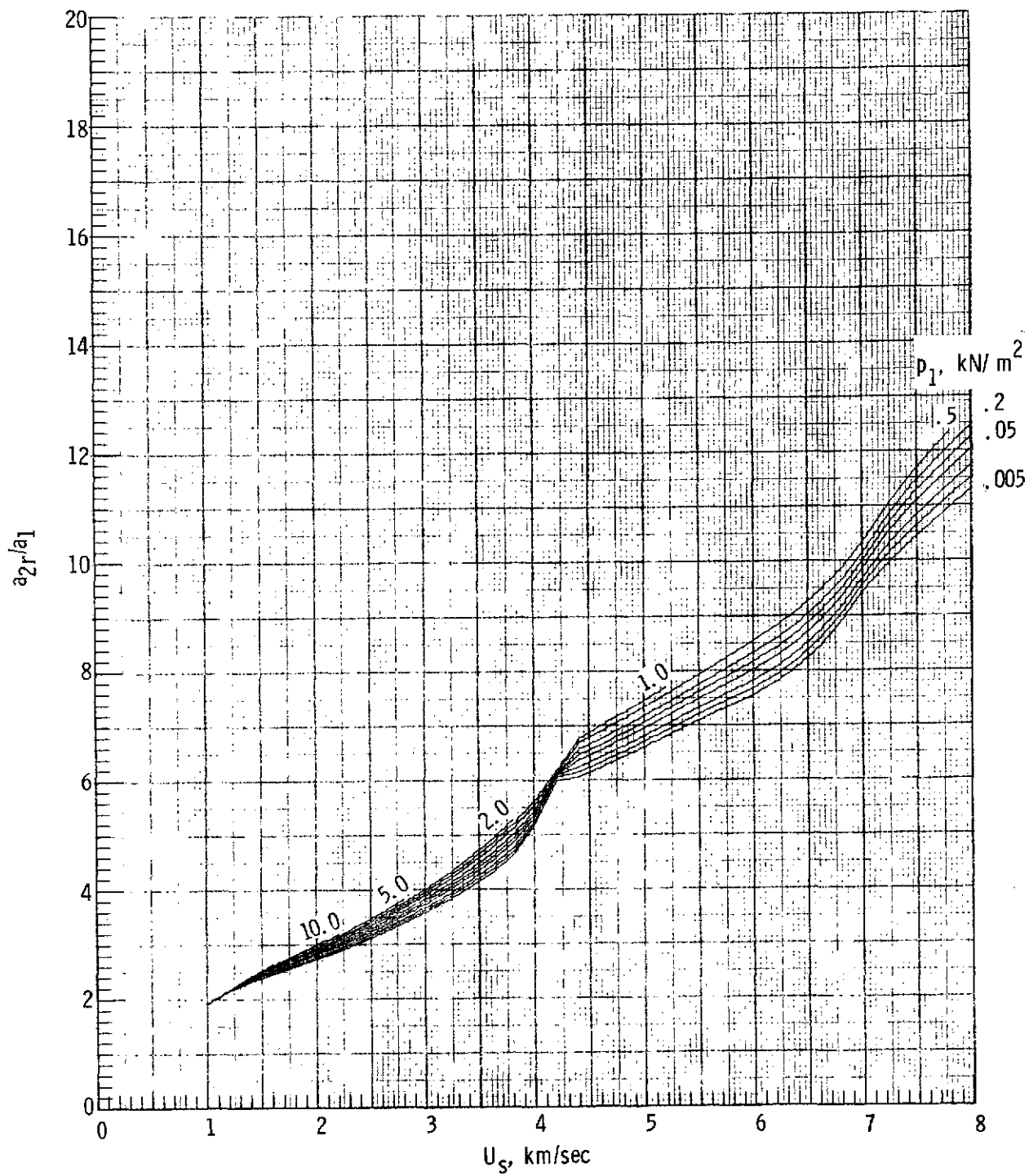
(d) Enthalpy, h_{2r}/h_1 .

Figure 4. - Continued.



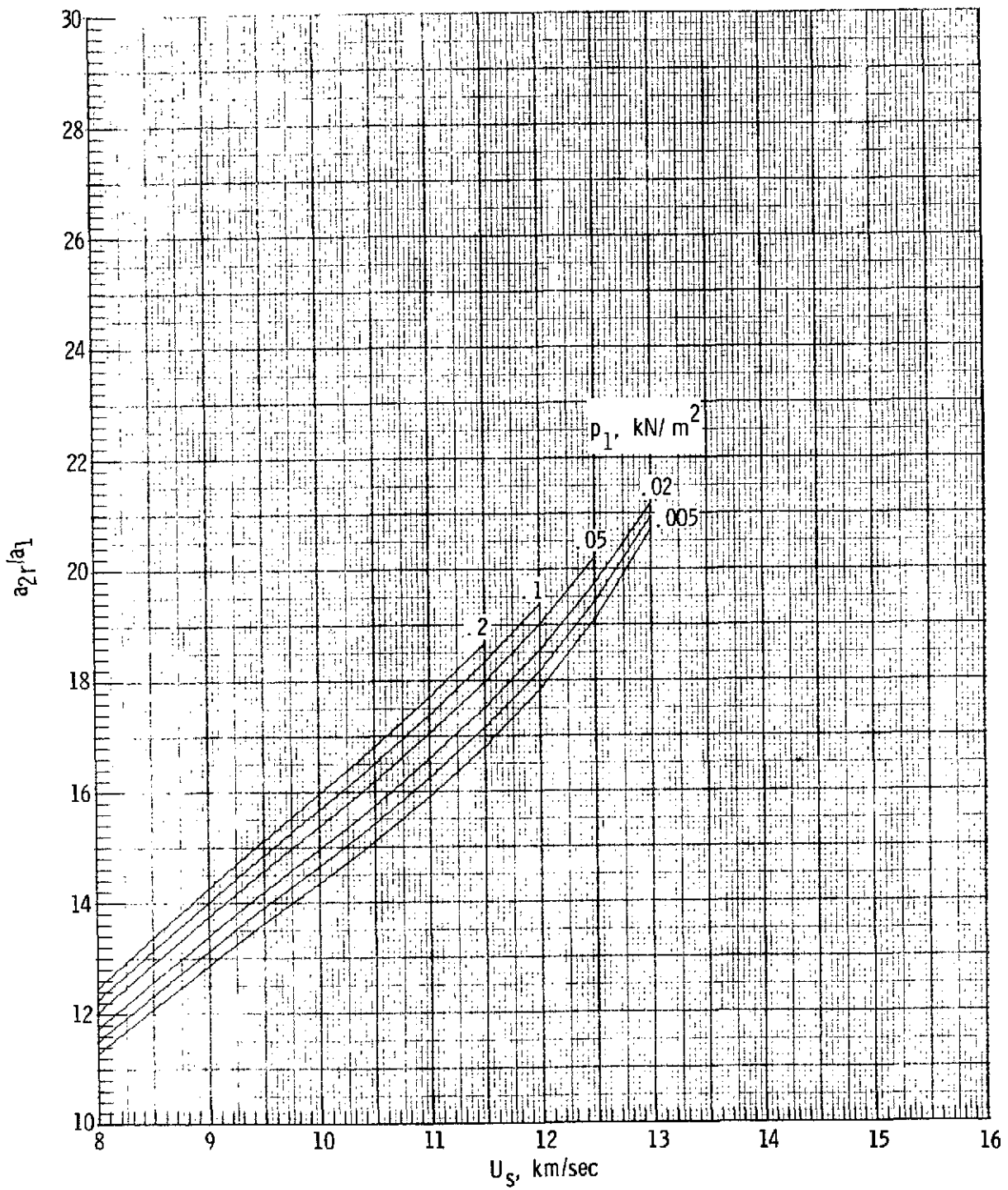
(d) Enthalpy, h_{2r}/h_1 .

Figure 4. - Continued.



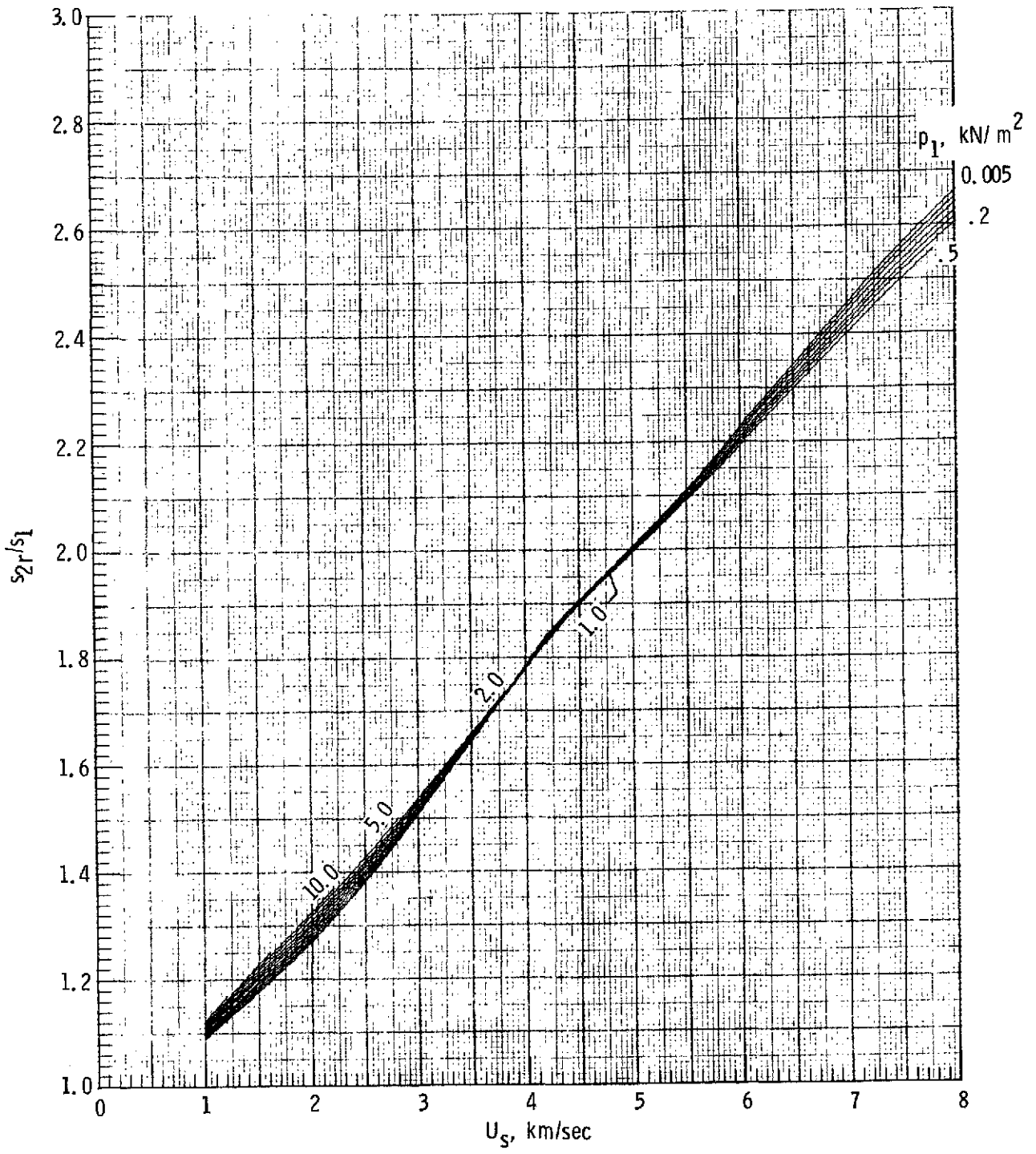
(e) Speed of sound, a_{2r}/a_1 .

Figure 4. - Continued.



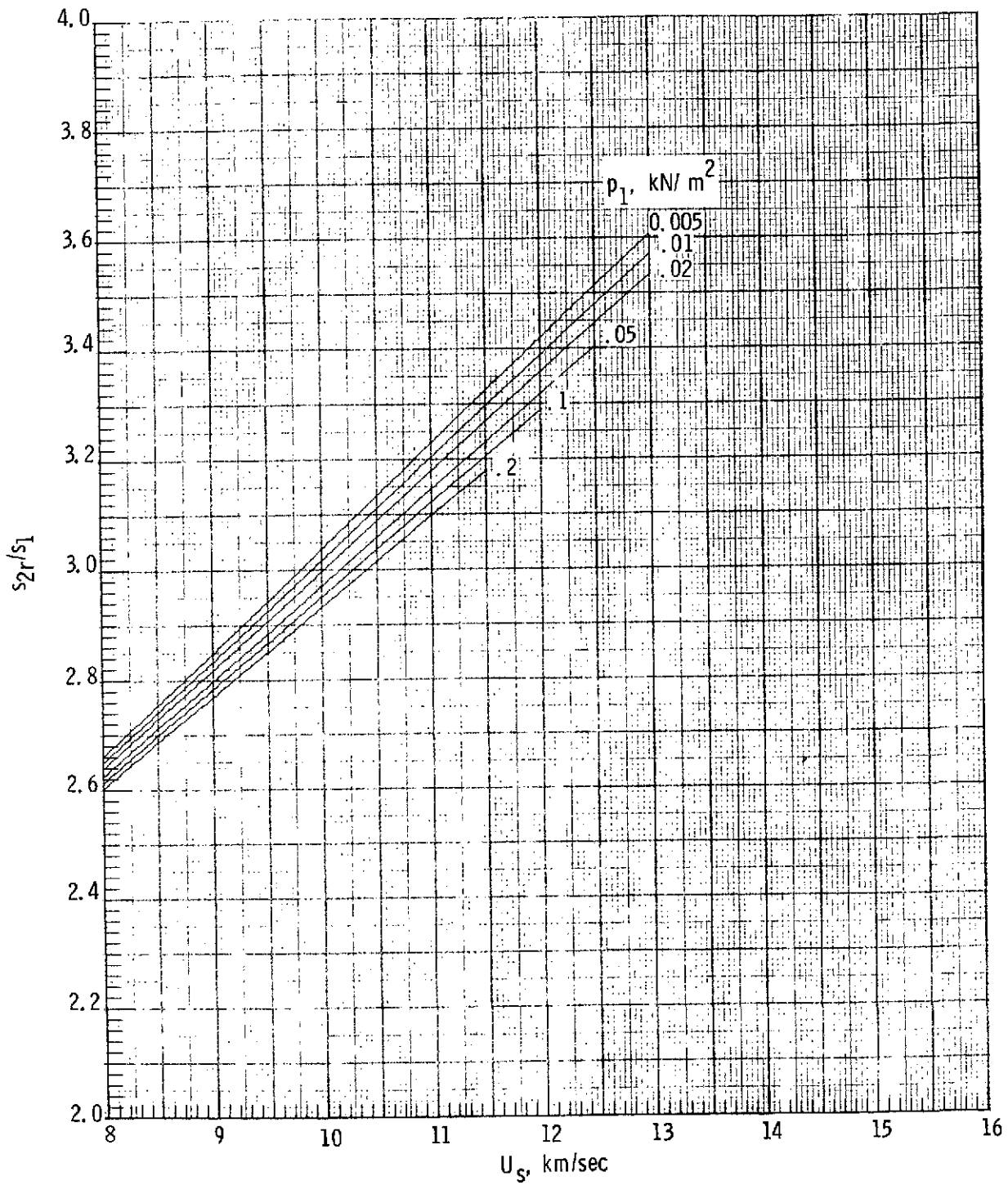
(e) Speed of sound, a_{2r}/a_1 .

Figure 4. - Continued.



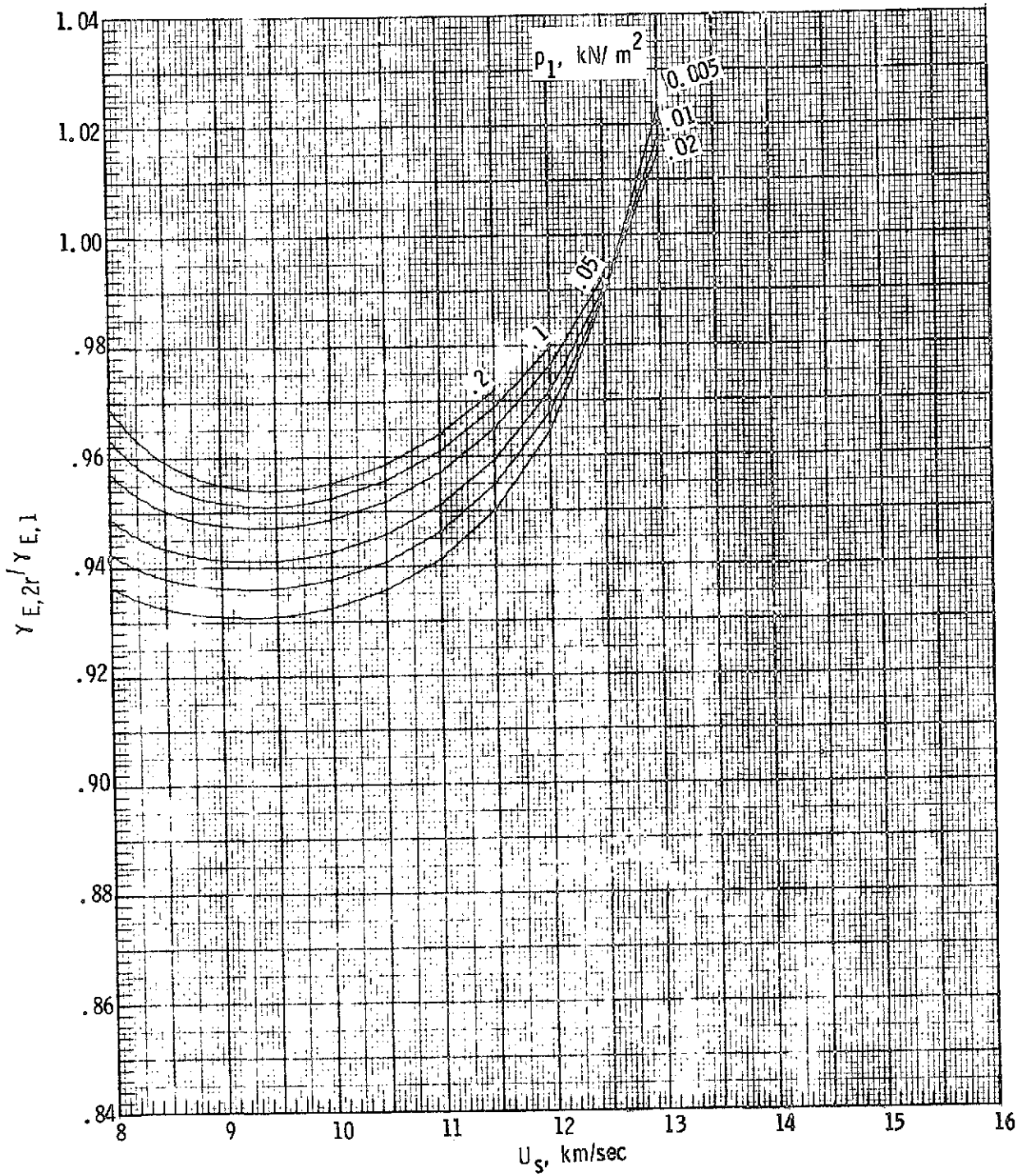
(f) Entropy, s_{2r}/s_1 .

Figure 4. - Continued.



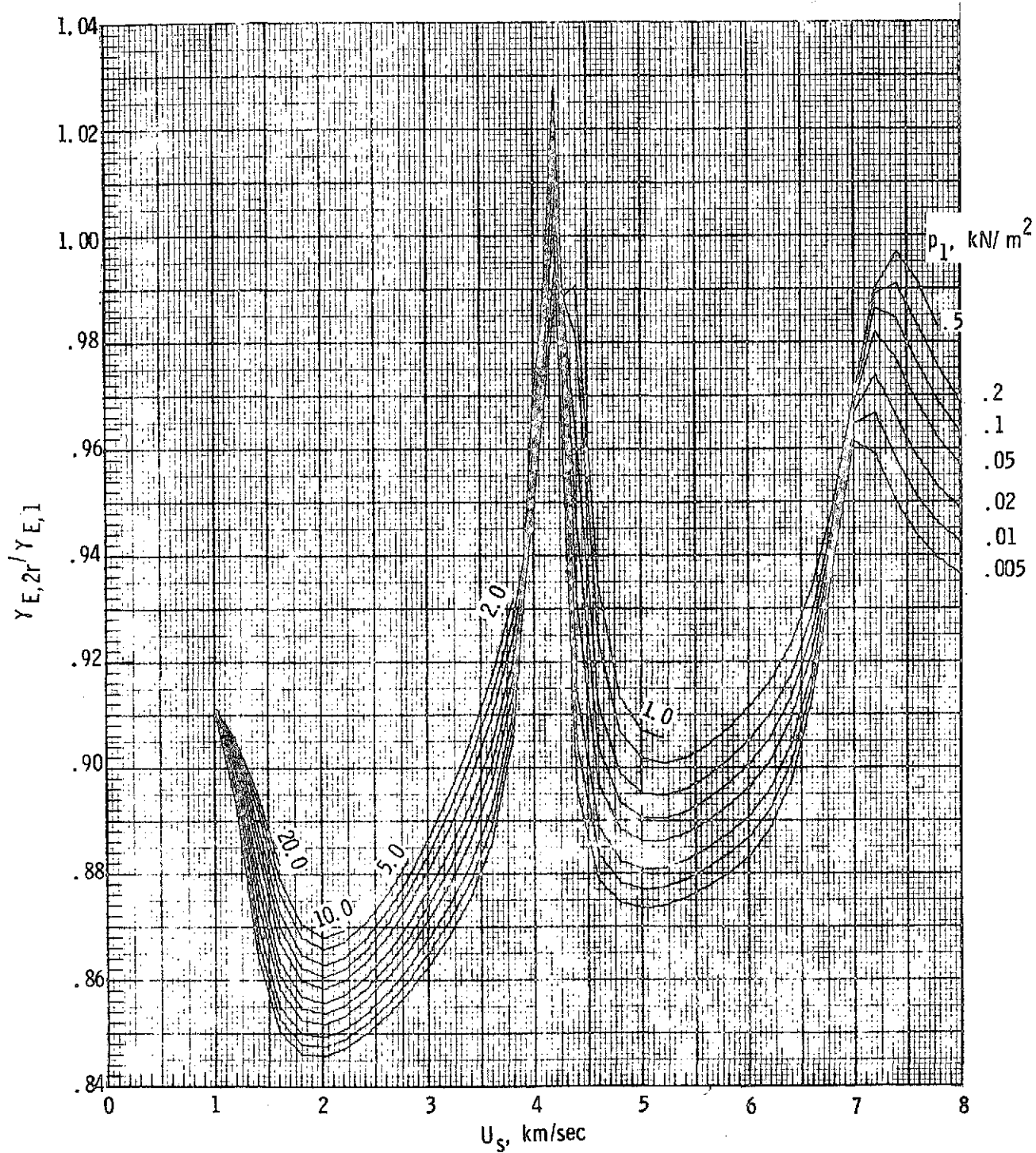
(f) Entropy, s_{2r}/s_1 .

Figure 4. - Continued.



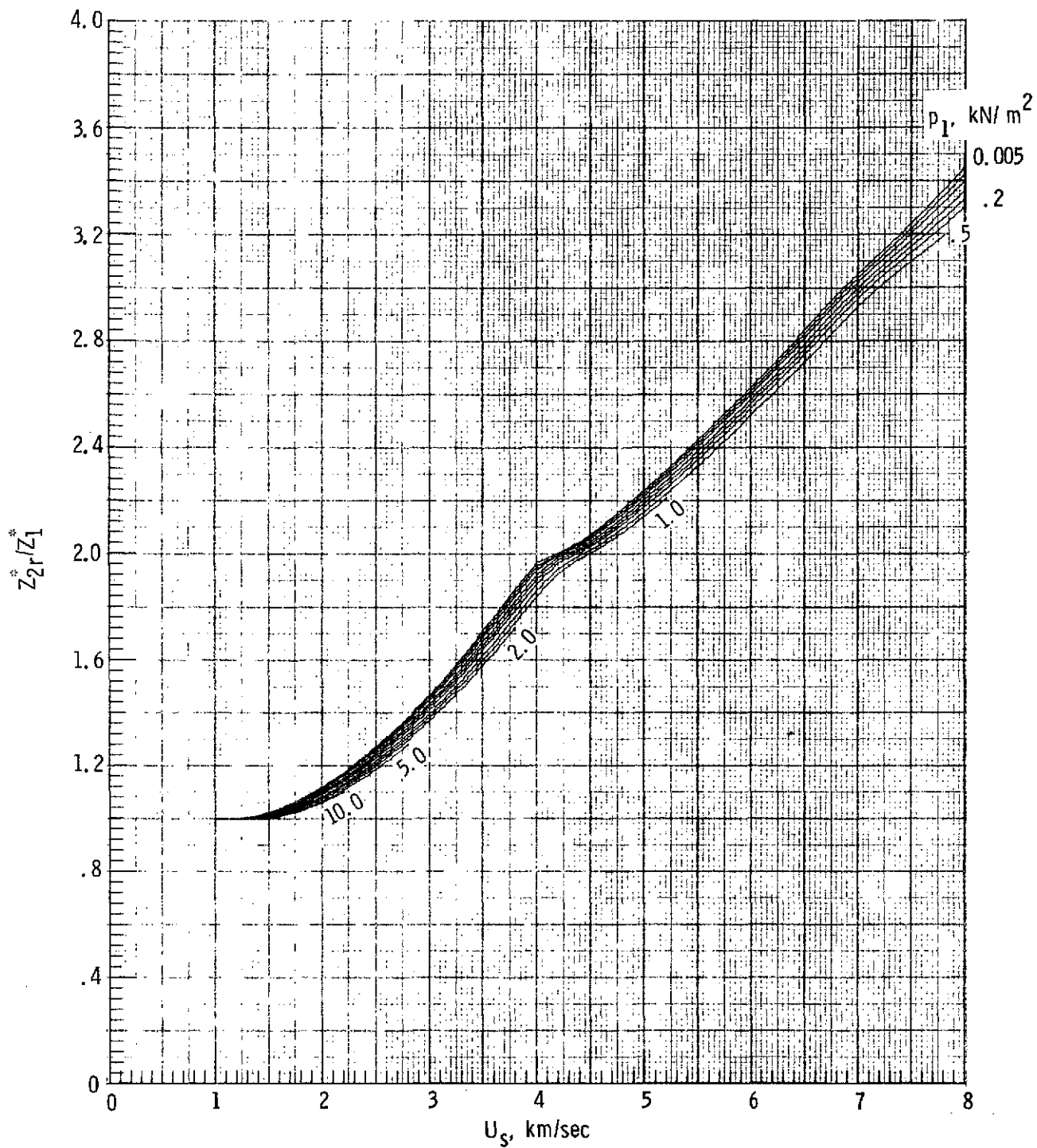
(h) Isentropic exponent, $\gamma_{E,2r} / \gamma_{E,1}$

Figure 4. - Continued.



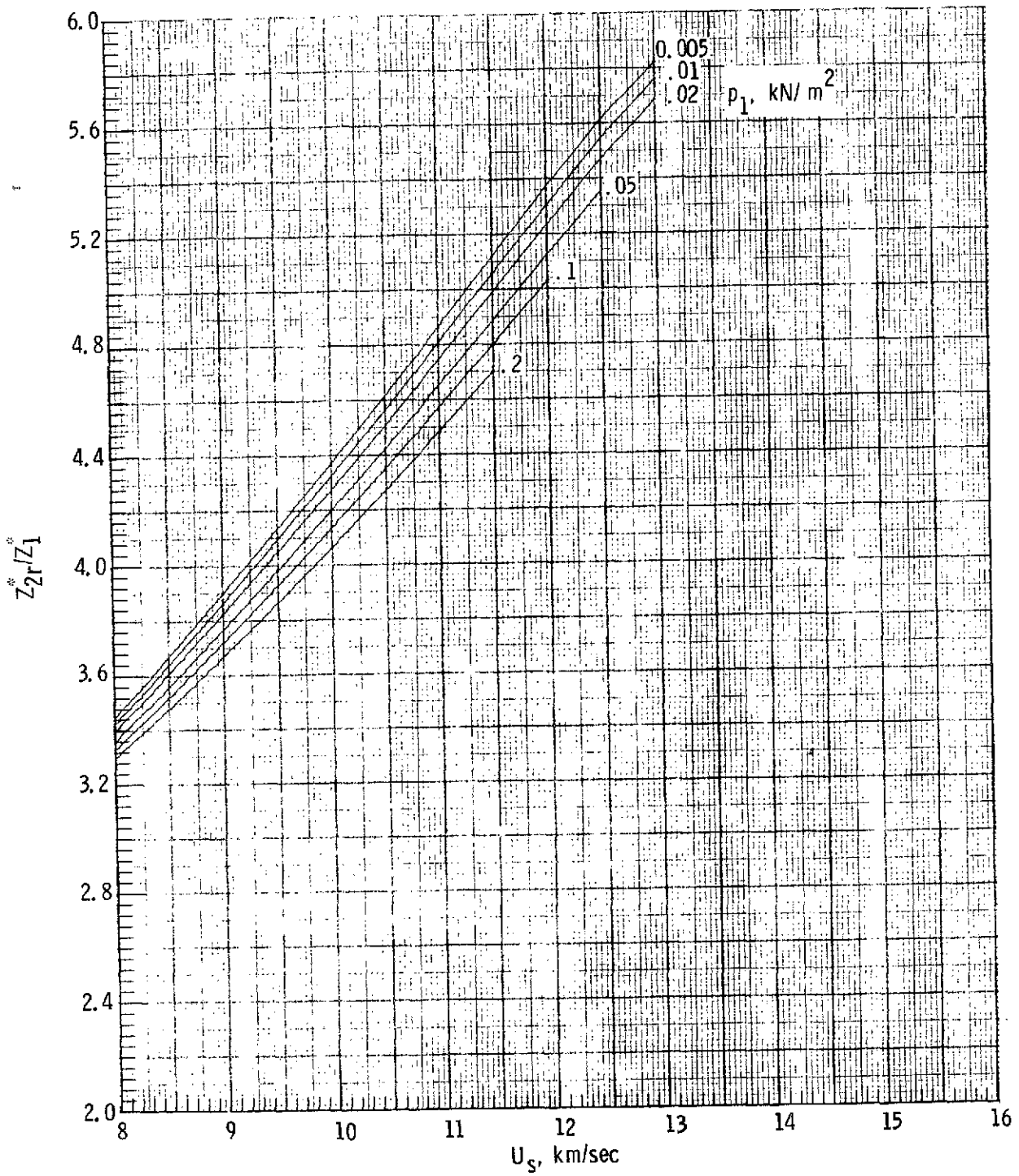
(h) Isentropic exponent, $\gamma_{E,2r} / \gamma_{E,1}$

Figure 4. - Continued.



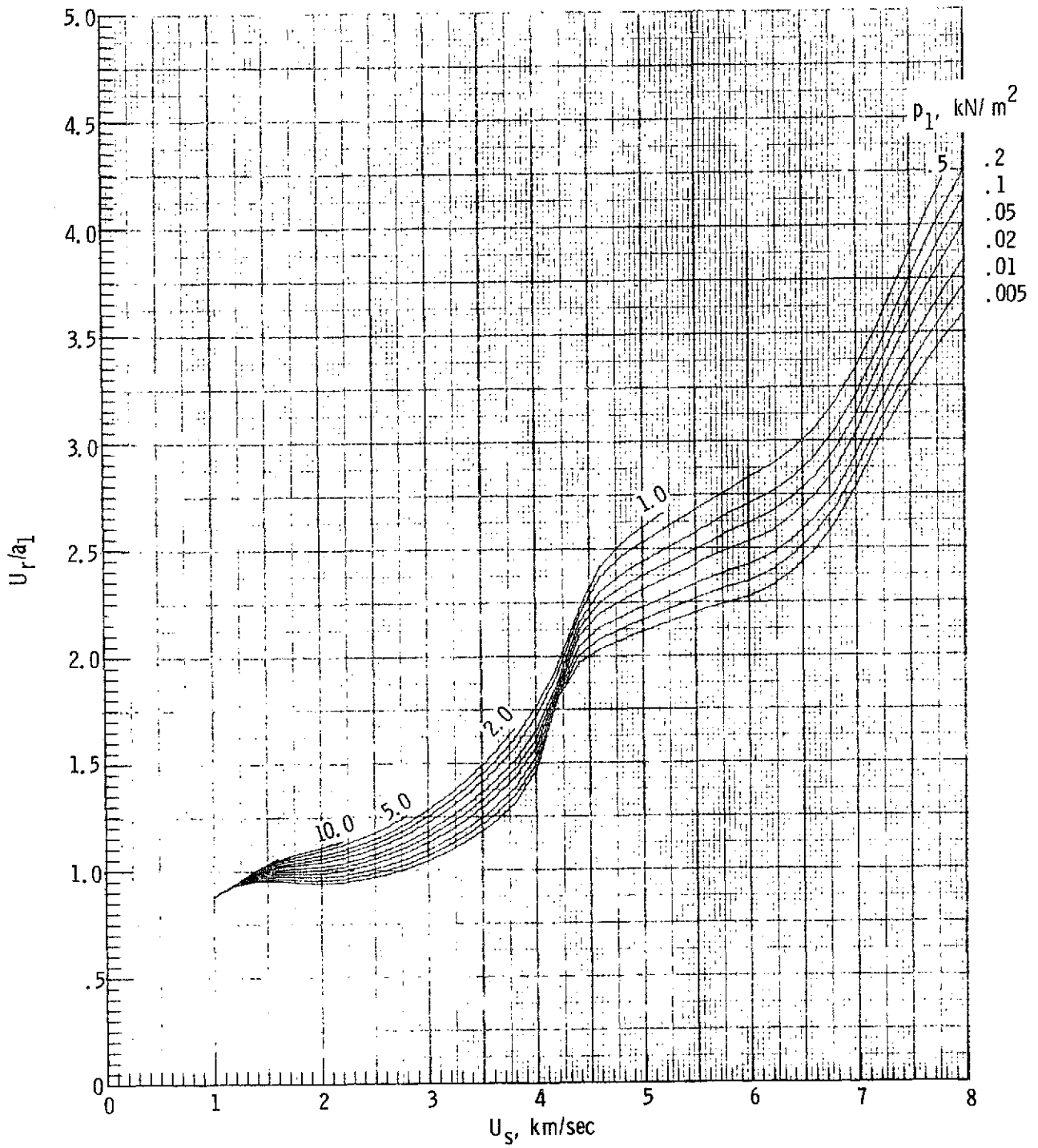
(g) Molecular weight ratio, Z_{2r}^*/Z_1^* .

Figure 4. - Continued.



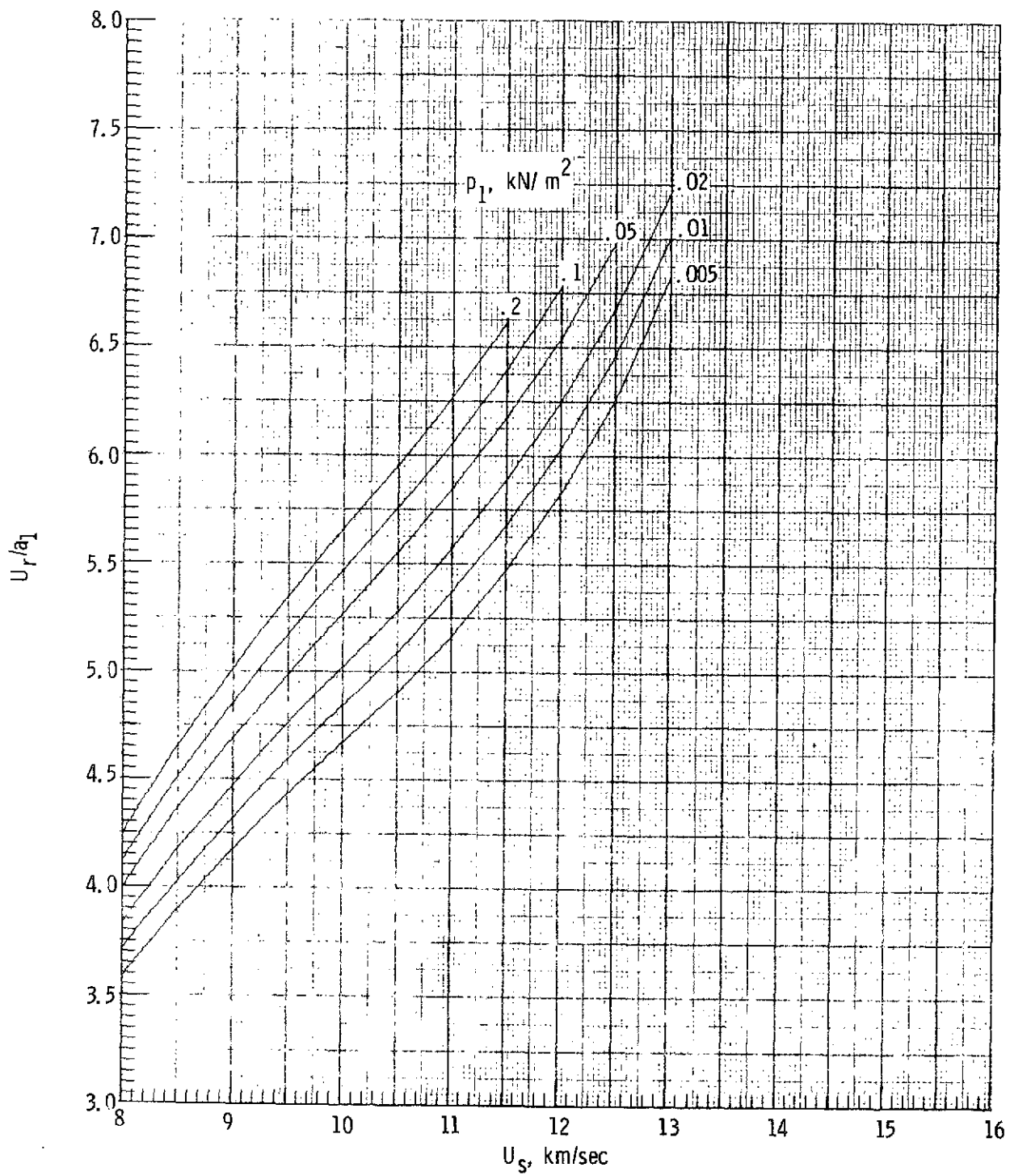
(g) Molecular weight ratio, Z_{2r}^*/Z_1^* .

Figure 4. - Continued.



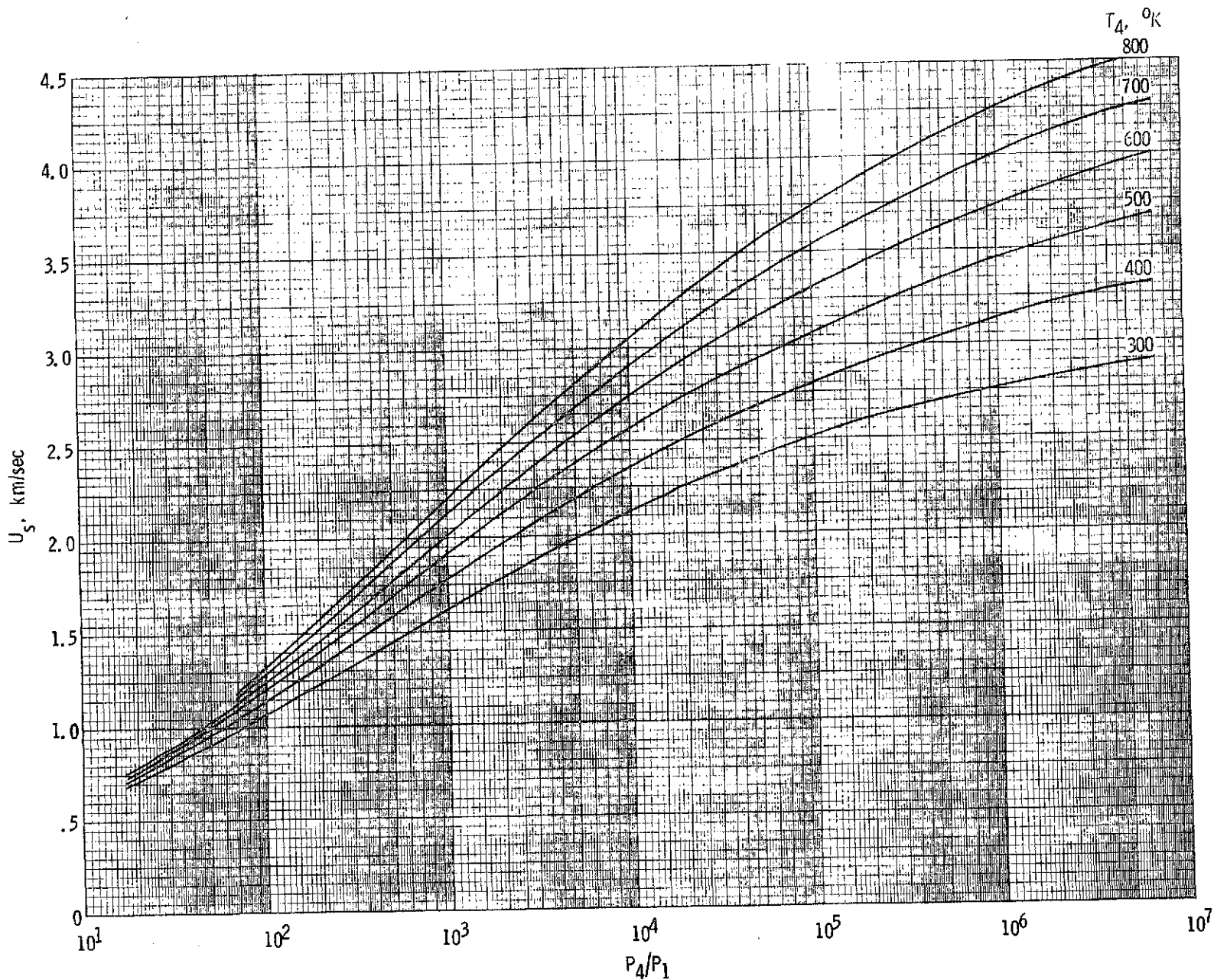
(i) Reflected shock velocity, U_r / a_1 .

Figure 4. - Continued.



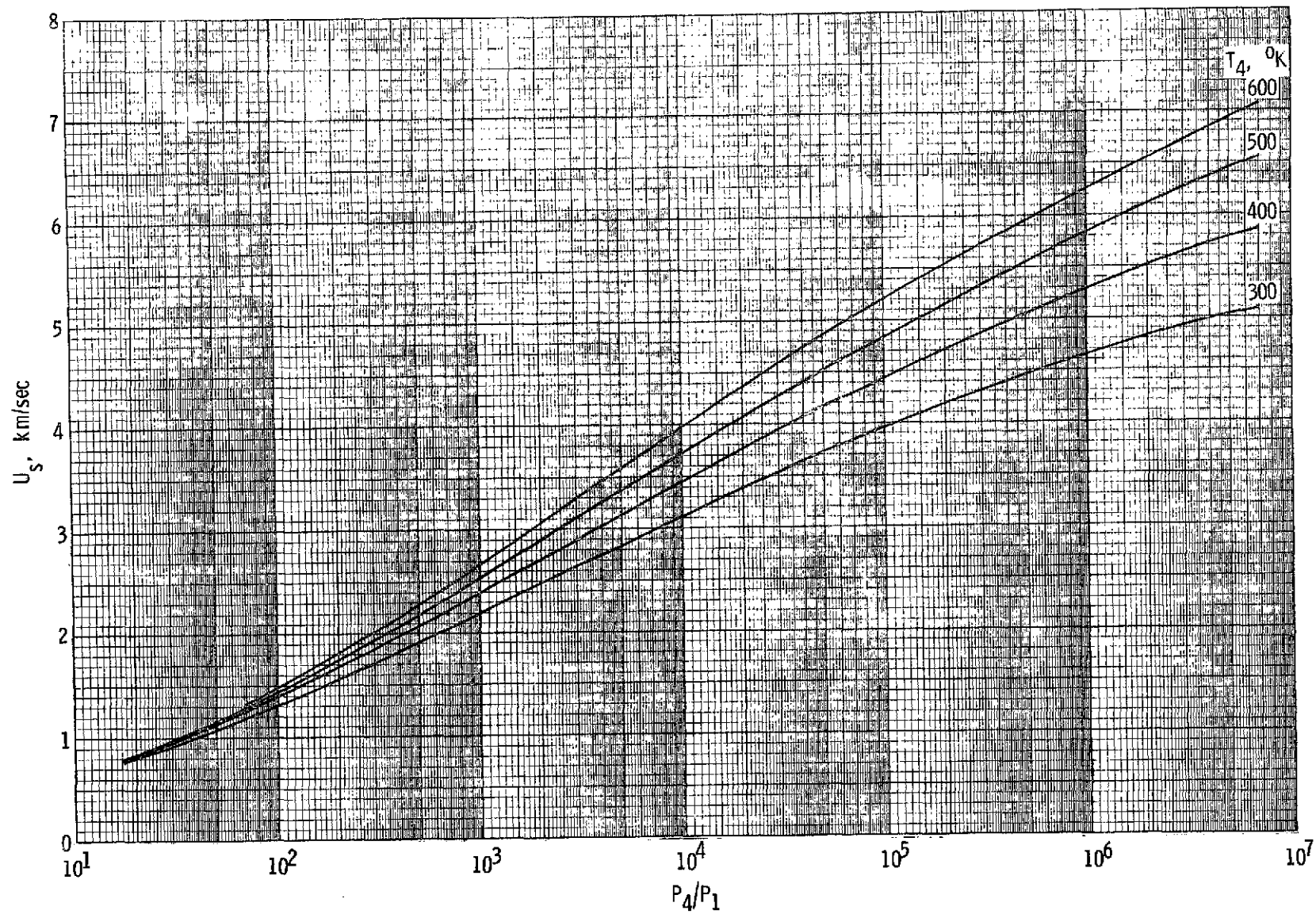
(i) Reflected shock velocity, U_r / a_1 .

Figure 4. - Concluded.



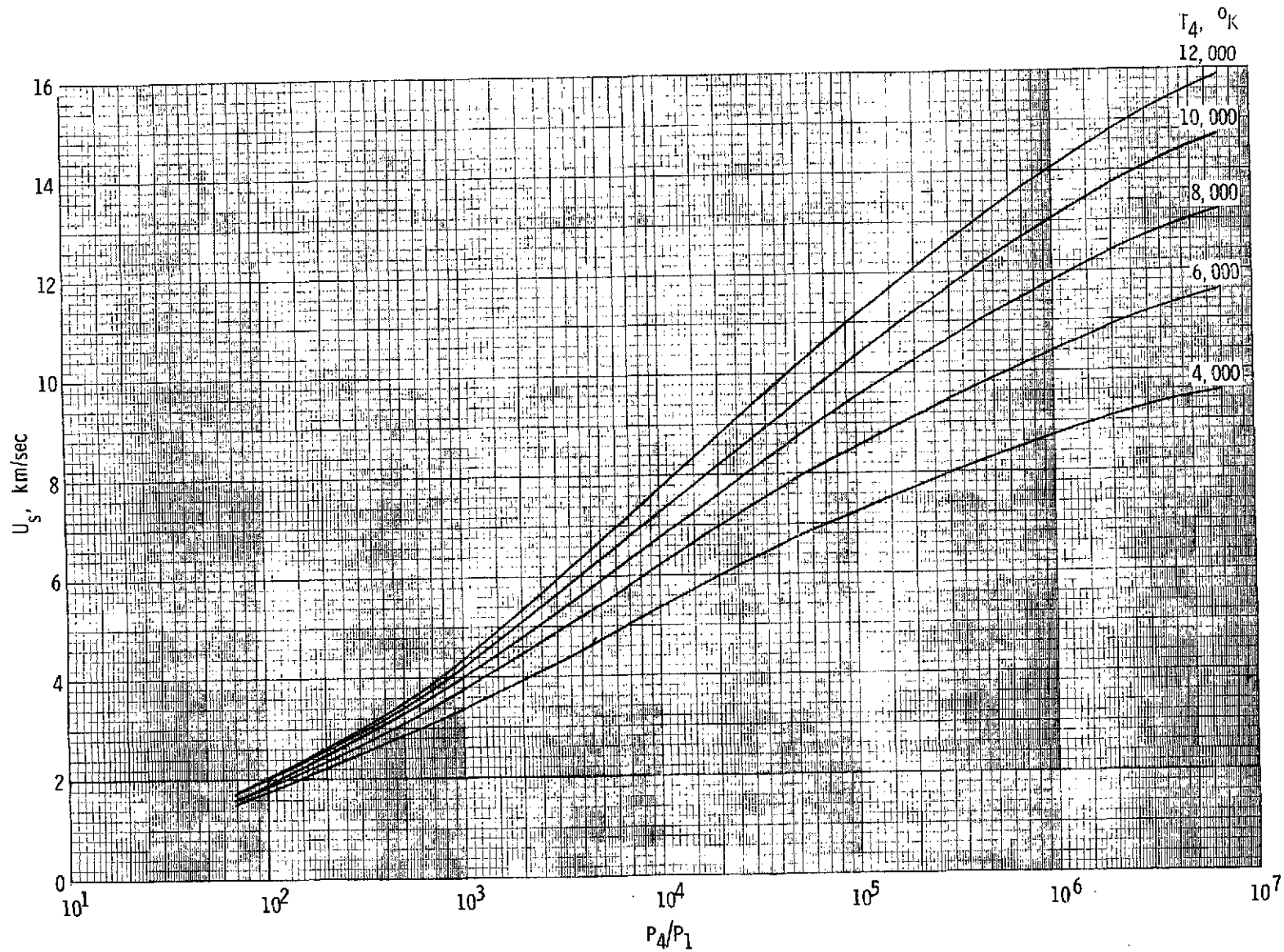
(a) Helium driver gas: $300^{\circ}\text{K} \leq T_4 \leq 800^{\circ}\text{K}$.

Figure 5.- Incident shock velocity as a function of ratio of driver gas pressure to CO_2 test gas pressure for helium and hydrogen driver gases. $p_4 = 68.95 \text{ MN/m}^2$.



(c) Hydrogen driver gas.

Figure 5. - Concluded.



(b) Helium driver gas: $4000^\circ\text{K} \leq T_4 \leq 12\,000^\circ\text{K}$.

Figure 5. - Continued.