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PREFACE

Normal- and oblique-shock flow parameters for air in thermochemical equilibrium are tabulated as a function of shock angle for altitudes ranging from 15.24 km to 91.44 km in increments of 7.62 km at selected hypersonic speeds. Post-shock parameters tabulated include flow-deflection angle, velocity, Mach number, compressibility factor, isentropic exponent, viscosity, Reynolds number, entropy difference, and static pressure, temperature, density, and enthalpy ratios across the shock. A procedure is presented for obtaining oblique-shock flow properties in equilibrium air on surfaces at various angles of attack, sweep, and dihedral by use of the two-dimensional tabulations. Plots of the flow parameters against flow-deflection angle are presented at altitudes of 30.48, 60.96, and 91.44 km for various stream velocities.

INTRODUCTION

The advent of the space shuttle has focused attention on the entry of two-dimensional type lifting bodies into the Earth's atmosphere at moderate to high angles of attack. Even a preliminary analysis of the inviscid flow field about such vehicles requires knowledge of flow conditions behind oblique shocks where real-air effects are prevalent.

Over the last two decades, a continual updating of models of the Earth's atmosphere has occurred. (See refs. 1 to 5.) Reference 4 (1962) is the current standard atmospheric model with seasonal and latitudinal variations given in reference 5. As shown in figure 1, substantial errors in ambient temperature and pressure existed in the earlier models, particularly for the pre-1956 model. (See ref. 1.) Although a number of oblique-shock flow parameters for air in thermochemical equilibrium are available in the literature (see, for example, refs. 6 to 8), these parameters are based on pre-1957 atmospheric models and use the thermodynamic properties of argon-free air (ref. 9) in obtaining post-shock conditions. Normal-shock solutions based on the 1959 atmospheric model (ref. 3) are given in reference 10. Large deviations in atmospheric models could result in substantial differences in corresponding calculated post-shock flow parameters.

Also, heretofore, the only published procedure known to the authors for solving the attached oblique shock-wave system for surfaces at various angles of attack, sweep, and dihedral in equilibrium air is given in reference 11. (This procedure applies to any real gas in equilibrium.) This method employs effective values of the isentropic exponent to describe the density change across the shock and requires an interpolation procedure with a Mollier chart for imperfect gases.

The purpose of this report is therefore twofold: first, to present tabulated oblique- and normal-shock flow parameters based on the most accurate standard atmospheric model (ref. 4, 1962) and post-shock thermochemical equilibrium air properties (ref. 12) currently available, and second, to present a simple procedure (appendix A) for obtaining post attached-shock flow parameters on surfaces at various angles of attack, sweep, and dihedral using the two-dimensional, equilibrium air, oblique-shock tabulations. The altitude-velocity range encompassed in the post-shock flow-parameter tabulations is shown in figure 2 (15.24 km to 91.44 km and 1.828 km/sec to 11.582 km/sec). The applicability for this range is demonstrated by Apollo Earth entry and shuttle orbital entry trajectories.

SYMBOLS

Symbols enclosed in parenthesis in this list are used in the computer printout.

$\vec{A},\vec{B},\vec{C},\vec{D}$	velocity projections (no dihedral, appendix A)
$\overrightarrow{AA},\overrightarrow{BB},\overrightarrow{CC},\overrightarrow{DD}$	velocity projections (with dihedral, appendix A)
a	speed of sound, m/sec
h(H)	enthalpy, kJ/kg
L/D	lift-drag ratio
M	Mach number
p(P)	pressure, Pa
R	gas constant for undissociated air, 287.288 m^2/sec^2-K
R_e(RE/M)	unit Reynolds number per meter
S/R	nondimensional entropy
T	temperature, K
u	velocity normal to shock, km/sec
V	total velocity, km/sec
V_n	projection of total velocity normal to leading edge, km/sec
v	velocity component parallel to shock and normal to leading edge, km/sec
w	velocity component parallel to leading edge, km/sec
Z	compressibility factor, $p/\rho RT$
Z*	number of moles of dissociated air to number of moles of undissociated air

α angle of attack, deg

γ specific heat ratio

γ_e(GAM) isentropic exponent $\left(\frac{\partial \log_e p}{\partial \log_e \rho}\right)_{S/R}$

δ(DELTA) flow-deflection angle across shock, deg

δ' wedge half-angle (appendix A), deg

ϵ dihedral angle (fig. 7), deg

θ(TH) shock angle, deg

θ' angle between shock and midplane of wing (appendix A), deg

Λ sweep angle (fig. 6), deg

μ(VIS) viscosity, N-sec/m^2

ρ(RHO) density, kg/m^3

σ angle between velocity projection normal to leading edge V_n and the midplane of wing (appendix A), deg

Subscripts (Not subscripted in computer printout):

1 condition upstream of shock

2 condition downstream of shock

THERMODYNAMIC PROPERTIES FOR REAL AIR

Thermodynamic properties for real air in thermochemical equilibrium used in solving for the post-shock conditions at hypersonic speeds were obtained from a magnetic tape furnished to the Langley Research Center by the Arnold Engineering Development Center (AEDC) in late 1965. The thermodynamic properties obtained from this tape correspond to the properties tabulated in reference 12 for various values of S/R. The tem-

perature range of reference 12 and of the AEDC tape is 100 K to 15 000 K and the pressure range is 0.25 Pa to 1 GPa. A description of the properties included on the tape and the subroutine for searching the tape is given in reference 13. Specific heat data used in calculating the ambient enthalpy and entropy (table I) were obtained from references 14 and 15.

METHOD

Basic Assumptions and Equations

Basic assumptions in the present computational procedure for determining oblique-shock flow parameters are

(a) Aerodynamics of continuous flow apply

(b) The atmospheric properties (1962) of reference 4 exist in front of the shock wave

(c) The thermochemical equilibrium air properties of reference 12 exist aft of the shock wave

The fundamental two-dimensional flow relations (refs. 6 and 8) are

Continuity:

$$\rho_1 u_1 = \rho_2 u_2 \quad \text{or} \quad \frac{\rho_1}{\rho_2} = \frac{u_2}{u_1} \tag{1}$$

Normal momentum:

$$\frac{p_2}{p_1} = 1 + \gamma_1 M_1^2 \sin^2 \theta \left(1 - \frac{u_2}{u_1}\right) \tag{2}$$

Tangential momentum:

$$v_1 = v_2 \tag{3}$$

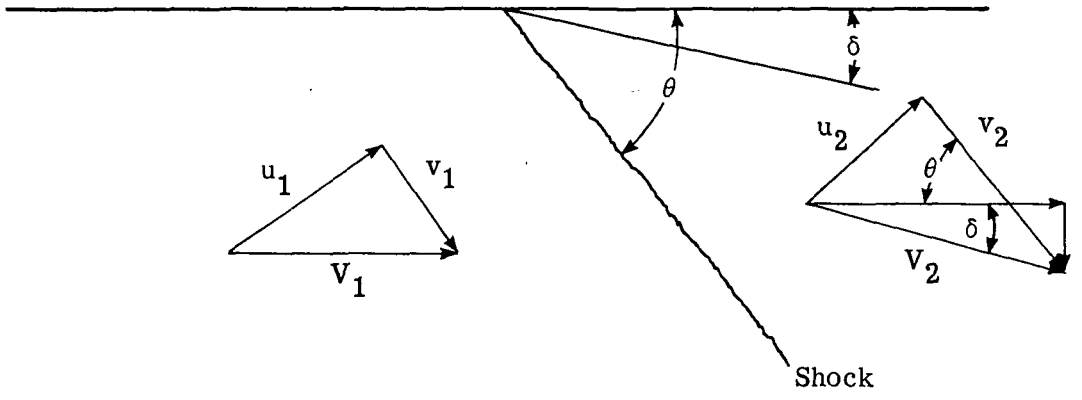
Energy:

$$\frac{h_2}{h_1} = 1 + \frac{\gamma_1 - 1}{2} M_1^2 \sin^2 \theta \left[1 - \left(\frac{u_2}{u_1}\right)^2\right] \tag{4}$$

Oblique shock-wave geometry:

$$\frac{u_2}{u_1} = \frac{\tan(\theta - \delta)}{\tan \theta} \tag{5}$$

where the notation used is that shown in sketch (a) with $u_1 = V_1 \sin \theta$ and $v_1 = V_1 \cos \theta$. The equation of state takes the form of $\rho = \rho(h,p)$ for the AEDC real-air tape. (See ref. 13.)



Sketch (a)

Computational Procedure

The two-dimensional flow relations (eqs. (1) to (5)) and the AEDC real-air tape (ref. 13) were incorporated into a computer code (appendix B) employing the following computational procedure when the stream velocity, shock angle, and atmospheric conditions (table I) are given:

(1) The static pressure and enthalpy behind the shock (p_2 and h_2) are computed from equations (2) and (4), respectively, with $\gamma_1 = 1.40$ (used up to an altitude of 91.44 km in ref. 4, and quoted as 1.404 at 99.97 km in ref. 10) for an assumed value of u_2/u_1 (ideal gas) near the expected correct value.

(2) The AEDC real-air tape (ref. 13) is entered with p_2 and h_2 to obtain ρ_2.

(3) The stream density ρ_1 is divided by the density behind the shock ρ_2 and the ratio ρ_1/ρ_2 is compared with the assumed velocity ratio u_2/u_1 (eq. (1)). If these ratios are not within 0.0001 (error criteria) of each other, a new value of u_2/u_1 equal to the just calculated value of ρ_1/ρ_2 is assumed, and the computational procedure is reentered at step (1).

(4) This iteration procedure containing steps (1), (2), and (3) is continued until the point where $\rho_1/\rho_2 = u_2/u_1$ (within 0.0001) is reached and gives the solution (final itera-

tion) for p_2 and h_2 (eqs. (2) and (4)) with which to enter the AEDC real-air tape. The post-shock thermodynamic properties T_2, Z_2, a_2, S_2/R, and $\gamma_{e,2}$ along with ρ_2 are obtained from the tape.

(5) The post-shock velocity and Mach number are calculated as

$$V_2 = \left(v_2^2 + u_2^2\right)^{1/2} \tag{6}$$

$$M_2 = \frac{V_2}{a_2} \tag{7}$$

(6) The post-shock coefficient of viscosity is obtained from a table prepared as a function of p_2 and T_2 from reference 16 for $T \geq 1500$ K. For temperatures less than 1500 K, an expression for viscosity from Hansen (ref. 17) is used.

$$\mu = \left(1.462 \times 10^{-6}\right)\frac{T}{1 + 112/T} \tag{8}$$

(7) The post-shock unit Reynolds number per meter is calculated.

$$R_e = \frac{\rho_2 V_2}{\mu_2} \tag{9}$$

RESULTS AND DISCUSSION

The normal- and oblique-shock flow parameters for air in thermochemical equilibrium obtained with the previously described procedure have been tabulated as a function of shock angle for altitudes ranging from 15.24 km to 91.44 km and hypersonic velocities ranging from 1.83 km/sec to 11.58 km/sec. The altitudes and velocities at which the post-shock flow parameters are given are presented in table II. The tabulated parameters are presented in tables III to XIII. For a given set of free-stream conditions (altitude and velocity), the shock angle θ in tables III to XIII is increased from the limiting minimum wave angle (Mach angle, $\theta = \sin^{-1} 1/M$) to the nearest increment of 5^o and then increased to 90^o (normal shock) in 5^o increments. Since the flow is isentropic across a Mach line (indefinitely weak shock), conditions behind the wave are equal to those of the free stream. In tables III to XIII, for the shock angle equal to the Mach angle (first entry in first column for each stream condition), the deviation of the flow parameters from the free-stream values (entropy rise from zero, static property ratios from one, etc.) is due to the fact that the speed of sound at free-stream static conditions obtained from the ther-

modynamic tape (AEDC, ref. 12) is smaller by as much as 0.7 percent than that obtained from reference 4 (1962 atmosphere). Thus the Mach angle calculated with the Mach number based on the higher speed of sound (ref. 4) is larger than that which would have been obtained had the Mach number been based on the speed of sound from the thermodynamic tape. Therefore, insofar as the thermodynamic tape is concerned, the minimum angle used in tables III to XIII (based on the speed of sound from ref. 4) is slightly higher than the Mach angle. The previous discussion applies only to the first row in table III since the shock angle θ was set and used as input (not calculated) for the remaining rows.

Variations of the oblique-shock flow parameters given as a function of flow deflection angle are shown in figures 3, 4, and 5 for altitudes of 30.48, 60.96, and 91.44 km, respectively. The deflection angle at which shock detachment occurs on a wedge is the maximum deflection angle occurring for a given altitude and velocity. (See figs. 3(a), 4(a), and 5(a).) This angle can be approximated from the tabulations of θ against δ (tables III to XIII) simply by selecting the largest δ recorded for a given set of stream conditions. The deflection angle at which shock detachment occurs increases with increasing altitude and velocity.

An interesting phenomena that is illustrated in figure 5(l) is that at high flight velocities, the shock density ratio ρ_2/ρ_1 may be lower for detached shock (including normal) than for an attached oblique shock. The fact that the density ratio may decrease with increasing normal velocity is well understood and documented (for example, see ref. 18); however, the altitude-velocity range of occurrence is worthy of note. Examination of tables III to XIII from an altitude of 60.96 km to 91.44 km indicates that flight velocities must reach between 8.53 km/sec and 9.14 km/sec before certain attached oblique-shock density ratios exceed those for all detached shocks.

The maximum error found in shock parameters calculated by use of recognized post-1955 atmospheric models compared with the present calculations based on the 1962 model was 6 percent. This error was in the static-pressure ratio (ref. 8) for an altitude of 91.44 km at a velocity of 7.925 km/sec and for a flow deflection of 58°. At 91.44 km, the error in the pressure ratio was 4 percent for a velocity of 4.877 km/sec and a flow deflection angle of 55°. As expected, comparison of the presented shock flow parameters to similar results based on pre-1956 atmospheric models revealed large differences. For example, the normal-shock pressure ratio given in reference 7 is in error by roughly 40 percent for an altitude of 60.96 km at a velocity of 6.096 km/sec. At this same altitude at a velocity of 7.925 km/sec, the static temperature ratio across the shock (ref. 7) is in error by 36 percent for a flow deflection of 60° and by 34 percent for a flow deflection of 50°.

CONCLUDING REMARKS

Normal- and oblique-shock flow parameters for air in thermochemical equilibrium are tabulated as a function of shock angle for a range of altitudes from 15.24 km to 91.44 km in increments of 7.62 km and for a range of hypersonic velocities from 1.83 km/sec to 11.58 km/sec. A simple procedure is presented for obtaining attached oblique-shock flow parameters in equilibrium air on surfaces at various angles of attack, sweep, and dihedral by use of the two-dimensional tabulations. Plots of the oblique-shock parameters are given as a function of flow-deflection angle for altitudes of 30.48, 60.96, and 91.44 km to illustrate the type of variations involved.

Shock parameters calculated by use of post-1955 atmospheric models were found to be in error by as much as 6 percent when compared with the present results. Comparison of the present shock flow parameters to similar results based on pre-1955 atmospheric models revealed large differences.

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APPENDIX A

PROCEDURE FOR OBTAINING OBLIQUE-SHOCK FLOW PARAMETERS FOR SURFACES AT VARIOUS ANGLES OF ATTACK, SWEEP, AND DIHEDRAL IN EQUILIBRIUM AIR

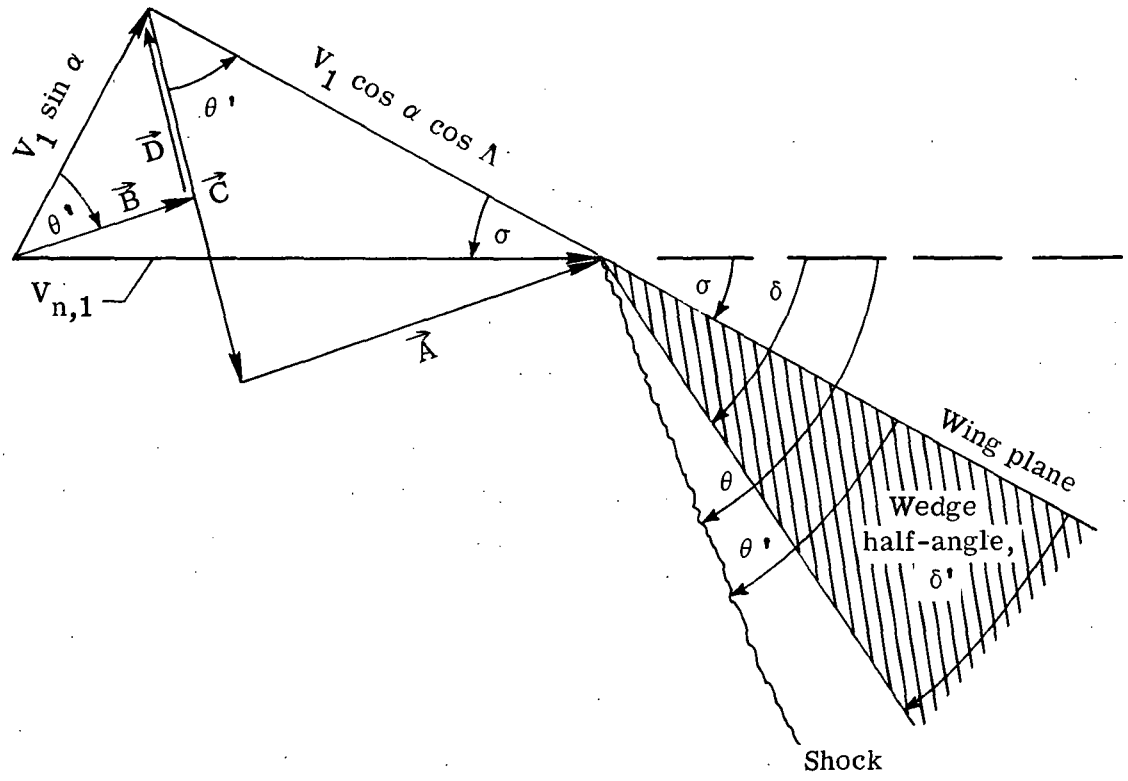
A procedure is presented herein for obtaining oblique-shock flow parameters at hypersonic speeds for surfaces at various angles of attack, sweep, and dihedral in equilibrium air by using the two-dimensional oblique-shock flow parameters presented in tables III to XIII. Since the component of velocity perpendicular to the shock is the only component that changes across a shock and thus the only velocity component that influences the ratios of the static properties across the shock (eqs. (1) to (4)), the task is to find the resultant component of velocity in the plane perpendicular to the leading edge of the aerodynamic surface of interest with which to enter tables III to XIII in order to calculate the correct resultant post-shock velocity.

Angle of Attack and Sweep

To simplify the explanation, a wing with angle of attack and sweep (omitting dihedral) is considered first. The object is to resolve the stream velocity into (1) a vector w_1 parallel to the wing leading edge which does not change across an attached shock and thus does not influence the static properties behind the shock and (2) a vector $V_{n,1}$ that lies in a plane perpendicular to the leading edge with which to enter tables III to XIII. This can be accomplished by first resolving the stream-velocity vector into three components (see fig. 6): (a) normal to leading edge and lying in the wing plane, $V_1 \cos \alpha \cos \Lambda$, (b) normal to wing plane and thus normal to leading edge regardless of sweep, $V_1 \sin \alpha$, and (c) parallel to wing leading edge, $w_1 = V_1 \cos \alpha \sin \Lambda$. The sum of vectors (a) and (b) is the vector $(V_{n,1})$ to be used to enter table III (component of free-stream velocity in the plane perpendicular to the wing leading edge, see fig. 6)

$$V_{n,1} = V_1\sqrt{\sin^2 \alpha + \cos^2 \alpha \cos^2 \Lambda} = V_1\sqrt{1 - \cos^2 \alpha \sin^2 \Lambda} \tag{A1}$$

Now add a deflection angle, insert a shock, and project these components parallel and normal to the shock. Since the component parallel to the leading edge is parallel to the shock regardless of the shock angle, it will remain $w_1 = w_2 = V_1 \cos \alpha \sin \Lambda$. This equality means that the remaining projections are two-dimensional and will be in the plane of the triangle containing $V_{n,1}$ in figure 6. For velocity projection relative to shock in shaded plane (normal to leading edge) examine sketch (b):



Sketch (b)

The vector projections (normal and parallel to shock) in this sketch are defined in terms of the free-stream velocity V_1, the angle of attack α, the sweep angle Λ, and the shock angle relative to the wing plane θ':

$$\vec{A} = V_1 \cos \alpha \cos \Lambda \sin \theta' \tag{A2}$$

$$\vec{B} = V_1 \sin \alpha \cos \theta' \tag{A3}$$

$$\vec{C} = V_1 \cos \alpha \cos \Lambda \cos \theta' \tag{A4}$$

$$\vec{D} = V_1 \sin \alpha \sin \theta' \tag{A5}$$

Now

$$u_1 = \vec{A} + \vec{B} = V_1(\cos \alpha \cos \Lambda \sin \theta' + \sin \alpha \cos \theta) \tag{A6}$$

$$v_1 = \vec{C} - \vec{D} = V_1(\cos \alpha \cos \Lambda \cos \theta' - \sin \alpha \sin \theta') \tag{A7}$$

and

$$w_1(\text{unchanged}) = V_1(\cos \alpha \sin \Lambda) \tag{A8}$$

with

$$\theta' = \theta - \sigma \tag{A9}$$

$$\sigma = \tan^{-1}\left(\frac{\tan \alpha}{\cos \Lambda}\right) \tag{A10}$$

$$\delta = \sigma + \delta' \tag{A11}$$

The two-dimensional oblique-shock problem illustrated in sketch (b) is solved with the information presented in tables III to XIII. To obtain the post-attached shock solution for a surface at angle of attack and sweep, enter tables III to XIII at the altitude of interest and at the velocity $V_{n,1}$. The oblique-shock parameters in the row corresponding to $\delta = \sigma + \theta'$ will be those for the surface at the designated angle of attack and sweep. All parameters in the designated row will be correct except those that contain the resultant velocity (V_2, M_2, and $R_{e,\theta}$) which may be obtained in the following manner:

$$\frac{u_2}{u_1} = \frac{\tan (\theta - \delta)}{\tan \theta} \tag{A12}$$

Since θ and δ are now known, calculate the normal velocity ratio

$$u_2 = \frac{u_2}{u_1} u_1 \tag{A13}$$

Now $v_2 = v_1$ and $w_2 = w_1$; therefore

$$V_2 = \sqrt{u_2^2 + v_2^2 + w_1^2} = \sqrt{u_1^2 \frac{\tan^2 (\theta - \delta)}{\tan^2 \theta} + V_1^2 + w_1^2} \tag{A14}$$

with

$$M_2 = \frac{V_2}{a_2} \tag{A15}$$

where

$$a_2 = \left(\frac{\gamma_2 P_2}{\rho_2}\right)^{1/2} \tag{A16}$$

and

$$\frac{R_{e,2}}{m} = \frac{\rho_2 V_2}{\mu_2} \tag{A17}$$

An illustrative example is presented with the conditions:

Altitude, km	60.960
Velocity, km/sec	8.534
α, deg	30
Λ, deg	45.58
δ', deg	9.36

To find attached oblique-shock parameters, calculate

$V_{n,1} = 6.705$ km/sec (From eq. (A1))

$\sigma = 39.519^{o}$ (From eq. (A10))

$\delta = 48.882^{o}$ (From eq. (A11))

Enter table IX(f) for an altitude of 60.960 km and a velocity of 6.705 km/sec. Select the oblique-shock parameters corresponding to the row containing $\delta = 48.889^{o}$ ($\theta = 55^{o}$, etc.). All parameters are correct except those that contain the resultant velocity (V_2, M_2, and $R_{e,2}/m$) which are obtained in the following manner:

$\theta' = 15.481^{o}$ (From eq. (A9))

$u_1 = 5.493$ km/sec (From eq. (A6))

$u_2/u_1 = 0.07496$ (From eq. (A12))

$u_2 = 0.412$ km/sec (From eq. (A13))

$v_2 = v_1 = 3.846$ km/sec (From eq. (A7))

$w_2 = w_1 = 5.279$ km/sec (From eq. (A8))

$V_2 = 6.545$ km/sec (From eq. (A14))

$a_2 = 1.536$ km/sec (From eq. (A16))

$M_2 = 4.260$ (From eq. (A15))

$R_{e,2}/m = 1.084 \times 10^5$ (From eq. (A17) and table IX(f))

Angle of Attack, Sweep, and Dihedral

Again, the object is to resolve the stream velocity into (1) a vector w_1 parallel to the wing leading edge which does not change across the shock and (2) a vector $V_{n,1}$ that lies in a plane perpendicular to the leading edge with which to enter tables III to XIII. As before, this may be accomplished by first resolving the stream velocity vector into three components (see fig. 7):

(a) Normal to the leading edge and lying in the wing plane,
$V_1(\cos \alpha \cos \Lambda - \sin \alpha \sin \epsilon \sin \Lambda)$

(b) Normal to wing plane and thus normal to leading edge, $V_1 \sin \alpha \cos \epsilon$

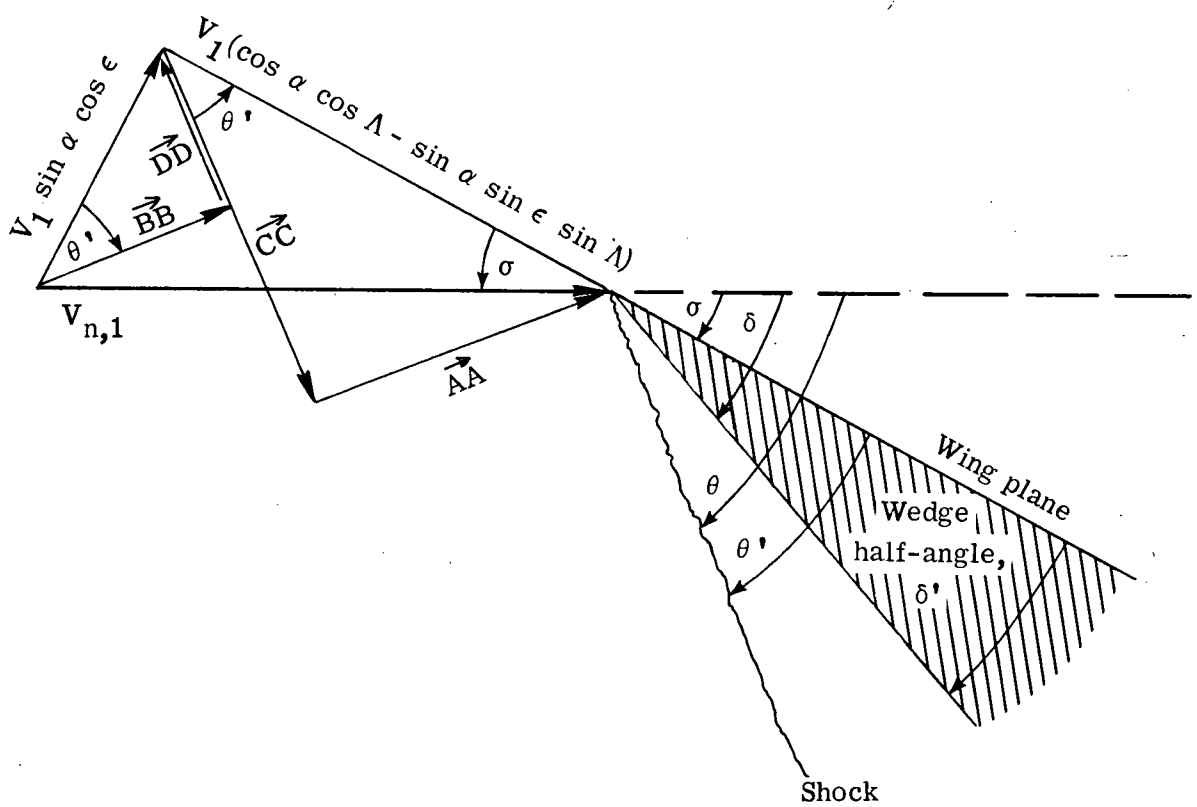
(c) Parallel to wing leading edge, $w_1 = V_1(\cos \alpha \sin \Lambda + \sin \alpha \sin \epsilon \cos \Lambda)$

Note that in adding dihedral to a wing with angle of attack and sweep (that is, going from fig. 6 to fig. 7), the velocity projections in the x,y plane (angle of attack) and in the plane of the wing (sweep) remain unchanged; only the angle between these two triangles changes with increasing dihedral ($90 - \epsilon$). Since dihedral reduces the angle (from 90^o) between the angle of attack (x,y) and sweep planes (plane of wing), this condition means that $V_1 \sin \alpha$ (fig. 6) is no longer perpendicular to the wing plane. Resolve $V_1 \sin \alpha$ into a vector perpendicular to the wing plane $V_1 \sin \alpha \cos \epsilon$, and parallel to the wing plane $V_1 \sin \alpha \sin \epsilon$. The plane of the triangles formed by these components is parallel to the Z-axis. (See fig. 7.) Since $V_1 \sin \alpha \sin \epsilon$ lies in the wing plane and is parallel to the (y,z) plane, it must have projections parallel and normal to the wing leading edge with respect to the sweep angle ($V_1 \sin \alpha \sin \epsilon \cos \Lambda$ and $-V_1 \sin \alpha \sin \epsilon \sin \Lambda$, respectively). These components must be respectively added to the projection parallel and normal to the leading edge for no dihedral (fig. 6) to include dihedral effects.

The total component of velocity normal to the leading edge $V_{n,1}$ to be used to enter tables III to XIII is given by the vector sum of the component normal to the leading edge and lying in the wing plane and the component normal to the wing plane:

$$V_{n,1} = V_1\sqrt{\sin^2 \alpha \cos^2 \epsilon + \cos^2 \alpha \cos^2 \Lambda + \sin^2 \alpha \sin^2 \epsilon \sin^2 \Lambda - 2 \cos \alpha \cos \Lambda \sin \alpha \sin \epsilon \sin \Lambda} \qquad \text{(A18)}$$

Entering tables III to XIII with this component of velocity will give the correct static conditions behind the shock. However, to obtain the resultant velocity and parameters that pertain thereto, the velocities normal and parallel to the shock must be found. Add a deflection angle, insert a shock, and project velocity components parallel and normal to the shock. Since the component parallel to the leading edge is parallel to the shock regardless of the shock angle, it will remain $w_1 = V_1 \cos \alpha \sin \Lambda$. This means that the remaining projections are two-dimensional and will be in the plane normal to the leading edge. For velocity projection relative to shock in the plane normal to leading edge and perpendicular to wing plane, see sketch (c):



Sketch (c)

The vector projections (normal and parallel to shock) in this sketch are defined in terms of free-stream velocity V_1, the angle of attack α, the sweep angle Λ, the dihedral angle ϵ, and the shock angle relative to the wing plane θ'.

$$\overrightarrow{AA} = V_1(\cos \alpha \cos \Lambda - \sin \alpha \sin \epsilon \sin \Lambda) \sin \theta' \tag{A19}$$

$$\overrightarrow{BB} = V_1(\sin \alpha \cos \epsilon) \cos \theta' \tag{A20}$$

$$\overrightarrow{CC} = V_1(\cos \alpha \cos \Lambda - \sin \alpha \sin \epsilon \sin \Lambda) \cos \theta' \tag{A21}$$

$$\overrightarrow{DD} = V_1(\sin \alpha \cos \epsilon) \sin \theta' \tag{A22}$$

Now

$$u_1 = \overrightarrow{AA} + \overrightarrow{BB} = V_1(\cos \alpha \cos \Lambda \sin \theta' - \sin \alpha \sin \epsilon \sin \Lambda \sin \theta' + \sin \alpha \cos \epsilon \cos \theta') \tag{A23}$$

$$V_1 = \overrightarrow{CC} - \overrightarrow{DD} = V_1(\cos \alpha \cos \Lambda \cos \theta' - \sin \alpha \sin \epsilon \sin \Lambda \cos \theta' - \sin \alpha \cos \epsilon \sin \theta') \tag{A24}$$

and

$$w_1(\text{unchanged}) = V_1(\cos \alpha \sin \Lambda + \sin \alpha \sin \epsilon \cos \Lambda) \tag{A25}$$

with

$$\theta' = \theta - \sigma \tag{A26}$$

$$\sigma = \cot^{-1}\left(\frac{\cot \alpha \cos \Lambda}{\cos \epsilon} - \tan \epsilon \sin \Lambda\right) \tag{A27}$$

$$\delta = \sigma + \delta' \tag{A28}$$

Again, the solution to the two-dimensional oblique-shock problem illustrated in sketch (c) can be obtained with the results of tables III to XIII. To obtain a post-attached-shock solution for a surface at angle of attack, sweep, and dihedral, enter tables III to XIII at the altitude of interest and at the velocity $V_{n,1}$. The oblique-shock parameters in the row corresponding to $\delta = \sigma = \theta'$ are those for the surface at the designated angle of attack, sweep, and dihedral. All parameters in the designated row are correct except those that contain the resultant velocity (V_2, M_2, and $R_{e,2}/m$) which may be obtained in the same manner as presented in the previous section for no dihedral, that is, $\frac{u_2}{u_1} = \frac{\tan(\theta - \delta)}{\tan \theta}$, etc.

An example of this case is presented with the following conditions:

Altitude, km 60.960
Velocity, km/sec 8.534

α, deg 25
Λ, deg 45
ϵ, deg 11.5
δ', deg 12.88

To find attached oblique-shock parameters, calculate

$V_{n,1} = 6.096$ km/sec (From eq. (A18))

$\sigma = 35.468^{o}$ (From eq. (A27))

$\delta = 48.345^{o}$ (From eq. (A28))

Enter table IX(e) for an altitude of 60.960 km and a velocity of 6.096 km/sec. Select the oblique-shock parameters corresponding to the row containing $\delta = 48.345^{o}$ ($\theta = 55^{o}$, etc.). All parameters are correct except those that contain the resultant velocity $\left(V_2,\ M_2, \text{ and } R_{e,2}/m\right)$ which are obtained in the following manner:

$\theta' = 19.532^{o}$ (From eq. (A26))

$u_1 = 4.9893$ km/sec (From eq. (A23))

$u_2/u_1 = 0.0817$ (From eq. (A12))

$u_2 = 0.407$ km/sec (From eq. (A13))

$v_2 = v_1 = 3.973$ km/sec (From eq. (A24))

$w_2 = w_1 = 5.977$ km/sec (From eq. (A25))

$V_2 = 7.1888$ km/sec (From eq. (A14))

$a_2 = 1.457$ km/sec (From eq. (A16))

$M_2 = 4.935$ (From eq. (A15))

$R_{e,2}/m = 1.809 \times 10^{5}$ (From eq. (A17) and table IX(e))

APPENDIX B

OBLIQUE-SHOCK COMPUTER CODE FOR AIR IN CHEMICAL EQUILIBRIUM

The oblique-shock computer code calculates the static flow properties behind oblique shocks in equilibrium air at hypersonic speeds. This code is assembled according to the calculation procedure described in the section "Method" of this report. The program input, output, and listing are as follows:

Program Input

FORTRAN IV NAMELIST with the name CASE is used to load input data. The following list contains the input variables with the dimensions used in the program:

FORTRAN variable	Symbol	Description
ALT		altitude, ft
VEL	V_1	free-stream velocity, ft/sec
VC	a	speed of sound, ft/sec
P1	p_1	ambient pressure, atm
GAME1	γ_1	specific heat ratio
RHØ1	ρ_1	ambient density, lbm/ft^3
H1	h_1	ambient enthalpy, Btu/lb
S/R	S_1/R	ambient entropy
K		integer designation of input into search
U2U1	u_2/u_1	estimate of shock normal-velocity ratio
T1	T_1	ambient temperature, ^{o}R

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Program Output

FORTRAN name	Symbol	Description
TH	θ	shock angle, deg
M1SINTH	$M_1 \sin \theta$	normal Mach number
P2	p_2	post-shock pressure, atm
H_2	h_2	post-shock enthalpy
T2	T_2	post-shock temperature, ^{o}R
Z	Z_2	post-shock compressibility factor
RHØ2	ρ_2	post-shock density, lbm/ft^3
DELTA	δ	flow-deflection angle, deg
SR	S_2/R	post-shock entropy
A2	a_2	post-shock speed of sound, ft/sec
M2	M_2	post-shock Mach number
N		number of iterations
S2/S1	$(S_2 - S_1)/R$	entropy difference
P2P1	p_2/p_1	pressure ratio across shock
RHØ2RHØ1	ρ_2/ρ_1	density ratio across shock
T2T1	T_2/T_1	temperature ratio across shock
H2H1	h_2/h_1	enthalpy ratio across shock

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FORTRAN name	Symbol	Description
V2	V_2	post-shock velocity
R2OL		unit Reynolds number, 1/ft
VISLBFS	μ_2	post-shock viscosity, lbm/ft-sec
V2V1	V_2/V_1	velocity ratio across shock

Program Listing

```
      PROGRAM SOUDERS  (INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE8)
      DIMENSION P(25),RHO(25),H1(25),SOR(25),T1(25),A1(25),Z1(25),
      DIMENSION GAM(25),
      DIMENSION B(20,60)    ,
      REAL M1,M1SINTH,M2    ,
      NAMELIST/CASE/ALT,VEL,VC,P1,GAME1,RHO1,H1,SR1,K,U2U1,T1
  460 READ(5,CASE)
      IF(EOF,5)400,2
    2 WRITE(6,CASE)
      BALT=ALT*.0003048   ,
      BVEL=VEL*.0003048    ,
      BP1=P1*101325.    ,
      BRHO1=RHO1*16.018463    ,
      BT1=T1/1.8    ,
      BM1=VEL/VC   ,
      BH1=H1*(1054.35/.45359)   ,
      WRITE(6,600)BALT,BVEL,BP1,BRHO1,BT1,SR1,BM1,BH1    ,
  600 FORMAT(2X,*ALT =*E16.8/2X,*VEL =*E16.8/2X,*P1  =*E16.8/2X,*RHO1=*E
     116.8/2X,*T1  =*E16.8/2X,*S1/R=*E16.8/2X,*M1  =*E16.8/2X,*H1  =*E16
     2.8)     ,
      ISP=1    ,
      M1=VEL/VC
      THMIN=ASIN(1.0/M1)*57.2957795130823   ,
      TH=THMIN    ,
      DO 10 NN=1,20    ,
      IF(TH.GT.90.)GO TO 450   ,
      NT=NN    ,
      NTH=TH+.1
      TH=TH*.017453292519943    ,
      M1SINTH=M1*SIN(TH)
      N=0
   20 P2=(GAME1*M1**2*SIN(TH)**2*(1.0-U2U1)+1.0)*P1
      H2=((GAME1-1.0)/2.0*M1**2*SIN(TH)**2*(1.0-(U2U1)**2)+1.0)*H1
      P=P2*1.01325E+05
      H=H2*2.3244444E+03
      CALL SEARCH(P,RHO,H,SR,T,A,Z,GAM1,ZS1,ISP,K)
      RHO2=RHO/16.01846342
      U2U1=1.0/(RHO2/RHO1)
      IF(N.GT.0)GO TO 1
      RHOSAVE=RHO2/RHO1
      N=N+1
      GO TO 20
    1 IF(ABS(1.0-RHOSAVE/(RHO2/RHO1)).LE..0001)GO TO 30   ,
      N=N+1
```

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```
      RHOSAVE=RHO2/RHO1
      U2U1=1.0/(RHO2/RHO1)
      IF(N.GT.20)GO TO 30
      GO TO 20
   30 CONTINUE
      T2=T/.555555
      A2=A/.3048    .
      DELTA=ATAN((TAN(TH)-U2U1*TAN(TH))/(1.0+U2U1*TAN(TH)*TAN(TH)))
      DELTA=DELTA*57.2957795130823
      U1=VEL*SIN(TH)
      V1=VEL*COS(TH)
      U2=U2U1*U1
      V2=V1
      V2SQ=V2**2+U2**2
      V2=SQRT(V2SQ)
      V2V1=V2/VEL     .
      M2=V2/A2
      S2S1=SR-SR1
      TH=TH*57.2957795130823    .
      P2P1=P2/P1    .
      RHO2RO1=RHO2/RHO1     .
      T2T1=T2/T1     .
      H2H1=H2/H1     .
      CALL VISC(T,P,VIS)     .
      VISLBFS=VIS/1.4881639    .
      R2OL=(RHO2*V2)/VISLBFS   .
      B(NN,1)=TH    .
      B(NN,2)=DELTA    .
      B(NN,3)=V2/VEL   .
      B(NN,4)=M2   .
      B(NN,5)=Z    .
      B(NN,6)=GAM1   .
      B(NN,7)=VISLBFS*1.4881639    .
      B(NN,8)=P2P1   .
      B(NN,9)=T2T1   .
      B(NN,10)=H2H1   .
      B(NN,11)=S2S1    .
      B(NN,12)=R2OL/.3048     .
      B(NN,13)=RHO2RO1   .
      IF(NN.GT.1)GO TO 40    .
      IF(TH.LT.5.0)TH=0.   .
      IF(TH.GE.10.0)TH=10.0   .
      IF(TH.GE.5.0.AND.TH.LT.10.0)TH=5.0   .
   40 TH=TH+5.0   .
   10 CONTINUE    .
  450 CONTINUE    .
      WRITE(6,50)
   50 FORMAT(1H1,////////*      TH            DELTA          V2/V1            M
     12            Z2           GAM2           VIS*)   .
      DO 33 NN=1,NT    .
      PRINT 34,(B(NN,I),I=1,7)   .
   34 FORMAT(7(E12.4,1X))   .
   33 CONTINUE    .
      WRITE(6,51)    .
   51 FORMAT(/)
      WRITE(6,52)
   52 FORMAT(*      TH            P2/P1          T2/T1          H2/H1          DE
     1L S/R       RE2/M        RHO2/RO1*)   .
      DO 35 NN=1,NT    .
      PRINT 34,B(NN,1),(B(NN,I),I=8,13)   .
   35 CONTINUE    .
      GO TO 460    .
  400 CONTINUE
      STOP
      END
```

APPENDIX B

```
      SUBROUTINE SEARCH (P,RHO,H1,SOR,T1,A1,GAM,2S,ISP,K)
          (LISTED IN APPENDIX D OF REFERENCE 13)

      SUBROUTINE INTRP (N,X,Y,XINT,YINT)
          (LISTED IN APPENDIX D OF REFERENCE 13)



      SUBROUTINE VISC(T,P,VIS),
      DIMENSION TAPY(4),TABTY(13),TABNUY(52),
C
C     TABLE OF VISCOSITY FROM YOS(AVCO RAD-TM-63-7)
C
       DATA TAPY/ 1.01325E+5,3.03975E+5,1.01325E+6,3.03975E+6/,
       DATA TABTY/ 1000.,2000.,3000.,4000.,5000.,6000.,7000.,8000.,
      C 9000.,10000.,12000.,14000.,16000./,
       DATA TABNUY/ .418E-4, .648E-4, .858E-4,1.08E-4,1.30E-4,1.54E-4,
      C1.86E-4,2.21E-4,2.46E-4,2.63E-4,2.63E-4,1.77E-4,.96E-4, .418E-4,
      C .648E-4, .857E-4,1.07E-4,1.30E-4,1.52E-4,1.80E-4,2.14E-4,2.45E-4,
      C2.66E-4,2.85E-4,2.34E-4,1.53E-4, .418E-4, .648E-4, .857E-4,
      C1.07E-4,1.30E-4,1.51E-4,1.76E-4,2.06E-4,2.4E-4,2.67E-4,3.00E-4,
      C2.82E-4,2.24E-4, .418E-4, .648E-4, .856E-4,1.06E-4,1.27E-4,
      C1.50E-4,1.73E-4,2.00E-4,2.32E-4,2.63E-4,3.06E-4,3.10E-4,2.66E-4/,
       IF(T .LE. 1500.) GO TO 1,
       CALL DISCOT(T,P,TABTY,TABNUY,TAPY,11,52,4,VIS),
       GO TO 2,
     1 VIS=1.462E-6*SQRT(T)/(1.+112./T),
     2 RETURN$END,
```

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TABLE I.- ATMOSPHERIC PROPERTIES

Geometric altitude, km	Reference 4 (1962)				References 10 and 11	Enthalpy, kJ/kg	Entropy, S/R
	Pressure, atm	Temperature, K	Density, kg/m^3	Speed of sound, m/sec	Specific heat, c_p/R		
15.24	1.1512×10^{-1}	216.650	1.8756×10^{-1}	295.078	3.494	216.837	29.943
22.86	3.4963×10^{-2}	219.428	5.6244×10^{-2}	296.95	3.494	219.622	26.180
30.48	1.0997×10^{-2}	226.984	1.7101×10^{-2}	302.02	3.494	227.199	27.454
38.10	3.6711×10^{-3}	245.094	5.2870×10^{-3}	313.84	3.494	245.363	28.820
45.72	1.3429×10^{-3}	266.152	1.7811×10^{-3}	327.05	3.495	266.501	30.114
53.34	5.1982×10^{-4}	268.858	6.8247×10^{-4}	328.71	3.495	269.216	31.098
60.96	1.9537×10^{-4}	253.888	2.7163×10^{-4}	319.42	3.494	254.198	31.876
68.58	6.7442×10^{-5}	225.258	1.0568×10^{-5}	300.87	3.493	225.463	32.522
76.20	2.0074×10^{-5}	195.461	3.6225×10^{-5}	280.26	3.493	195.588	33.238
83.82	5.0593×10^{-6}	180.650	9.885×10^{-6}	269.4	3.493	180.736	34.341
91.44	1.2489×10^{-6}	184.944	2.384×10^{-6}	272.6	3.493	185.044	35.822

TABLE II.- ALTITUDES AND CORRESPONDING VELOCITIES FOR DATA IN TABLES III TO XIII

[Circled items indicate trajectory points for which plotted parameters are provided in figs. 4, 5, and 6]

Altitude, km	Velocity, km/sec, of –															
	1.828	2.438	3.048	3.658	4.267	4.877	5.486	6.096	6.706	7.315	7.925	8.534	9.144	9.754	10.363	10.973	11.582
15.24	x	x	x	x													
22.86	x	x	x	x	x												
30.48	ⓧ	x	ⓧ	x	ⓧ	x											
38.10	x	x	x	x	x	x	x										
45.72	x	x	x	x	x	x	x	x									
53.34		x	x	x	x	x	x	x	x	x	x						
60.96				ⓧ	x	x	x	ⓧ	x	x	x	ⓧ	x	x			
68.58						x	x	x	x	x	x	x	x	x	x	x	x
76.20								x	x	x	x	x	x	x	x	x	x
83.82										x	x	x	x	x	x	x	x
91.44											ⓧ	x	x	x	x	x	ⓧ

TABLE III.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 15.24 km

[p_1 = 11664 Pa; ρ_1 = 0.18756 kg/m^3; T_1 = 216.650 K; S_1/R = 24.943; h_1 = 216.837 kJ/kg]

(a) Velocity, 1.8288 km/sec; M_1 = 6.1978

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
9.2851E+00	2.6056E-01	9.9927E-01	6.1513E+00	9.9977E-01	1.4012E+00	1.4328E-05
1.0000E+01	8.0480E-01	9.9763E-01	6.0720E+00	9.9977E-01	1.4011E+00	1.4603E-05
1.5000E+01	7.5016E+00	9.7426E-01	5.1213E+00	9.9989E-01	1.3995E+00	1.8492E-05
2.0000E+01	1.2701E+01	9.4737E-01	4.3987E+00	1.0001E+00	1.3972E+00	2.2286E-05
2.5000E+01	1.7383E+01	9.1438E-01	3.7916E+00	1.0002E+00	1.3902E+00	2.6230E-05
3.0000E+01	2.1775E+01	8.7503E-01	3.2820E+00	1.0005E+00	1.3793E+00	3.0172E-05
3.5000E+01	2.5954E+01	8.2947E-01	2.8500E+00	1.0007E+00	1.3666E+00	3.3987E-05
4.0000E+01	2.9937E+01	7.7801E-01	2.4807E+00	1.0008E+00	1.3513E+00	3.7580E-05
4.5000E+01	3.3691E+01	7.2111E-01	2.1570E+00	1.0009E+00	1.3358E+00	4.0908E-05
5.0000E+01	3.7154E+01	6.5929E-01	1.8635E+00	1.0010E+00	1.3271E+00	4.3943E-05
5.5000E+01	4.0223E+01	5.9320E-01	1.5932E+00	1.0010E+00	1.3273E+00	4.6658E-05
6.0000E+01	4.2726E+01	5.2362E-01	1.3516E+00	1.0010E+00	1.3192E+00	4.9038E-05
6.5000E+01	4.4371E+01	4.5157E-01	1.1302E+00	1.0011E+00	1.3075E+00	5.1070E-05
7.0000E+01	4.4644E+01	3.7848E-01	9.2244E-01	1.0012E+00	1.3029E+00	5.3365E-05
7.5000E+01	4.2577E+01	3.0662E-01	7.3203E-01	1.0012E+00	1.3005E+00	5.4887E-05
8.0000E+01	3.6285E+01	2.4025E-01	5.6551E-01	1.0012E+00	1.2981E+00	5.5995E-05
8.5000E+01	2.2558E+01	1.8839E-01	4.3973E-01	1.0012E+00	1.2964E+00	5.6670E-05
9.0000E+01	9.0669E-11	1.6734E-01	3.8953E-01	1.0012E+00	1.2959E+00	5.6897E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
9.2851E+00	1.0433E+00	1.0120E+00	1.0122E+00	-1.5942E-03	2.4624E+07	1.0294E+00
1.0000E+01	1.1294E+00	1.0352E+00	1.0355E+00	-1.3131E-03	2.5526E+07	1.0893E+00
1.5000E+01	2.8327E+00	1.3899E+00	1.3904E+00	1.0936E-01	3.6788E+07	2.0357E+00
2.0000E+01	5.0767E+00	1.7841E+00	1.7874E+00	4.0276E-01	4.1433E+07	2.8415E+00
2.5000E+01	7.8503E+00	2.2477E+00	2.2593E+00	7.8788E-01	4.1692E+07	3.4868E+00
3.0000E+01	1.1079E+01	2.7686E+00	2.8003E+00	1.1957E+00	3.9735E+07	3.9944E+00
3.5000E+01	1.4670E+01	3.3293E+00	3.3968E+00	1.5981E+00	3.6818E+07	4.3981E+00
4.0000E+01	1.8520E+01	3.9095E+00	4.0323E+00	1.9770E+00	3.3576E+07	4.7282E+00
4.5000E+01	2.2512E+01	4.4933E+00	4.6877E+00	2.3276E+00	3.0235E+07	5.0005E+00
5.0000E+01	2.6520E+01	5.0645E+00	5.3433E+00	2.6464E+00	2.6895E+07	5.2260E+00
5.5000E+01	3.0420E+01	5.6078E+00	5.9792E+00	2.9221E+00	2.3610E+07	5.4140E+00
6.0000E+01	3.4092E+01	6.1089E+00	6.5762E+00	3.1575E+00	2.0401E+07	5.5699E+00
6.5000E+01	3.7418E+01	6.5555E+00	7.1160E+00	3.3636E+00	1.7278E+07	5.6967E+00
7.0000E+01	4.0296E+01	6.9366E+00	7.5821E+00	3.5350E+00	1.4104E+07	5.7977E+00
7.5000E+01	4.2636E+01	7.2420E+00	7.9603E+00	3.6645E+00	1.1259E+07	5.8756E+00
8.0000E+01	4.4363E+01	7.4645E+00	8.2392E+00	3.7563E+00	8.7293E+06	5.9315E+00
8.5000E+01	4.5422E+01	7.5999E+00	8.4100E+00	3.8113E+00	6.8014E+06	5.9648E+00
9.0000E+01	4.5779E+01	7.6454E+00	8.4675E+00	3.8297E+00	6.0286E+06	5.9759E+00

TABLE III. - Continued

(b) Velocity, 2.4384 km/sec; M_1 = 8.2638

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
6.9504E+00	1.9650E-01	9.9959E-01	8.2044E+00	9.9977E-01	1.4012E+00	1.4328E-05
1.0000E+01	4.2347E+00	9.8981E-01	7.2380E+00	9.9984E-01	1.3999E+00	1.7303E-05
1.5000E+01	9.6637E+00	9.7013E-01	5.9793E+00	1.0001E+00	1.3970E+00	2.2432E-05
2.0000E+01	1.4409E+01	9.4418E-01	4.9937E+00	1.0004E+00	1.3859E+00	2.7919E-05
2.5000E+01	1.8876E+01	9.1151E-01	4.2240E+00	1.0006E+00	1.3687E+00	3.3463E-05
3.0000E+01	2.3187E+01	8.7218E-01	3.6188E+00	1.0008E+00	1.3456E+00	3.8819E-05
3.5000E+01	2.7352E+01	8.2649E-01	3.1186E+00	1.0010E+00	1.3272E+00	4.3877E-05
4.0000E+01	3.1389E+01	7.7478E-01	2.6853E+00	1.0010E+00	1.3219E+00	4.8583E-05
4.5000E+01	3.5229E+01	7.1751E-01	2.3259E+00	1.0012E+00	1.3026E+00	5.3544E-05
5.0000E+01	3.8832E+01	6.5520E-01	2.0023E+00	1.0012E+00	1.2928E+00	5.8188E-05
5.5000E+01	4.2088E+01	5.8846E-01	1.7123E+00	1.0013E+00	1.2825E+00	6.2587E-05
6.0000E+01	4.4852E+01	5.1800E-01	1.4480E+00	1.0014E+00	1.2730E+00	6.6431E-05
6.5000E+01	4.6853E+01	4.4474E-01	1.2040E+00	1.0016E+00	1.2642E+00	6.9627E-05
7.0000E+01	4.7591E+01	3.6996E-01	9.7673E-01	1.0019E+00	1.2563E+00	7.2315E-05
7.5000E+01	4.6099E+01	2.9564E-01	7.6618E-01	1.0023E+00	1.2497E+00	7.4430E-05
8.0000E+01	4.0303E+01	2.2568E-01	5.7744E-01	1.0026E+00	1.2449E+00	7.5950E-05
8.5000E+01	2.6028E+01	1.6909E-01	4.2939E-01	1.0029E+00	1.2419E+00	7.6867E-05
9.0000E+01	1.0733E-10	1.4514E-01	3.6766E-01	1.0030E+00	1.2409E+00	7.7173E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
6.9504E+00	1.0433E+00	1.0120E+00	1.0122E+00	-1.5942E-03	3.2843E+07	1.0294E+00
1.0000E+01	2.2320E+00	1.2763E+00	1.2769E+00	4.9613E-02	4.5691E+07	1.7464E+00
1.5000E+01	5.1717E+00	1.8003E+00	1.8037E+00	4.1598E-01	5.6739E+07	2.8686E+00
2.0000E+01	9.1757E+00	2.4638E+00	2.4821E+00	9.6050E-01	5.7506E+07	3.7181E+00
2.5000E+01	1.4147E+01	3.2489E+00	3.3103E+00	1.5433E+00	5.4144E+07	4.3462E+00
3.0000E+01	1.9955E+01	4.1216E+00	4.2683E+00	2.1083E+00	4.9655E+07	4.8323E+00
3.5000E+01	2.6429E+01	5.0518E+00	5.3285E+00	2.6396E+00	4.4980E+07	5.2213E+00
4.0000E+01	3.3373E+01	6.0114E+00	6.4593E+00	3.1123E+00	4.0412E+07	5.5408E+00
4.5000E+01	4.0571E+01	6.9726E+00	7.6265E+00	3.5506E+00	3.5589E+07	5.8071E+00
5.0000E+01	4.7809E+01	7.9046E+00	8.7949E+00	3.9330E+00	3.1086E+07	6.0364E+00
5.5000E+01	5.4854E+01	8.7874E+00	9.9285E+00	4.2704E+00	2.6788E+07	6.2298E+00
6.0000E+01	6.1497E+01	9.5916E+00	1.0993E+01	4.5600E+00	2.2817E+07	6.3980E+00
6.5000E+01	6.7527E+01	1.0298E+01	1.1957E+01	4.8038E+00	1.9113E+07	6.5428E+00
7.0000E+01	7.2751E+01	1.0891E+01	1.2789E+01	5.0035E+00	1.5590E+07	6.6630E+00
7.5000E+01	7.7006E+01	1.1358E+01	1.3464E+01	5.1581E+00	1.2281E+07	6.7602E+00
8.0000E+01	8.0151E+01	1.1694E+01	1.3962E+01	5.2685E+00	9.2844E+06	6.8318E+00
8.5000E+01	8.2080E+01	1.1896E+01	1.4268E+01	5.3349E+00	6.9169E+06	6.8754E+00
9.0000E+01	8.2730E+01	1.1964E+01	1.4370E+01	5.3571E+00	5.9263E+06	6.8900E+00

TABLE III.- Continued

(c) Velocity, 3.0480 km/sec; M_1 = 10.330

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
5.5554E+00	1.5759E-01	9.9974E-01	1.0257E+01	9.9977E-01	1.4012E+00	1.4328E-05
1.0000E+01	5.7036E+00	9.8758E-01	8.2587E+00	9.9995E-01	1.3994E+00	1.9850E-05
1.5000E+01	1.0633E+01	9.6867E-01	6.6163E+00	1.0003E+00	1.3891E+00	2.6670E-05
2.0000E+01	1.5250E+01	9.4293E-01	5.4214E+00	1.0006E+00	1.3673E+00	3.3803E-05
2.5000E+01	1.9661E+01	9.1026E-01	4.5501E+00	1.0009E+00	1.3364E+00	4.0767E-05
3.0000E+01	2.3966E+01	8.7085E-01	3.8488E+00	1.0010E+00	1.3262E+00	4.7380E-05
3.5000E+01	2.8170E+01	8.2501E-01	3.3083E+00	1.0012E+00	1.3015E+00	5.4306E-05
4.0000E+01	3.2259E+01	7.7309E-01	2.8517E+00	1.0013E+00	1.2856E+00	6.1276E-05
4.5000E+01	3.6203E+01	7.1552E-01	2.4643E+00	1.0015E+00	1.2691E+00	6.7841E-05
5.0000E+01	3.9956E+01	6.5279E-01	2.1270E+00	1.0021E+00	1.2519E+00	7.3756E-05
5.5000E+01	4.3443E+01	5.8545E-01	1.8259E+00	1.0037E+00	1.2345E+00	7.9088E-05
6.0000E+01	4.6525E+01	5.1415E-01	1.5501E+00	1.0066E+00	1.2180E+00	8.3658E-05
6.5000E+01	4.8955E+01	4.3975E-01	1.2893E+00	1.0104E+00	1.2083E+00	8.7430E-05
7.0000E+01	5.0245E+01	3.6341E-01	1.0421E+00	1.0147E+00	1.2015E+00	9.0472E-05
7.5000E+01	4.9449E+01	2.8688E-01	8.0887E-01	1.0187E+00	1.1972E+00	9.2774E-05
8.0000E+01	4.4394E+01	2.1358E-01	5.9495E-01	1.0220E+00	1.1950E+00	9.4388E-05
8.5000E+01	2.9947E+01	1.5215E-01	4.2076E-01	1.0242E+00	1.1939E+00	9.5349E-05
9.0000E+01	1.2774E-10	1.2484E-01	3.4439E-01	1.0249E+00	1.1936E+00	9.5668E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
5.5554E+00	1.0433E+00	1.0120E+00	1.0122E+00	-1.5942E-03	4.1060E+07	1.0294E+00
1.0000E+01	3.5851E+00	1.5254E+00	1.5267E+00	2.0062E-01	6.6754E+07	2.3470E+00
1.5000E+01	8.1873E+00	2.3030E+00	2.3161E+00	8.3258E-01	7.3695E+07	3.5492E+00
2.0000E+01	1.4485E+01	3.3009E+00	3.3662E+00	1.5788E+00	6.9847E+07	4.3800E+00
2.5000E+01	2.2333E+01	4.4676E+00	4.6585E+00	2.3129E+00	6.3688E+07	4.9894E+00
3.0000E+01	3.1508E+01	5.7573E+00	6.1563E+00	2.9932E+00	5.7394E+07	5.4621E+00
3.5000E+01	4.1739E+01	7.1255E+00	7.8154E+00	3.6157E+00	5.0774E+07	5.8462E+00
4.0000E+01	5.2723E+01	8.5242E+00	9.5860E+00	4.1723E+00	4.4521E+07	6.1727E+00
4.5000E+01	6.4134E+01	9.9031E+00	1.1415E+01	4.6686E+00	3.8964E+07	6.4622E+00
5.0000E+01	7.5633E+01	1.1209E+01	1.3247E+01	5.1090E+00	3.4046E+07	6.7288E+00
5.5000E+01	8.6884E+01	1.2387E+01	1.5026E+01	5.4961E+00	2.9554E+07	6.9838E+00
6.0000E+01	9.7538E+01	1.3397E+01	1.6699E+01	5.8319E+00	2.5398E+07	7.2286E+00
6.5000E+01	1.0725E+02	1.4227E+01	1.8214E+01	6.1185E+00	2.1441E+07	7.4567E+00
7.0000E+01	1.1567E+02	1.4892E+01	1.9522E+01	6.3556E+00	1.7567E+07	7.6501E+00
7.5000E+01	1.2252E+02	1.5398E+01	2.0584E+01	6.5413E+00	1.3800E+07	7.8064E+00
8.0000E+01	1.2759E+02	1.5754E+01	2.1367E+01	6.6751E+00	1.0245E+07	7.9198E+00
8.5000E+01	1.3069E+02	1.5966E+01	2.1847E+01	6.7561E+00	7.2868E+06	7.9878E+00
9.0000E+01	1.3174E+02	1.6037E+01	2.2008E+01	6.7832E+00	5.9757E+06	8.0104E+00

TABLE III. - Concluded

(d) Velocity, 3.6576 km/sec; M_1 = 12.396

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
4.6273E+00	1.3151E-01	9.9982E-01	1.2309E+01	9.9977E-01	1.4012E+00	1.4328E-05
5.0000E+00	4.4235E-01	9.9935E-01	1.2147E+01	9.9977E-01	1.4011E+00	1.4640E-05
1.0000E+01	6.5061E+00	9.8664E-01	9.0927E+00	1.0001E+00	1.3969E+00	2.2537E-05
1.5000E+01	1.1258E+01	9.6799E-01	7.1049E+00	1.0005E+00	1.3766E+00	3.1083E-05
2.0000E+01	1.5757E+01	9.4228E-01	5.7646E+00	1.0008E+00	1.3413E+00	3.9719E-05
2.5000E+01	2.0155E+01	9.0956E-01	4.7744E+00	1.0010E+00	1.3247E+00	4.7984E-05
3.0000E+01	2.4482E+01	8.7006E-01	4.0506E+00	1.0012E+00	1.2959E+00	5.6897E-05
3.5000E+01	2.8735E+01	8.2407E-01	3.4718E+00	1.0014E+00	1.2742E+00	6.5986E-05
4.0000E+01	3.2918E+01	7.7193E-01	3.0044E+00	1.0022E+00	1.2502E+00	7.4290E-05
4.5000E+01	3.7022E+01	7.1402E-01	2.6145E+00	1.0053E+00	1.2246E+00	8.1973E-05
5.0000E+01	4.1008E+01	6.5079E-01	2.2696E+00	1.0119E+00	1.2057E+00	8.8624E-05
5.5000E+01	4.4764E+01	5.8285E-01	1.9506E+00	1.0217E+00	1.1952E+00	9.4233E-05
6.0000E+01	4.8135E+01	5.1092E-01	1.6499E+00	1.0332E+00	1.1912E+00	9.8883E-05
6.5000E+01	5.0880E+01	4.3578E-01	1.3652E+00	1.0451E+00	1.1905E+00	1.0272E-04
7.0000E+01	5.2560E+01	3.5850E-01	1.0947E+00	1.0561E+00	1.1923E+00	1.0584E-04
7.5000E+01	5.2270E+01	2.8061E-01	8.3950E-01	1.0654E+00	1.1950E+00	1.0839E-04
8.0000E+01	4.7838E+01	2.0512E-01	6.0459E-01	1.0724E+00	1.1975E+00	1.1025E-04
8.5000E+01	3.3473E+01	1.4009E-01	4.0918E-01	1.0767E+00	1.1993E+00	1.1138E-04
9.0000E+01	1.4767E-10	1.0984E-01	3.1986E-01	1.0781E+00	1.1998E+00	1.1176E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.6273E+00	1.0433E+00	1.0120E+00	1.0122E+00	-1.5942E-03	4.9276E+07	1.0294E+00
5.0000E+00	1.1415E+00	1.0384E+00	1.0387E+00	-1.2490E-03	5.1397E+07	1.0975E+00
1.0000E+01	5.2404E+00	1.8120E+00	1.8155E+00	4.2555E-01	8.6735E+07	2.8880E+00
1.5000E+01	1.1893E+01	2.8974E+00	2.9359E+00	1.2915E+00	8.7535E+07	4.0974E+00
2.0000E+01	2.1034E+01	4.2795E+00	4.4454E+00	2.2032E+00	7.9840E+07	4.9057E+00
2.5000E+01	3.2437E+01	5.8842E+00	6.3073E+00	3.0528E+00	7.1545E+07	5.5019E+00
3.0000E+01	4.5779E+01	7.6454E+00	8.4675E+00	3.8297E+00	6.2690E+07	5.9759E+00
3.5000E+01	6.0674E+01	9.4933E+00	1.0861E+01	4.5254E+00	5.4643E+07	6.3779E+00
4.0000E+01	7.6719E+01	1.1327E+01	1.3419E+01	5.1479E+00	4.8143E+07	6.7537E+00
4.5000E+01	9.3482E+01	1.3025E+01	1.6063E+01	5.7069E+00	4.2635E+07	7.1350E+00
5.0000E+01	1.1047E+02	1.4488E+01	1.8715E+01	6.2104E+00	3.7938E+07	7.5309E+00
5.5000E+01	1.2709E+02	1.5720E+01	2.1291E+01	6.6621E+00	3.3559E+07	7.9089E+00
6.0000E+01	1.4276E+02	1.6750E+01	2.3709E+01	7.0622E+00	2.9222E+07	8.2442E+00
6.5000E+01	1.5697E+02	1.7608E+01	2.5895E+01	7.4072E+00	2.4812E+07	8.5252E+00
7.0000E+01	1.6923E+02	1.8312E+01	2.7781E+01	7.6946E+00	2.0322E+07	8.7459E+00
7.5000E+01	1.7917E+02	1.8868E+01	2.9311E+01	7.9211E+00	1.5822E+07	8.9089E+00
8.0000E+01	1.8650E+02	1.9271E+01	3.0437E+01	8.0844E+00	1.1511E+07	9.0193E+00
8.5000E+01	1.9097E+02	1.9517E+01	3.1127E+01	8.1828E+00	7.8373E+06	9.0830E+00
9.0000E+01	1.9248E+02	1.9600E+01	3.1360E+01	8.2156E+00	6.1385E+06	9.1039E+00

TABLE IV.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 22.86 km

[p_1 = 3542.7 Pa; ρ_1 = 0.056 244 kg/m^3; T_1 = 219.428 K; S_1/R = 26.180; h_1 = 219.622 kJ/kg]

(a) Velocity, 1.8288 km/sec; M_1 = 6.1585

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
9.3449E+00	2.6547E-01	9.9925E-01	6.1112E+00	9.9990E-01	1.4014E+00	1.4482E-05
1.0000E+01	7.0412E-01	9.9791E-01	6.0481E+00	9.9990E-01	1.4013E+00	1.4701E-05
1.5000E+01	7.4408E+00	9.7439E-01	5.1027E+00	9.9997E-01	1.3995E+00	1.8600E-05
2.0000E+01	1.2656E+01	9.4746E-01	4.3879E+00	1.0001E+00	1.3958E+00	2.2366E-05
2.5000E+01	1.7348E+01	9.1445E-01	3.7850E+00	1.0001E+00	1.3885E+00	2.6321E-05
3.0000E+01	2.1745E+01	8.7509E-01	3.2794E+00	1.0001E+00	1.3765E+00	3.0254E-05
3.5000E+01	2.5929E+01	8.2953E-01	2.8497E+00	1.0002E+00	1.3631E+00	3.4060E-05
4.0000E+01	2.9913E+01	7.7807E-01	2.4791E+00	1.0003E+00	1.3499E+00	3.7647E-05
4.5000E+01	3.3671E+01	7.2116E-01	2.1531E+00	1.0003E+00	1.3384E+00	4.0968E-05
5.0000E+01	3.7133E+01	6.5935E-01	1.8611E+00	1.0003E+00	1.3287E+00	4.4001E-05
5.5000E+01	4.0201E+01	5.9326E-01	1.5958E+00	1.0003E+00	1.3216E+00	4.6714E-05
6.0000E+01	4.2704E+01	5.2368E-01	1.3532E+00	1.0003E+00	1.3149E+00	4.9090E-05
6.5000E+01	4.4348E+01	4.5164E-01	1.1293E+00	1.0003E+00	1.3088E+00	5.1121E-05
7.0000E+01	4.4620E+01	3.7856E-01	9.2192E-01	1.0003E+00	1.3039E+00	5.3421E-05
7.5000E+01	4.2551E+01	3.0671E-01	7.3203E-01	1.0004E+00	1.3004E+00	5.4943E-05
8.0000E+01	3.6254E+01	2.4037E-01	5.6564E-01	1.0004E+00	1.2978E+00	5.6055E-05
8.5000E+01	2.2531E+01	1.8855E-01	4.3959E-01	1.0004E+00	1.2962E+00	5.6732E-05
9.0000E+01	9.0542E-11	1.6753E-01	3.8985E-01	1.0004E+00	1.2957E+00	5.6960E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
9.3449E+00	1.0438E+00	1.0120E+00	1.0123E+00	-6.6408E-04	7.3086E+06	1.0298E+00
1.0000E+01	1.1119E+00	1.0304E+00	1.0309E+00	-5.3165E-04	7.5213E+06	1.0772E+00
1.5000E+01	2.7952E+00	1.3827E+00	1.3835E+00	1.0465E-01	1.0880E+07	2.0192E+00
2.0000E+01	5.0117E+00	1.7725E+00	1.7761E+00	3.9288E-01	1.2294E+07	2.8241E+00
2.5000E+01	7.7510E+00	2.2305E+00	2.2423E+00	7.7241E-01	1.2402E+07	3.4706E+00
3.0000E+01	1.0939E+01	2.7449E+00	2.7766E+00	1.1787E+00	1.1840E+07	3.9797E+00
3.5000E+01	1.4486E+01	3.2982E+00	3.3658E+00	1.5798E+00	1.0987E+07	4.3858E+00
4.0000E+01	1.8287E+01	3.8713E+00	3.9932E+00	1.9583E+00	1.0027E+07	4.7169E+00
4.5000E+01	2.2230E+01	4.4472E+00	4.6405E+00	2.3051E+00	9.0371E+06	4.9912E+00
5.0000E+01	2.6187E+01	5.0117E+00	5.2878E+00	2.6207E+00	8.0411E+06	5.2171E+00
5.5000E+01	3.0038E+01	5.5481E+00	5.9157E+00	2.8987E+00	7.0615E+06	5.4058E+00
6.0000E+01	3.3664E+01	6.0427E+00	6.5052E+00	3.1391E+00	6.1034E+06	5.5623E+00
6.5000E+01	3.6949E+01	6.4838E+00	7.0382E+00	3.3428E+00	5.1705E+06	5.6898E+00
7.0000E+01	3.9791E+01	6.8599E+00	7.4984E+00	3.5098E+00	4.2213E+06	5.7915E+00
7.5000E+01	4.2101E+01	7.1614E+00	7.8719E+00	3.6391E+00	3.3703E+06	5.8697E+00
8.0000E+01	4.3806E+01	7.3818E+00	8.1472E+00	3.7312E+00	2.6134E+06	5.9250E+00
8.5000E+01	4.4850E+01	7.5160E+00	8.3158E+00	3.7864E+00	2.0368E+06	5.9580E+00
9.0000E+01	4.5202E+01	7.5611E+00	8.3726E+00	3.8048E+00	1.8058E+06	5.9689E+00

TABLE IV.- Continued

(b) Velocity, 2.4384 km/sec; $M_1 = 8.2114$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
6.9950E+00	2.0021E-01	9.9958E-01	8.1510E+00	9.9990E-01	1.4014E+00	1.4482E-05
1.0000E+01	4.1838E+00	9.8990E-01	7.2087E+00	9.9994E-01	1.4002E+00	1.7412E-05
1.5000E+01	9.6314E+00	9.7018E-01	5.9644E+00	1.0001E+00	1.3956E+00	2.2532E-05
2.0000E+01	1.4386E+01	9.4422E-01	4.9870E+00	1.0001E+00	1.3838E+00	2.8006E-05
2.5000E+01	1.8858E+01	9.1154E-01	4.2234E+00	1.0002E+00	1.3650E+00	3.3538E-05
3.0000E+01	2.3172E+01	8.7221E-01	3.6146E+00	1.0003E+00	1.3459E+00	3.8884E-05
3.5000E+01	2.7349E+01	8.2651E-01	3.1143E+00	1.0003E+00	1.3288E+00	4.3936E-05
4.0000E+01	3.1377E+01	7.7480E-01	2.6896E+00	1.0003E+00	1.3162E+00	4.8636E-05
4.5000E+01	3.5219E+01	7.1754E-01	2.3243E+00	1.0003E+00	1.3034E+00	5.3601E-05
5.0000E+01	3.8820E+01	6.5522E-01	2.0018E+00	1.0004E+00	1.2925E+00	5.8251E-05
5.5000E+01	4.2081E+01	5.8847E-01	1.7128E+00	1.0004E+00	1.2816E+00	6.2637E-05
6.0000E+01	4.4850E+01	5.1800E-01	1.4494E+00	1.0006E+00	1.2709E+00	6.6464E-05
6.5000E+01	4.6863E+01	4.4471E-01	1.2062E+00	1.0009E+00	1.2603E+00	6.9631E-05
7.0000E+01	4.7623E+01	3.6987E-01	9.7964E-01	1.0014E+00	1.2504E+00	7.2267E-05
7.5000E+01	4.6164E+01	2.9545E-01	7.6910E-01	1.0020E+00	1.2420E+00	7.4318E-05
8.0000E+01	4.0407E+01	2.2534E-01	5.7971E-01	1.0026E+00	1.2357E+00	7.5776E-05
8.5000E+01	2.6139E+01	1.6854E-01	4.3060E-01	1.0030E+00	1.2320E+00	7.6647E-05
9.0000E+01	1.0791E-10	1.4447E-01	3.6826E-01	1.0032E+00	1.2307E+00	7.6937E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
6.9950E+00	1.0438E+00	1.0120E+00	1.0123E+00	-6.6408E-04	9.7480E+06	1.0298E+00
1.0000E+01	2.2019E+00	1.2702E+00	1.2709E+00	4.7026E-02	1.3497E+07	1.7310E+00
1.5000E+01	5.1055E+00	1.7885E+00	1.7922E+00	4.0601E-01	1.6837E+07	2.8513E+00
2.0000E+01	9.0598E+00	2.4438E+00	2.4624E+00	9.4450E-01	1.7120E+07	3.7025E+00
2.5000E+01	1.3969E+01	3.2190E+00	3.2803E+00	1.5248E+00	1.6154E+07	4.3335E+00
3.0000E+01	1.9705E+01	4.0806E+00	4.2263E+00	2.0882E+00	1.4833E+07	4.8217E+00
3.5000E+01	2.6097E+01	4.9991E+00	5.2732E+00	2.6139E+00	1.3448E+07	5.2124E+00
4.0000E+01	3.2953E+01	5.9465E+00	6.3898E+00	3.0934E+00	1.2089E+07	5.5330E+00
4.5000E+01	4.0062E+01	6.8955E+00	7.5423E+00	3.5253E+00	1.0650E+07	5.8009E+00
5.0000E+01	4.7207E+01	7.8169E+00	8.6958E+00	3.9081E+00	9.3016E+06	6.0296E+00
5.5000E+01	5.4167E+01	8.6861E+00	9.8153E+00	4.2442E+00	8.0220E+06	6.2260E+00
6.0000E+01	6.0730E+01	9.4767E+00	1.0867E+01	4.5337E+00	6.8377E+06	6.3971E+00
6.5000E+01	6.6693E+01	1.0166E+01	1.1818E+01	4.7774E+00	5.7343E+06	6.5467E+00
7.0000E+01	7.1864E+01	1.0741E+01	1.2640E+01	4.9774E+00	4.6844E+06	6.6736E+00
7.5000E+01	7.6080E+01	1.1188E+01	1.3308E+01	5.1325E+00	3.6958E+06	6.7785E+00
8.0000E+01	7.9199E+01	1.1507E+01	1.3800E+01	5.2433E+00	2.7966E+06	6.8571E+00
8.5000E+01	8.1114E+01	1.1697E+01	1.4102E+01	5.3100E+00	2.0826E+06	6.9056E+00
9.0000E+01	8.1759E+01	1.1760E+01	1.4204E+01	5.3323E+00	1.7826E+06	6.9219E+00

TABLE IV.- Continued

(c) Velocity, 3.0480 km/sec; M_1 = 10.264

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
5.5910E+00	1.6058E-01	9.9973E-01	1.0190E+01	9.9990E-01	1.4014E+00	1.4482E-05
1.0000E+01	5.6722E+00	9.8762E-01	8.2323E+00	1.0000E+00	1.3985E+00	1.9957E-05
1.5000E+01	1.0663E+01	9.6870E-01	6.6049E+00	1.0001E+00	1.3875E+00	2.6760E-05
2.0000E+01	1.5236E+01	9.4295E-01	5.4206E+00	1.0002E+00	1.3638E+00	3.3876E-05
2.5000E+01	1.9651E+01	9.1027E-01	4.5415E+00	1.0003E+00	1.3389E+00	4.0827E-05
3.0000E+01	2.3957E+01	8.7086E-01	3.8562E+00	1.0003E+00	1.3196E+00	4.7434E-05
3.5000E+01	2.8163E+01	8.2502E-01	3.3069E+00	1.0004E+00	1.3017E+00	5.4362E-05
4.0000E+01	3.2253E+01	7.7310E-01	2.8520E+00	1.0004E+00	1.2849E+00	6.1328E-05
4.5000E+01	3.6205E+01	7.1552E-01	2.4675E+00	1.0007E+00	1.2664E+00	6.7865E-05
5.0000E+01	3.9979E+01	6.5275E-01	2.1355E+00	1.0018E+00	1.2447E+00	7.3666E-05
5.5000E+01	4.3513E+01	5.8530E-01	1.8393E+00	1.0044E+00	1.2229E+00	7.8739E-05
6.0000E+01	4.6665E+01	5.1385E-01	1.5653E+00	1.0086E+00	1.2045E+00	8.2962E-05
6.5000E+01	4.9184E+01	4.3925E-01	1.3046E+00	1.0140E+00	1.1932E+00	8.6350E-05
7.0000E+01	5.0583E+01	3.6265E-01	1.0548E+00	1.0197E+00	1.1873E+00	8.9067E-05
7.5000E+01	4.9918E+01	2.8577E-01	8.1803E-01	1.0250E+00	1.1834E+00	9.1119E-05
8.0000E+01	4.5013E+01	2.1195E-01	5.9984E-01	1.0291E+00	1.1814E+00	9.2554E-05
8.5000E+01	3.0595E+01	1.4974E-01	4.2087E-01	1.0318E+00	1.1804E+00	9.3405E-05
9.0000E+01	1.3134E-10	1.2184E-01	3.4166E-01	1.0327E+00	1.1802E+00	9.3688E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
5.5910E+00	1.0438E+00	1.0120E+00	1.0123E+00	-6.6408E-04	1.2187E+07	1.0298E+00
1.0000E+01	3.5385E+00	1.5169E+00	1.5183E+00	1.9321E-01	1.9767E+07	2.3299E+00
1.5000E+01	8.0838E+00	2.2851E+00	2.2984E+00	8.1686E-01	2.1926E+07	3.5332E+00
2.0000E+01	1.4303E+01	3.2703E+00	3.3356E+00	1.5605E+00	2.0841E+07	4.3675E+00
2.5000E+01	2.2054E+01	4.4218E+00	4.6116E+00	2.2904E+00	1.9035E+07	4.9801E+00
3.0000E+01	3.1113E+01	5.6956E+00	6.0906E+00	2.9719E+00	1.7166E+07	5.4540E+00
3.5000E+01	4.1215E+01	7.0463E+00	7.7288E+00	3.5902E+00	1.5194E+07	5.8401E+00
4.0000E+01	5.2062E+01	8.4267E+00	9.4771E+00	4.1461E+00	1.3330E+07	6.1683E+00
4.5000E+01	6.3337E+01	9.7817E+00	1.1283E+01	4.6422E+00	1.1692E+07	6.4630E+00
5.0000E+01	7.4719E+01	1.1046E+01	1.3093E+01	5.0832E+00	1.0245E+07	6.7444E+00
5.5000E+01	8.5886E+01	1.2154E+01	1.4852E+01	5.4723E+00	8.9554E+06	7.0275E+00
6.0000E+01	9.6482E+01	1.3075E+01	1.6507E+01	5.8122E+00	7.7589E+06	7.3072E+00
6.5000E+01	1.0615E+02	1.3811E+01	1.8005E+01	6.1043E+00	6.6017E+06	7.5704E+00
7.0000E+01	1.1453E+02	1.4392E+01	1.9300E+01	6.3469E+00	5.4406E+06	7.7946E+00
7.5000E+01	1.2136E+02	1.4831E+01	2.0350E+01	6.5387E+00	4.2869E+06	7.9735E+00
8.0000E+01	1.2639E+02	1.5138E+01	2.1124E+01	6.6769E+00	3.1812E+06	8.1032E+00
8.5000E+01	1.2948E+02	1.5321E+01	2.1598E+01	6.7604E+00	2.2485E+06	8.1816E+00
9.0000E+01	1.3052E+02	1.5381E+01	2.1758E+01	6.7883E+00	1.8298E+06	8.2077E+00

TABLE IV.- Continued

(d) Velocity, 3.6576 km/sec; M_1 = 12.317

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
4.6569E+00	1.3400E-01	9.9981E-01	1.2229E+01	9.9990E-01	1.4014E+00	1.4482E-05
5.0000E+00	3.9060E-01	9.9943E-01	1.2097E+01	9.9990E-01	1.4013E+00	1.4737E-05
1.0000E+01	6.4850E+00	9.8666E-01	9.0700E+00	1.0001E+00	1.3954E+00	2.2637E-05
1.5000E+01	1.1245E+01	9.6800E-01	7.1006E+00	1.0001E+00	1.3734E+00	3.1164E-05
2.0000E+01	1.5748E+01	9.4229E-01	5.7557E+00	1.0003E+00	1.3427E+00	3.9761E-05
2.5000E+01	2.0149E+01	9.0957E-01	4.7838E+00	1.0003E+00	1.3180E+00	4.8038E-05
3.0000E+01	2.4475E+01	8.7007E-01	4.0493E+00	1.0004E+00	1.2957E+00	5.6960E-05
3.5000E+01	2.8733E+01	8.2408E-01	3.4745E+00	1.0005E+00	1.2723E+00	6.6021E-05
4.0000E+01	3.2936E+01	7.7190E-01	3.0174E+00	1.0019E+00	1.2425E+00	7.4182E-05
4.5000E+01	3.7092E+01	7.1389E-01	2.6387E+00	1.0068E+00	1.2115E+00	8.1419E-05
5.0000E+01	4.1153E+01	6.5053E-01	2.2995E+00	1.0161E+00	1.1909E+00	8.7418E-05
5.5000E+01	4.4989E+01	5.8244E-01	1.9802E+00	1.0287E+00	1.1815E+00	9.2417E-05
6.0000E+01	4.8447E+01	5.1034E-01	1.6770E+00	1.0428E+00	1.1786E+00	9.6560E-05
6.5000E+01	5.1287E+01	4.3502E-01	1.3878E+00	1.0567E+00	1.1794E+00	1.0002E-04
7.0000E+01	5.3086E+01	3.5748E-01	1.1124E+00	1.0693E+00	1.1819E+00	1.0287E-04
7.5000E+01	5.2953E+01	2.7924E-01	8.5163E-01	1.0798E+00	1.1852E+00	1.0515E-04
8.0000E+01	4.8724E+01	2.0317E-01	6.1057E-01	1.0876E+00	1.1881E+00	1.0681E-04
8.5000E+01	3.4450E+01	1.3716E-01	4.0850E-01	1.0924E+00	1.1901E+00	1.0790E-04
9.0000E+01	1.5358E-10	1.0606E-01	3.1492E-01	1.0940E+00	1.1908E+00	1.0828E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.6569E+00	1.0438E+00	1.0120E+00	1.0123E+00	-6.6408E-04	1.4625E+07	1.0298E+00
5.0000E+00	1.1234E+00	1.0335E+00	1.0339E+00	-4.9303E-04	1.5139E+07	1.0852E+00
1.0000E+01	5.1733E+00	1.8000E+00	1.8039E+00	4.1551E-01	2.5739E+07	2.8706E+00
1.5000E+01	1.1743E+01	2.8721E+00	2.9106E+00	1.2745E+00	2.6089E+07	4.0829E+00
2.0000E+01	2.0770E+01	4.2362E+00	4.4012E+00	2.1816E+00	2.3856E+07	4.8957E+00
2.5000E+01	3.2029E+01	5.8209E+00	6.2397E+00	3.0330E+00	2.1400E+07	5.4939E+00
3.0000E+01	4.5202E+01	7.5611E+00	8.3726E+00	3.8048E+00	1.8757E+07	5.9689E+00
3.5000E+01	5.9917E+01	9.3803E+00	1.0737E+01	4.4990E+00	1.6373E+07	6.3765E+00
4.0000E+01	7.5796E+01	1.1159E+01	1.3263E+01	5.1222E+00	1.4495E+07	6.7713E+00
4.5000E+01	9.2446E+01	1.2739E+01	1.5878E+01	5.6855E+00	1.2986E+07	7.1997E+00
5.0000E+01	1.0936E+02	1.4040E+01	1.8502E+01	6.1981E+00	1.1722E+07	7.6568E+00
5.5000E+01	1.2590E+02	1.5109E+01	2.1049E+01	6.6635E+00	1.0490E+07	8.0906E+00
6.0000E+01	1.4149E+02	1.5995E+01	2.3439E+01	7.0786E+00	9.2124E+06	8.4730E+00
6.5000E+01	1.5561E+02	1.6736E+01	2.5600E+01	7.4393E+00	7.8034E+06	8.7885E+00
7.0000E+01	1.6779E+02	1.7346E+01	2.7464E+01	7.7403E+00	6.4589E+06	9.0351E+00
7.5000E+01	1.7766E+02	1.7833E+01	2.8976E+01	7.9786E+00	5.0346E+06	9.2153E+00
8.0000E+01	1.8493E+02	1.8190E+01	3.0089E+01	8.1511E+00	3.6533E+06	9.3363E+00
8.5000E+01	1.8937E+02	1.8408E+01	3.0771E+01	8.2551E+00	2.4596E+06	9.4056E+00
9.0000E+01	1.9087E+02	1.8482E+01	3.1001E+01	8.2899E+00	1.9000E+06	9.4282E+00

TABLE IV. - Concluded

(e) Velocity, 4.2672 km/sec; M_1 = 14.370

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.9904E+00	1.1495E-01	9.9986E-01	1.4268E+01	9.9990E-01	1.4014E+00	1.4482E-05
5.0000E+00	1.4922E+00	9.9806E-01	1.3311E+01	9.9992E-01	1.4008E+00	1.6186E-05
1.0000E+01	6.9795E+00	9.8618E-01	9.7519E+00	1.0001E+00	1.3906E+00	2.5452E-05
1.5000E+01	1.1620E+01	9.6761E-01	7.5003E+00	1.0002E+00	1.3569E+00	3.5631E-05
2.0000E+01	1.6095E+01	9.4188E-01	6.0240E+00	1.0003E+00	1.3243E+00	4.5638E-05
2.5000E+01	2.0503E+01	9.0911E-01	4.9868E+00	1.0004E+00	1.2976E+00	5.6132E-05
3.0000E+01	2.4869E+01	8.6951E-01	4.2272E+00	1.0006E+00	1.2687E+00	6.7168E-05
3.5000E+01	2.9237E+01	8.2331E-01	3.6645E+00	1.0033E+00	1.2295E+00	7.7223E-05
4.0000E+01	3.3640E+01	7.7079E-01	3.2182E+00	1.0131E+00	1.1945E+00	8.5816E-05
4.5000E+01	3.7995E+01	7.1242E-01	2.8140E+00	1.0303E+00	1.1809E+00	9.2940E-05
5.0000E+01	4.2193E+01	6.4880E-01	2.4374E+00	1.0522E+00	1.1789E+00	9.8942E-05
5.5000E+01	4.6125E+01	5.8053E-01	2.0820E+00	1.0756E+00	1.1838E+00	1.0425E-04
6.0000E+01	4.9654E+01	5.0826E-01	1.7460E+00	1.0985E+00	1.1929E+00	1.0930E-04
6.5000E+01	5.2561E+01	4.3278E-01	1.4295E+00	1.1188E+00	1.2043E+00	1.1419E-04
7.0000E+01	5.4440E+01	3.5503E-01	1.1334E+00	1.1356E+00	1.2155E+00	1.1866E-04
7.5000E+01	5.4434E+01	2.7644E-01	8.5851E-01	1.1482E+00	1.2246E+00	1.2252E-04
8.0000E+01	5.0411E+01	1.9969E-01	6.0837E-01	1.1569E+00	1.2289E+00	1.2550E-04
8.5000E+01	3.6207E+01	1.3230E-01	3.9934E-01	1.1619E+00	1.2258E+00	1.2737E-04
9.0000E+01	1.6429E-10	9.9840E-02	3.0044E-01	1.1635E+00	1.2249E+00	1.2799E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.9904E+00	1.0438E+00	1.0120E+00	1.0123E+00	-6.6408E-04	1.7064E+07	1.0298E+00
5.0000E+00	1.6569E+00	1.1589E+00	1.1596E+00	1.1483E-02	2.1122E+07	1.4272E+00
1.0000E+01	7.1084E+00	2.1246E+00	2.1338E+00	6.8528E-01	3.1076E+07	3.3417E+00
1.5000E+01	1.6096E+01	3.5430E+00	3.6320E+00	1.7451E+00	2.9569E+07	4.5367E+00
2.0000E+01	2.8475E+01	5.3319E+00	5.6611E+00	2.7890E+00	2.6412E+07	5.3323E+00
2.5000E+01	4.3924E+01	7.3970E+00	8.1663E+00	3.7375E+00	2.3046E+07	5.9288E+00
3.0000E+01	6.2033E+01	9.6299E+00	1.1075E+01	4.5884E+00	1.9978E+07	6.4301E+00
3.5000E+01	8.2400E+01	1.1823E+01	1.4305E+01	5.3543E+00	1.7754E+07	6.9382E+00
4.0000E+01	1.0458E+02	1.3697E+01	1.7763E+01	6.0579E+00	1.6228E+07	7.5279E+00
4.5000E+01	1.2778E+02	1.5221E+01	2.1339E+01	6.7146E+00	1.4973E+07	8.1386E+00
5.0000E+01	1.5113E+02	1.6505E+01	2.4914E+01	7.3261E+00	1.3680E+07	8.6921E+00
5.5000E+01	1.7377E+02	1.7642E+01	2.8381E+01	7.8853E+00	1.2224E+07	9.1466E+00
6.0000E+01	1.9497E+02	1.8685E+01	3.1630E+01	8.3847E+00	1.0589E+07	9.4878E+00
6.5000E+01	2.1403E+02	1.9653E+01	3.4564E+01	8.8148E+00	8.8437E+06	9.7223E+00
7.0000E+01	2.3040E+02	2.0539E+01	3.7093E+01	9.1707E+00	7.0856E+06	9.8659E+00
7.5000E+01	2.4361E+02	2.1304E+01	3.9143E+01	9.4491E+00	5.3864E+06	9.9467E+00
8.0000E+01	2.5330E+02	2.1894E+01	4.0652E+01	9.6478E+00	3.8143E+06	9.9879E+00
8.5000E+01	2.5923E+02	2.2265E+01	4.1576E+01	9.7667E+00	2.4952E+06	1.0009E+01
9.0000E+01	2.6123E+02	2.2389E+01	4.1887E+01	9.8063E+00	1.8751E+06	1.0016E+01

TABLE V.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS

IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 30.48 km

$[p_1 = 1143 \text{ Pa}; \quad \rho_1 = 0.017\,101 \text{ kg/m}^3; \quad T_1 = 226.984 \text{ K};$
$S_1/R = 27.454; \quad h_1 = 227.199 \text{ kJ/kg}]$

(a) Velocity, 1.8288 km/sec; $M_1 = 6.0551$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
9.5059E+00	2.9427E-01	9.9915E-01	6.0048E+00	9.9999E-01	1.4015E+00	1.4906E-05
1.0000E+01	5.1498E-01	9.9846E-01	5.9743E+00	9.9999E-01	1.4014E+00	1.5015E-05
1.5000E+01	7.2710E+00	9.7478E-01	5.0525E+00	9.9999E-01	1.3996E+00	1.8894E-05
2.0000E+01	1.2526E+01	9.4775E-01	4.3531E+00	1.0000E+00	1.3954E+00	2.2660E-05
2.5000E+01	1.7241E+01	9.1468E-01	3.7623E+00	9.9999E-01	1.3873E+00	2.6567E-05
3.0000E+01	2.1655E+01	8.7529E-01	3.2635E+00	1.0001E+00	1.3754E+00	3.0473E-05
3.5000E+01	2.5849E+01	8.2971E-01	2.8389E+00	1.0001E+00	1.3620E+00	3.4255E-05
4.0000E+01	2.9840E+01	7.7825E-01	2.4718E+00	1.0001E+00	1.3485E+00	3.7823E-05
4.5000E+01	3.3602E+01	7.2133E-01	2.1478E+00	1.0001E+00	1.3372E+00	4.1129E-05
5.0000E+01	3.7066E+01	6.5952E-01	1.8570E+00	1.0001E+00	1.3279E+00	4.4150E-05
5.5000E+01	4.0135E+01	5.9344E-01	1.5929E+00	1.0001E+00	1.3207E+00	4.6852E-05
6.0000E+01	4.2635E+01	5.2388E-01	1.3511E+00	1.0001E+00	1.3141E+00	4.9222E-05
6.5000E+01	4.4275E+01	4.5186E-01	1.1279E+00	1.0001E+00	1.3079E+00	5.1246E-05
7.0000E+01	4.4540E+01	3.7881E-01	9.2105E-01	1.0001E+00	1.3032E+00	5.3559E-05
7.5000E+01	4.2463E+01	3.0700E-01	7.3165E-01	1.0001E+00	1.2996E+00	5.5080E-05
8.0000E+01	3.6161E+01	2.4075E-01	5.6573E-01	1.0001E+00	1.2970E+00	5.6191E-05
8.5000E+01	2.2457E+01	1.8902E-01	4.4050E-01	1.0001E+00	1.2954E+00	5.6867E-05
9.0000E+01	9.0202E-11	1.6806E-01	3.9057E-01	1.0001E+00	1.2948E+00	5.7095E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
9.5059E+00	1.0472E+00	1.0129E+00	1.0133E+00	3.7252E-04	2.1646E+06	1.0325E+00
1.0000E+01	1.0799E+00	1.0218E+00	1.0222E+00	3.9443E-04	2.1949E+06	1.0554E+00
1.5000E+01	2.6967E+00	1.3643E+00	1.3652E+00	9.4677E-02	3.1855E+06	1.9743E+00
2.0000E+01	4.8400E+00	1.7426E+00	1.7463E+00	3.6998E-01	3.6288E+06	2.7743E+00
2.5000E+01	7.4890E+00	2.1857E+00	2.1979E+00	7.3809E-01	3.6852E+06	3.4225E+00
3.0000E+01	1.0572E+01	2.6828E+00	2.7149E+00	1.1358E+00	3.5359E+06	3.9361E+00
3.5000E+01	1.4002E+01	3.2173E+00	3.2648E+00	1.5302E+00	3.2928E+06	4.3469E+00
4.0000E+01	1.7678E+01	3.7708E+00	3.8915E+00	1.9040E+00	3.0130E+06	4.6821E+00
4.5000E+01	2.1491E+01	4.3271E+00	4.5174E+00	2.2476E+00	2.7207E+06	4.9602E+00
5.0000E+01	2.5317E+01	4.8726E+00	5.1433E+00	2.5604E+00	2.4244E+06	5.1893E+00
5.5000E+01	2.9041E+01	5.3907E+00	5.7505E+00	2.8360E+00	2.1314E+06	5.3806E+00
6.0000E+01	3.2547E+01	5.8687E+00	6.3204E+00	3.0749E+00	1.8437E+06	5.5388E+00
6.5000E+01	3.5722E+01	6.2943E+00	6.8356E+00	3.2776E+00	1.5629E+06	5.6677E+00
7.0000E+01	3.8471E+01	6.6581E+00	7.2806E+00	3.4435E+00	1.2765E+06	5.7707E+00
7.5000E+01	4.0704E+01	6.9493E+00	7.6417E+00	3.5720E+00	1.0198E+06	5.8498E+00
8.0000E+01	4.2353E+01	7.1621E+00	7.9078E+00	3.6636E+00	7.9137E+05	5.9058E+00
8.5000E+01	4.3363E+01	7.2917E+00	8.0708E+00	3.7186E+00	6.1742E+05	5.9392E+00
9.0000E+01	4.3703E+01	7.3352E+00	8.1257E+00	3.7369E+00	5.4777E+05	5.9502E+00

TABLE V.- Continued

(b) Velocity, 2.4384 km/sec; M_1 = 8.0735

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
7.1151E+00	2.2197E-01	9.9952E-01	8.0094E+00	9.9999E-01	1.4015E+00	1.4906E-05
1.0000E+01	4.0436E+00	9.9015E-01	7.1327E+00	9.9999E-01	1.4004E+00	1.7710E-05
1.5000E+01	9.5362E+00	9.7033E-01	5.9167E+00	1.0000E+00	1.3952E+00	2.2805E-05
2.0000E+01	1.4315E+01	9.4434E-01	4.9590E+00	1.0000E+00	1.3827E+00	2.8240E-05
2.5000E+01	1.8802E+01	9.1164E-01	4.2062E+00	1.0001E+00	1.3639E+00	3.3736E-05
3.0000E+01	2.3125E+01	8.7230E-01	3.6044E+00	1.0001E+00	1.3443E+00	3.9054E-05
3.5000E+01	2.7308E+01	8.2659E-01	3.1069E+00	1.0001E+00	1.3281E+00	4.4085E-05
4.0000E+01	3.1340E+01	7.7488E-01	2.6846E+00	1.0001E+00	1.3155E+00	4.8769E-05
4.5000E+01	3.5185E+01	7.1761E-01	2.3208E+00	1.0001E+00	1.3028E+00	5.3739E-05
5.0000E+01	3.8787E+01	6.5530E-01	1.9997E+00	1.0001E+00	1.2915E+00	5.8384E-05
5.5000E+01	4.2052E+01	5.8854E-01	1.7121E+00	1.0002E+00	1.2797E+00	6.2757E-05
6.0000E+01	4.4831E+01	5.1805E-01	1.4505E+00	1.0005E+00	1.2670E+00	6.6547E-05
6.5000E+01	4.6864E+01	4.4471E-01	1.2092E+00	1.0010E+00	1.2536E+00	6.9665E-05
7.0000E+01	4.7661E+01	3.6977E-01	9.8363E-01	1.0018E+00	1.2409E+00	7.2223E-05
7.5000E+01	4.6253E+01	2.9520E-01	7.7304E-01	1.0028E+00	1.2304E+00	7.4183E-05
8.0000E+01	4.0554E+01	2.2487E-01	5.8264E-01	1.0038E+00	1.2229E+00	7.5558E-05
8.5000E+01	2.6295E+01	1.6779E-01	4.3205E-01	1.0045E+00	1.2185E+00	7.6372E-05
9.0000E+01	1.0873E-10	1.4353E-01	3.6885E-01	1.0047E+00	1.2170E+00	7.6641E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
7.1151E+00	1.0472E+00	1.0129E+00	1.0133E+00	3.7252E-04	2.8872E+06	1.0325E+00
1.0000E+01	2.1234E+00	1.2548E+00	1.2554E+00	4.1165E-02	3.9401E+06	1.6900E+00
1.5000E+01	4.9305E+00	1.7581E+00	1.7620E+00	3.8260E-01	4.9703E+06	2.8013E+00
2.0000E+01	8.7548E+00	2.3919E+00	2.4108E+00	9.0639E-01	5.0982E+06	3.6561E+00
2.5000E+01	1.3503E+01	3.1408E+00	3.2021E+00	1.4761E+00	4.8387E+06	4.2940E+00
3.0000E+01	1.9049E+01	3.9730E+00	4.1169E+00	2.0328E+00	4.4599E+06	4.7884E+00
3.5000E+01	2.5231E+01	4.8604E+00	5.1292E+00	2.5537E+00	4.0537E+06	5.1846E+00
4.0000E+01	3.1860E+01	5.7757E+00	6.2088E+00	3.0294E+00	3.6502E+06	5.5092E+00
4.5000E+01	3.8733E+01	6.6924E+00	7.3230E+00	3.4588E+00	3.2187E+06	5.7802E+00
5.0000E+01	4.5642E+01	7.5822E+00	8.4383E+00	3.8397E+00	2.8137E+06	6.0117E+00
5.5000E+01	5.2373E+01	8.4198E+00	9.5207E+00	4.1744E+00	2.4292E+06	6.2117E+00
6.0000E+01	5.8726E+01	9.1775E+00	1.0538E+01	4.4631E+00	2.0738E+06	6.3885E+00
6.5000E+01	6.4506E+01	9.8311E+00	1.1458E+01	4.7065E+00	1.7428E+06	6.5472E+00
7.0000E+01	6.9526E+01	1.0368E+01	1.2254E+01	4.9067E+00	1.4275E+06	6.6861E+00
7.5000E+01	7.3625E+01	1.0779E+01	1.2900E+01	5.0623E+00	1.1290E+06	6.8034E+00
8.0000E+01	7.6661E+01	1.1067E+01	1.3377E+01	5.1738E+00	8.5541E+05	6.8926E+00
8.5000E+01	7.8525E+01	1.1238E+01	1.3669E+01	5.2409E+00	6.3654E+05	6.9481E+00
9.0000E+01	7.9155E+01	1.1295E+01	1.3768E+01	5.2634E+00	5.4409E+05	6.9670E+00

TABLE V.- Continued

(c) Velocity, 3.0480 km/sec; M_1 = 10.092

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
5.6865E+00	1.7804E-01	9.9970E-01	1.0013E+01	9.9999E-01	1.4015E+00	1.4906E-05
1.0000E+01	5.5821E+00	9.8774E-01	8.1552E+00	9.9999E-01	1.3984E+00	2.0246E-05
1.5000E+01	1.0604E+01	9.6878E-01	6.5654E+00	1.0000E+00	1.3861E+00	2.7003E-05
2.0000E+01	1.5193E+01	9.4301E-01	5.3989E+00	1.0001E+00	1.3627E+00	3.4073E-05
2.5000E+01	1.9617E+01	9.1032E-01	4.5295E+00	1.0001E+00	1.3377E+00	4.0988E-05
3.0000E+01	2.3930E+01	8.7091E-01	3.8484E+00	1.0001E+00	1.3138E+00	4.7571E-05
3.5000E+01	2.8140E+01	8.2506E-01	3.3020E+00	1.0001E+00	1.3010E+00	5.4499E-05
4.0000E+01	3.2234E+01	7.7314E-01	2.8500E+00	1.0002E+00	1.2833E+00	6.1453E-05
4.5000E+01	3.6198E+01	7.1553E-01	2.4710E+00	1.0006E+00	1.2613E+00	6.7931E-05
5.0000E+01	4.0009E+01	6.5269E-01	2.1469E+00	1.0025E+00	1.2338E+00	7.3563E-05
5.5000E+01	4.3610E+01	5.8510E-01	1.8562E+00	1.0065E+00	1.2082E+00	7.8305E-05
6.0000E+01	4.6849E+01	5.1347E-01	1.5830E+00	1.0126E+00	1.1900E+00	8.2109E-05
6.5000E+01	4.9465E+01	4.3864E-01	1.3213E+00	1.0197E+00	1.1784E+00	8.5095E-05
7.0000E+01	5.0983E+01	3.6176E-01	1.0685E+00	1.0268E+00	1.1734E+00	8.7500E-05
7.5000E+01	5.0461E+01	2.8452E-01	8.2759E-01	1.0332E+00	1.1706E+00	8.9339E-05
8.0000E+01	4.5721E+01	2.1015E-01	6.0464E-01	1.0381E+00	1.1691E+00	9.0623E-05
8.5000E+01	3.1339E+01	1.4708E-01	4.2040E-01	1.0412E+00	1.1684E+00	9.1385E-05
9.0000E+01	1.3552E-10	1.1852E-01	3.3801E-01	1.0423E+00	1.1683E+00	9.1637E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
5.6868E+00	1.0472E+00	1.0129E+00	1.0133E+00	3.7252E-04	3.6096E+06	1.0325E+00
1.0000E+01	3.4155E+00	1.4947E+00	1.4962E+00	1.7871E-01	5.8039E+06	2.2822E+00
1.5000E+01	7.8109E+00	2.2385E+00	2.2521E+00	7.8156E-01	6.5182E+06	3.4855E+00
2.0000E+01	1.3825E+01	3.1903E+00	3.2555E+00	1.5112E+00	6.2442E+06	4.3284E+00
2.5000E+01	2.1320E+01	4.3026E+00	4.4895E+00	2.2330E+00	5.7292E+06	4.9489E+00
3.0000E+01	3.0080E+01	5.5333E+00	5.9195E+00	2.9087E+00	5.1812E+06	5.4294E+00
3.5000E+01	3.9848E+01	6.8381E+00	7.5034E+00	3.5233E+00	4.5926E+06	5.8200E+00
4.0000E+01	5.0337E+01	8.1702E+00	9.1937E+00	4.0767E+00	4.0348E+06	6.1528E+00
4.5000E+01	6.1252E+01	9.4676E+00	1.0940E+01	4.5714E+00	3.5457E+06	6.4579E+00
5.0000E+01	7.2303E+01	1.0649E+01	1.2692E+01	5.0128E+00	3.1287E+06	6.7651E+00
5.5000E+01	8.3178E+01	1.1644E+01	1.4396E+01	5.4048E+00	2.7610E+06	7.0890E+00
6.0000E+01	9.3511E+01	1.2443E+01	1.5999E+01	5.7504E+00	2.4164E+06	7.4131E+00
6.5000E+01	1.0293E+02	1.3070E+01	1.7450E+01	6.0496E+00	2.0728E+06	7.7143E+00
7.0000E+01	1.1111E+02	1.3553E+01	1.8703E+01	6.2994E+00	1.7179E+06	7.9717E+00
7.5000E+01	1.1776E+02	1.3926E+01	1.9720E+01	6.4977E+00	1.3570E+06	8.1746E+00
8.0000E+01	1.2266E+02	1.4184E+01	2.0469E+01	6.6415E+00	1.0057E+06	8.3205E+00
8.5000E+01	1.2567E+02	1.4338E+01	2.0928E+01	6.7285E+00	7.0540E+05	8.4081E+00
9.0000E+01	1.2668E+02	1.4388E+01	2.1083E+01	6.7577E+00	5.6882E+05	8.4372E+00

TABLE V.- Continued

(d) Velocity, 3.6576 km/sec; $M_1 = 12.110$

TH	DELTA	V2/V1	M2	Z2	G&M2	VIS
4.7366E+00	1.4858E-01	9.9979E-01	1.2017E+01	9.9999E-01	1.4015E+00	1.4906E-05
5.0000E+00	2.8977E-01	9.9957E-01	1.1947E+01	9.9999E-01	1.4014E+00	1.5045E-05
1.0000E+01	6.4229E+00	9.8673E-01	8.9971E+00	1.0000E+00	1.3950E+00	2.2909E-05
1.5000E+01	1.1206E+01	9.6805E-01	7.0669E+00	1.0001E+00	1.3723E+00	3.1377E-05
2.0000E+01	1.5720E+01	9.4232E-01	5.7397E+00	1.0001E+00	1.3413E+00	3.9946E-05
2.5000E+01	2.0127E+01	9.0960E-01	4.7743E+00	1.0001E+00	1.3172E+00	4.8173E-05
3.0000E+01	2.4458E+01	8.7009E-01	4.0441E+00	1.0001E+00	1.2948E+00	5.7095E-05
3.5000E+01	2.8724E+01	8.2409E-01	3.4764E+00	1.0004E+00	1.2687E+00	6.6109E-05
4.0000E+01	3.2961E+01	7.7186E-01	3.0349E+00	1.0028E+00	1.2311E+00	7.4054E-05
4.5000E+01	3.7188E+01	7.1373E-01	2.6680E+00	1.0100E+00	1.1963E+00	8.0733E-05
5.0000E+01	4.1329E+01	6.5022E-01	2.3326E+00	1.0223E+00	1.1761E+00	8.6018E-05
5.5000E+01	4.5244E+01	5.8199E-01	2.0115E+00	1.0376E+00	1.1692E+00	9.0500E-05
6.0000E+01	4.8763E+01	5.0974E-01	1.7049E+00	1.0539E+00	1.1678E+00	9.4191E-05
6.5000E+01	5.1715E+01	4.3424E-01	1.4111E+00	1.0696E+00	1.1696E+00	9.7280E-05
7.0000E+01	5.3629E+01	3.5647E-01	1.1303E+00	1.0836E+00	1.1751E+00	9.9841E-05
7.5000E+01	5.3651E+01	2.7789E-01	8.6370E-01	1.0951E+00	1.1771E+00	1.0189E-04
8.0000E+01	4.9632E+01	2.0126E-01	6.1637E-01	1.1035E+00	1.1808E+00	1.0341E-04
8.5000E+01	3.5472E+01	1.3428E-01	4.0748E-01	1.1087E+00	1.1833E+00	1.0434E-04
9.0000E+01	1.5992E-10	1.0229E-01	3.0945E-01	1.1104E+00	1.1842E+00	1.0466E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.7366E+00	1.0472E+00	1.0129E+00	1.0133E+00	3.7252E-04	4.3319E+06	1.0325E+00
5.0000E+00	1.0891E+00	1.0243E+00	1.0247E+00	3.9679E-04	4.4126E+06	1.0618E+00
1.0000E+01	4.9960E+00	1.7092E+00	1.7733E+00	3.9173E-01	7.5990E+06	2.8206E+00
1.5000E+01	1.1350E+01	2.8057E+00	2.8445E+00	1.2299E+00	7.7974E+06	4.0405E+00
2.0000E+01	2.0079E+01	4.1233E+00	4.2861E+00	2.1254E+00	7.1761E+06	4.8635E+00
2.5000E+01	3.0966E+01	5.6543E+00	6.0636E+00	2.9694E+00	6.4601E+06	5.4698E+00
3.0000E+01	4.3703E+01	7.3352E+00	8.1257E+00	3.7369E+00	5.6719E+06	5.9502E+00
3.5000E+01	5.7939E+01	9.0855E+00	1.0412E+01	4.4285E+00	4.9645E+06	6.3670E+00
4.0000E+01	7.3349E+01	1.0752E+01	1.2857E+01	5.0520E+00	4.4302E+06	6.7953E+00
4.5000E+01	8.9574E+01	1.2154E+01	1.5390E+01	5.6214E+00	4.0303E+06	7.2884E+00
5.0000E+01	1.0607E+02	1.3262E+01	1.7930E+01	6.1463E+00	3.6947E+06	7.8141E+00
5.5000E+01	1.2218E+02	1.4160E+01	2.0396E+01	6.6275E+00	3.3412E+06	8.3063E+00
6.0000E+01	1.3736E+02	1.4905E+01	2.2710E+01	7.0599E+00	2.9566E+06	8.7343E+00
6.5000E+01	1.5108E+02	1.5533E+01	2.4801E+01	7.4382E+00	2.5360E+06	9.0828E+00
7.0000E+01	1.6292E+02	1.6057E+01	2.6604E+01	7.7552E+00	2.0887E+06	9.3525E+00
7.5000E+01	1.7250E+02	1.6479E+01	2.8066E+01	8.0064E+00	1.6288E+06	9.5480E+00
8.0000E+01	1.7955E+02	1.6792E+01	2.9143E+01	8.1878E+00	1.1783E+06	9.6788E+00
8.5000E+01	1.8387E+02	1.6985E+01	2.9803E+01	8.2977E+00	7.8500E+05	9.7525E+00
9.0000E+01	1.8532E+02	1.7051E+01	3.0024E+01	8.3345E+00	5.9763E+05	9.7763E+00

TABLE V.- Continued

(e) Velocity, 4.2672 km/sec; M_1 = 14.129

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
4.0587E+00	1.2746E-01	9.9984E-01	1.4021E+01	9.9999E-01	1.4015E+00	1.4906E-05
5.0000E+00	1.4009E+00	9.9816E-01	1.3163E+01	9.9999E-01	1.4010E+00	1.6480E-05
1.0000E+01	6.9348E+00	9.8622E-01	9.6878E+00	9.9999E-01	1.3894E+00	2.5704E-05
1.5000E+01	1.1592E+01	9.6764E-01	7.4729E+00	1.0001E+00	1.3558E+00	3.5817E-05
2.0000E+01	1.6076E+01	9.4190E-01	6.0107E+00	1.0001E+00	1.3235E+00	4.5781E-05
2.5000E+01	2.0488E+01	9.0912E-01	4.9800E+00	1.0001E+00	1.2968E+00	5.6268E-05
3.0000E+01	2.4864E+01	8.6952E-01	4.2317E+00	1.0005E+00	1.2642E+00	6.7243E-05
3.5000E+01	2.9276E+01	8.2326E-01	3.6949E+00	1.0050E+00	1.2156E+00	7.6906E-05
4.0000E+01	3.3753E+01	7.7062E-01	3.2619E+00	1.0185E+00	1.1798E+00	8.4638E-05
4.5000E+01	3.8179E+01	7.1215E-01	2.8600E+00	1.0395E+00	1.1687E+00	9.0968E-05
5.0000E+01	4.2437E+01	6.4843E-01	2.4808E+00	1.0646E+00	1.1687E+00	9.6319E-05
5.5000E+01	4.6427E+01	5.8006E-01	2.1200E+00	1.0905E+00	1.1754E+00	1.0109E-04
6.0000E+01	5.0016E+01	5.0769E-01	1.7766E+00	1.1151E+00	1.1868E+00	1.0554E-04
6.5000E+01	5.2984E+01	4.3209E-01	1.4516E+00	1.1366E+00	1.2015E+00	1.0993E-04
7.0000E+01	5.4932E+01	3.5420E-01	1.1473E+00	1.1537E+00	1.2165E+00	1.1422E-04
7.5000E+01	5.5018E+01	2.7540E-01	8.6627E-01	1.1661E+00	1.2274E+00	1.1808E-04
8.0000E+01	5.1128E+01	1.9830E-01	6.1104E-01	1.1742E+00	1.2329E+00	1.2113E-04
8.5000E+01	3.7005E+01	1.3024E-01	3.9662E-01	1.1789E+00	1.2346E+00	1.2307E-04
9.0000E+01	1.6938E-10	9.7129E-02	2.9468E-01	1.1804E+00	1.2347E+00	1.2373E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.0587E+00	1.0472E+00	1.0129E+00	1.0133E+00	3.7252E-04	5.0541E+06	1.0325E+00
5.0000E+00	1.5960E+00	1.1458E+00	1.1464E+00	9.5324E-03	6.1477E+06	1.3909E+00
1.0000E+01	6.8676E+00	2.0833E+00	2.0928E+00	6.5292E-01	9.2196E+06	3.2928E+00
1.5000E+01	1.5560E+01	3.4537E+00	3.5422E+00	1.6931E+00	8.8710E+06	4.4996E+00
2.0000E+01	2.7530E+01	5.1818E+00	5.5043E+00	2.7271E+00	7.9666E+06	5.3062E+00
2.5000E+01	4.2467E+01	7.1768E+00	7.9264E+00	3.6699E+00	6.9679E+06	5.9096E+00
3.0000E+01	5.9988E+01	9.3233E+00	1.0739E+01	4.5177E+00	6.0611E+06	6.4232E+00
3.5000E+01	7.9779E+01	1.1350E+01	1.3865E+01	5.2856E+00	5.4571E+06	6.9858E+00
4.0000E+01	1.0140E+02	1.2974E+01	1.7215E+01	6.0018E+00	5.0930E+06	7.6652E+00
4.5000E+01	1.2402E+02	1.4254E+01	2.0676E+01	6.6807E+00	4.7760E+06	8.3601E+00
5.0000E+01	1.4672E+02	1.5337E+01	2.4137E+01	7.3195E+00	4.4098E+06	8.9762E+00
5.5000E+01	1.6873E+02	1.6313E+01	2.7490E+01	7.9083E+00	3.9669E+06	9.4733E+00
6.0000E+01	1.8929E+02	1.7233E+01	3.0633E+01	8.4348E+00	3.4537E+06	9.8386E+00
6.5000E+01	2.0776E+02	1.8122E+01	3.3470E+01	8.8902E+00	2.8899E+06	1.0075E+01
7.0000E+01	2.2359E+02	1.8969E+01	3.5915E+01	9.2658E+00	2.3095E+06	1.0205E+01
7.5000E+01	2.3634E+02	1.9724E+01	3.7895E+01	9.5586E+00	1.7469E+06	1.0264E+01
8.0000E+01	2.4568E+02	2.0318E+01	3.9353E+01	9.7674E+00	1.2287E+06	1.0285E+01
8.5000E+01	2.5139E+02	2.0693E+01	4.0246E+01	9.8923E+00	7.9494E+05	1.0293E+01
9.0000E+01	2.5332E+02	2.0821E+01	4.0547E+01	9.9338E+00	5.8981E+05	1.0296E+01

TABLE V.- Concluded

(f) Velocity, 4.8768 km/sec; M_1 = 16.147

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.5507E+00	1.1159E-01	9.9988E-01	1.6025E+01	9.9999E-01	1.4015E+00	1.4906E-05
5.0000E+00	2.0526E+00	9.9751E-01	1.4352E+01	9.9999E-01	1.4003E+00	1.7748E-05
1.0000E+01	7.2737E+00	9.8592E-01	1.0262E+01	1.0001E+00	1.3816E+00	2.8595E-05
1.5000E+01	1.1863E+01	9.6738E-01	7.8089E+00	1.0001E+00	1.3402E+00	4.0261E-05
2.0000E+01	1.6337E+01	9.4162E-01	6.2391E+00	1.0001E+00	1.3070E+00	5.1534E-05
2.5000E+01	2.0773E+01	9.0878E-01	5.1736E+00	1.0003E+00	1.2730E+00	6.4937E-05
3.0000E+01	2.5263E+01	8.6899E-01	4.4662E+00	1.0047E+00	1.2170E+00	7.6641E-05
3.5000E+01	2.9872E+01	8.2244E-01	3.9375E+00	1.0220E+00	1.1763E+00	8.5906E-05
4.0000E+01	3.4462E+01	7.6964E-01	3.4541E+00	1.0506E+00	1.1677E+00	9.3497E-05
4.5000E+01	3.8912E+01	7.1112E-01	2.9994E+00	1.0849E+00	1.1735E+00	1.0008E-04
5.0000E+01	4.3137E+01	6.4743E-01	2.5654E+00	1.1202E+00	1.1899E+00	1.0650E-04
5.5000E+01	4.7025E+01	5.7918E-01	2.1525E+00	1.1519E+00	1.2149E+00	1.1373E-04
6.0000E+01	5.0445E+01	5.0703E-01	1.7763E+00	1.1763E+00	1.2338E+00	1.2196E-04
6.5000E+01	5.3274E+01	4.3163E-01	1.4561E+00	1.1931E+00	1.2200E+00	1.2997E-04
7.0000E+01	5.5198E+01	3.5376E-01	1.1598E+00	1.2064E+00	1.2085E+00	1.3623E-04
7.5000E+01	5.5413E+01	2.7472E-01	8.8504E-01	1.2172E+00	1.1941E+00	1.4074E-04
8.0000E+01	5.1794E+01	1.9705E-01	6.2731E-01	1.2254E+00	1.1852E+00	1.4372E-04
8.5000E+01	3.7931E+01	1.2796E-01	4.0450E-01	1.2305E+00	1.1806E+00	1.4542E-04
9.0000E+01	1.7591E-10	9.3864E-02	2.9603E-01	1.2322E+00	1.1792E+00	1.4598E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.5507E+00	1.0472E+00	1.0129E+00	1.0133E+00	3.7252E-04	5.7764E+06	1.0325E+00
5.0000E+00	2.1408E+00	1.2583E+00	1.2589E+00	4.2553E-02	7.9650E+06	1.6992E+00
1.0000E+01	9.0339E+00	2.4369E+00	2.4577E+00	9.4255E-01	1.0648E+07	3.7029E+00
1.5000E+01	2.0450E+01	4.1771E+00	4.3469E+00	2.1580E+00	9.7981E+06	4.8896E+00
2.0000E+01	3.6188E+01	6.3567E+00	6.9110E+00	3.3063E+00	8.6640E+06	5.6856E+00
2.5000E+01	5.5861E+01	8.8398E+00	1.0079E+01	4.3356E+00	7.3647E+06	6.3098E+00
3.0000E+01	7.9155E+01	1.1295E+01	1.3768E+01	5.2634E+00	6.5881E+06	6.9670E+00
3.5000E+01	1.0569E+02	1.3239E+01	1.7873E+01	6.1348E+00	6.2298E+06	7.8023E+00
4.0000E+01	1.3439E+02	1.4764E+01	2.2257E+01	6.9766E+00	5.9409E+06	8.6537E+00
4.5000E+01	1.6404E+02	1.6106E+01	2.6776E+01	7.7850E+00	5.5563E+06	9.3764E+00
5.0000E+01	1.9356E+02	1.7432E+01	3.1288E+01	8.5417E+00	5.0200E+06	9.9011E+00
5.5000E+01	2.2190E+02	1.8874E+01	3.5653E+01	9.2264E+00	4.3297E+06	1.0195E+01
6.0000E+01	2.4815E+02	2.0479E+01	3.9739E+01	9.8216E+00	3.5674E+06	1.0289E+01
6.5000E+01	2.7180E+02	2.2023E+01	4.3430E+01	1.0319E+01	2.8615E+06	1.0332E+01
7.0000E+01	2.9231E+02	2.3278E+01	4.6619E+01	1.0722E+01	2.2516E+06	1.0397E+01
7.5000E+01	3.0909E+02	2.4183E+01	4.9209E+01	1.1035E+01	1.7075E+06	1.0488E+01
8.0000E+01	3.2153E+02	2.4785E+01	5.1120E+01	1.1259E+01	1.2091E+06	1.0574E+01
8.5000E+01	3.2917E+02	2.5129E+01	5.2291E+01	1.1394E+01	7.8030E+05	1.0633E+01
9.0000E+01	3.3175E+02	2.5241E+01	5.2685E+01	1.1439E+01	5.7132E+05	1.0654E+01

TABLE VI.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS

IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 38.10 km

$[p_1 = 371.98$ Pa; $\rho_1 = 0.005\ 287\ 1$ kg/m^3; $T_1 = 245.094$ K;
$S_1/R = 28.820$; $h_1 = 245.363$ kJ/kg$]$

(a) Velocity, 1.8288 km/sec; $M_1 = 5.827$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
9.8815E+00	3.2315E-01	9.9903E-01	5.7765E+00	1.0000E+00	1.4012E+00	1.5882E-05
1.0000E+01	1.4526E-01	9.9956E-01	5.8013E+00	1.0000E+00	1.4013E+00	1.5785E-05
1.5000E+01	6.8687E+00	9.7574E-01	4.9397E+00	1.0000E+00	1.3993E+00	1.9586E-05
2.0000E+01	1.2212E+01	9.4844E-01	4.2731E+00	1.0000E+00	1.3947E+00	2.3305E-05
2.5000E+01	1.6984E+01	9.1525E-01	3.7071E+00	1.0000E+00	1.3861E+00	2.7147E-05
3.0000E+01	2.1435E+01	8.7579E-01	3.2260E+00	1.0000E+00	1.3734E+00	3.0991E-05
3.5000E+01	2.5654E+01	8.3017E-01	2.8125E+00	9.9999E-01	1.3601E+00	3.4717E-05
4.0000E+01	2.9660E+01	7.7869E-01	2.4526E+00	9.9999E-01	1.3472E+00	3.8240E-05
4.5000E+01	3.3432E+01	7.2177E-01	2.1336E+00	9.9999E-01	1.3362E+00	4.1508E-05
5.0000E+01	3.6899E+01	6.5996E-01	1.8467E+00	9.9999E-01	1.3268E+00	4.4501E-05
5.5000E+01	3.9967E+01	5.9390E-01	1.5855E+00	9.9999E-01	1.3195E+00	4.7180E-05
6.0000E+01	4.2461E+01	5.2438E-01	1.3459E+00	9.9999E-01	1.3126E+00	4.9530E-05
6.5000E+01	4.4090E+01	4.5241E-01	1.1242E+00	1.0000E+00	1.3066E+00	5.1541E-05
7.0000E+01	4.4338E+01	3.7945E-01	9.1873E-01	1.0000E+00	1.3020E+00	5.3886E-05
7.5000E+01	4.2240E+01	3.0777E-01	7.3057E-01	1.0000E+00	1.2985E+00	5.5403E-05
8.0000E+01	3.5925E+01	2.4171E-01	5.6585E-01	1.0000E+00	1.2958E+00	5.6512E-05
8.5000E+01	2.2269E+01	1.9023E-01	4.4170E-01	1.0001E+00	1.2940E+00	5.7187E-05
9.0000E+01	8.9340E-11	1.6941E-01	3.9229E-01	1.0001E+00	1.2934E+00	5.7414E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
9.8815E+00	1.0497E+00	1.0135E+00	1.0139E+00	-1.0915E-04	6.2917E+05	1.0345E+00
1.0000E+01	1.0222E+00	1.0059E+00	1.0063E+00	1.6563E-05	6.2148E+05	1.0150E+00
1.5000E+01	2.4862E+00	1.3246E+00	1.3255E+00	7.2469E-02	9.0335E+05	1.8754E+00
2.0000E+01	4.4711E+00	1.6782E+00	1.6822E+00	3.1805E-01	1.0472E+06	2.6612E+00
2.5000E+01	6.9261E+00	2.0393E+00	2.1023E+00	6.6137E-01	1.0794E+06	3.3112E+00
3.0000E+01	9.7837E+00	2.5494E+00	2.5822E+00	1.0394E+00	1.0474E+06	3.8332E+00
3.5000E+01	1.2963E+01	3.0434E+00	3.1107E+00	1.4185E+00	9.8369E+05	4.2545E+00
4.0000E+01	1.6370E+01	3.5550E+00	3.6732E+00	1.7812E+00	9.0552E+05	4.5991E+00
4.5000E+01	1.9903E+01	4.0690E+00	4.2532E+00	2.1161E+00	8.2139E+05	4.8855E+00
5.0000E+01	2.3448E+01	4.5733E+00	4.8332E+00	2.4221E+00	7.3432E+05	5.1210E+00
5.5000E+01	2.6899E+01	5.0523E+00	5.3957E+00	2.6929E+00	6.4722E+05	5.3176E+00
6.0000E+01	3.0147E+01	5.4943E+00	5.9237E+00	2.9279E+00	5.6100E+05	5.4804E+00
6.5000E+01	3.3090E+01	5.8383E+00	6.4010E+00	3.1278E+00	4.7638E+05	5.6128E+00
7.0000E+01	3.5636E+01	6.2241E+00	6.8132E+00	3.2915E+00	3.8934E+05	5.7185E+00
7.5000E+01	3.7705E+01	6.4932E+00	7.1477E+00	3.4184E+00	3.1152E+05	5.7998E+00
8.0000E+01	3.9232E+01	6.6898E+00	7.3943E+00	3.5089E+00	2.4223E+05	5.8573E+00
8.5000E+01	4.0169E+01	6.8096E+00	7.5453E+00	3.5633E+00	1.8949E+05	5.8916E+00
9.0000E+01	4.0484E+01	6.8498E+00	7.5961E+00	3.5814E+00	1.6841E+05	5.9029E+00

TABLE VI. - Continued

(b) Velocity, 2.4384 km/sec; $M_1 = 7.7695$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
7.3950E+00	2.4386E-01	9.9946E-01	7.7052E+00	1.0000E+00	1.4012E+00	1.5882E-05
1.0000E+01	3.7111E+00	9.9077E-01	6.9630E+00	1.0000E+00	1.4001E+00	1.8408E-05
1.5000E+01	9.3076E+00	9.7071E-01	5.8070E+00	1.0000E+00	1.3944E+00	2.3447E-05
2.0000E+01	1.4143E+01	9.4462E-01	4.8922E+00	1.0000E+00	1.3810E+00	2.8792E-05
2.5000E+01	1.8665E+01	9.1188E-01	4.1648E+00	1.0000E+00	1.3621E+00	3.4205E-05
3.0000E+01	2.3010E+01	8.7251E-01	3.5770E+00	9.9999E-01	1.3431E+00	3.9456E-05
3.5000E+01	2.7207E+01	8.2679E-01	3.0882E+00	9.9999E-01	1.3270E+00	4.4436E-05
4.0000E+01	3.1247E+01	7.7507E-01	2.6721E+00	9.9999E-01	1.3139E+00	4.9081E-05
4.5000E+01	3.5097E+01	7.1780E-01	2.3118E+00	1.0000E+00	1.3016E+00	5.4065E-05
5.0000E+01	3.8704E+01	6.5549E-01	1.9937E+00	1.0001E+00	1.2899E+00	5.8699E-05
5.5000E+01	4.1975E+01	5.8872E-01	1.7094E+00	1.0002E+00	1.2763E+00	6.3042E-05
6.0000E+01	4.4771E+01	5.1820E-01	1.4515E+00	1.0007E+00	1.2601E+00	6.6747E-05
6.5000E+01	4.6839E+01	4.4478E-01	1.2131E+00	1.0016E+00	1.2428E+00	6.9756E-05
7.0000E+01	4.7690E+01	3.6969E-01	9.8899E-01	1.0030E+00	1.2270E+00	7.2170E-05
7.5000E+01	4.6352E+01	2.9492E-01	7.7818E-01	1.0046E+00	1.2148E+00	7.3981E-05
8.0000E+01	4.0727E+01	2.2431E-01	5.8635E-01	1.0061E+00	1.2065E+00	7.5233E-05
8.5000E+01	2.6487E+01	1.6687E-01	4.3380E-01	1.0071E+00	1.2018E+00	7.5967E-05
9.0000E+01	1.0974E-10	1.4240E-01	3.6951E-01	1.0075E+00	1.2003E+00	7.6208E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
7.3950E+00	1.0497E+00	1.0135E+00	1.0139E+00	-1.0915E-04	8.3925E+05	1.0345E+00
1.0000E+01	1.9555E+00	1.2213E+00	1.2218E+00	2.8252E-02	1.1102E+06	1.6000E+00
1.5000E+01	4.5549E+00	1.6926E+00	1.6968E+00	3.2964E-01	1.4347E+06	2.6881E+00
2.0000E+01	8.0993E+00	2.2802E+00	2.3001E+00	8.2050E-01	1.5006E+06	3.5479E+00
2.5000E+01	1.2500E+01	2.9727E+00	3.0341E+00	1.3664E+00	1.4436E+06	4.2002E+00
3.0000E+01	1.7641E+01	3.7418E+00	3.8821E+00	1.9060E+00	1.3424E+06	4.7088E+00
3.5000E+01	2.3368E+01	4.5621E+00	4.8201E+00	2.4156E+00	1.2272E+06	5.1160E+00
4.0000E+01	2.9510E+01	5.4083E+00	5.8203E+00	2.8832E+00	1.1095E+06	5.4498E+00
4.5000E+01	3.5879E+01	6.2558E+00	6.8525E+00	3.3067E+00	9.8045E+05	5.7282E+00
5.0000E+01	4.2280E+01	7.0779E+00	7.8857E+00	3.6832E+00	8.5890E+05	5.9661E+00
5.5000E+01	4.8522E+01	7.8482E+00	8.8885E+00	4.0145E+00	7.4329E+05	6.1739E+00
6.0000E+01	5.4420E+01	8.5376E+00	9.8310E+00	4.3011E+00	6.3678E+05	6.3622E+00
6.5000E+01	5.9798E+01	9.1212E+00	1.0685E+01	4.5436E+00	5.3739E+05	6.5375E+00
7.0000E+01	6.4479E+01	9.5894E+00	1.1423E+01	4.7436E+00	4.4219E+05	6.6957E+00
7.5000E+01	6.8307E+01	9.9408E+00	1.2023E+01	4.8999E+00	3.5109E+05	6.8315E+00
8.0000E+01	7.1144E+01	1.0184E+01	1.2465E+01	5.0122E+00	2.6659E+05	6.9356E+00
8.5000E+01	7.2888E+01	1.0326E+01	1.2737E+01	5.0800E+00	1.9825E+05	7.0007E+00
9.0000E+01	7.3476E+01	1.0373E+01	1.2828E+01	5.1027E+00	1.6917E+05	7.0227E+00

TABLE VI. - Continued

(c) Velocity, 3.0480 km/sec; M_1 = 9.7118

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
5.9100E+00	1.9564E-01	9.9965E-01	9.6334E+00	1.0000E+00	1.4012E+00	1.5882E-05
1.0000E+01	5.3671E+00	9.8804E-01	7.9799E+00	1.0000E+00	1.3981E+00	2.0924E-05
1.5000E+01	1.0461E+01	9.6897E-01	6.4689E+00	1.0000E+00	1.3848E+00	2.7575E-05
2.0000E+01	1.5088E+01	9.4316E-01	5.3461E+00	9.9999E-01	1.3608E+00	3.4537E-05
2.5000E+01	1.9535E+01	9.1045E-01	4.4974E+00	9.9999E-01	1.3366E+00	4.1369E-05
3.0000E+01	2.3861E+01	8.7102E-01	3.8288E+00	9.9999E-01	1.3175E+00	4.7892E-05
3.5000E+01	2.8080E+01	8.2516E-01	3.2890E+00	1.0000E+00	1.2999E+00	5.4824E-05
4.0000E+01	3.2183E+01	7.7323E-01	2.8435E+00	1.0002E+00	1.2807E+00	6.1750E-05
4.5000E+01	3.6171E+01	7.1559E-01	2.4749E+00	1.0010E+00	1.2528E+00	6.8090E-05
5.0000E+01	4.0041E+01	6.5262E-01	2.1617E+00	1.0041E+00	1.2186E+00	7.3413E-05
5.5000E+01	4.3728E+01	5.8486E-01	1.8759E+00	1.0100E+00	1.1914E+00	7.7689E-05
6.0000E+01	4.7063E+01	5.1302E-01	1.6026E+00	1.0180E+00	1.1748E+00	8.1027E-05
6.5000E+01	4.9777E+01	4.3799E-01	1.3384E+00	1.0268E+00	1.1652E+00	8.3626E-05
7.0000E+01	5.1414E+01	3.6084E-01	1.0826E+00	1.0353E+00	1.1607E+00	8.5631E-05
7.5000E+01	5.1038E+01	2.8323E-01	8.3736E-01	1.0426E+00	1.1589E+00	8.7238E-05
8.0000E+01	4.6471E+01	2.0831E-01	6.0936E-01	1.0482E+00	1.1582E+00	8.8377E-05
8.5000E+01	3.2135E+01	1.4437E-01	4.1962E-01	1.0518E+00	1.1580E+00	8.9056E-05
9.0000E+01	1.4008E-10	1.1511E-01	3.3385E-01	1.0530E+00	1.1579E+00	8.9281E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
5.9100E+00	1.0497E+00	1.0135E+00	1.0139E+00	-1.0915E-04	1.0493E+06	1.0345E+00
1.0000E+01	3.1517E+00	1.4470E+00	1.4487E+00	1.4541E-01	1.6558E+06	2.1759E+00
1.5000E+01	7.2245E+00	2.1382E+00	2.1527E+00	7.0232E-01	1.9111E+06	3.3750E+00
2.0000E+01	1.2799E+01	3.0184E+00	3.0836E+00	1.4002E+00	1.8640E+06	4.2355E+00
2.5000E+01	1.9746E+01	4.0464E+00	4.2274E+00	2.1018E+00	1.7286E+06	4.8740E+00
3.0000E+01	2.7861E+01	5.1841E+00	5.5523E+00	2.7644E+00	1.5732E+06	5.3676E+00
3.5000E+01	3.6912E+01	6.3904E+00	7.0196E+00	3.3703E+00	1.3993E+06	5.7691E+00
4.0000E+01	4.6633E+01	7.6192E+00	8.5855E+00	3.9177E+00	1.2334E+06	6.1123E+00
4.5000E+01	5.6769E+01	8.7982E+00	1.0204E+01	4.4089E+00	1.0903E+06	6.4381E+00
5.0000E+01	6.7072E+01	9.8304E+00	1.1830E+01	4.8501E+00	9.7231E+05	6.7871E+00
5.5000E+01	7.7240E+01	1.0660E+01	1.3411E+01	5.2459E+00	8.6930E+05	7.1655E+00
6.0000E+01	8.6900E+01	1.1308E+01	1.4899E+01	5.5987E+00	7.6932E+05	7.5400E+00
6.5000E+01	9.5699E+01	1.1812E+01	1.6245E+01	5.9059E+00	6.6515E+05	7.8808E+00
7.0000E+01	1.0333E+02	1.2201E+01	1.7408E+01	6.1647E+00	5.5482E+05	8.1704E+00
7.5000E+01	1.0953E+02	1.2496E+01	1.8351E+01	6.3703E+00	4.3933E+05	8.3971E+00
8.0000E+01	1.1410E+02	1.2703E+01	1.9045E+01	6.5197E+00	3.2510E+05	8.5588E+00
8.5000E+01	1.1690E+02	1.2827E+01	1.9471E+01	6.6105E+00	2.2612E+05	8.6555E+00
9.0000E+01	1.1785E+02	1.2868E+01	1.9614E+01	6.6410E+00	1.8050E+05	8.6876E+00

TABLE VI.- Continued

(d) Velocity, 3.6576 km/sec; M_1 = 11.654

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
4.9224E+00	1.6328E-01	9.9976E-01	1.1561E+01	1.0000E+00	1.4012E+00	1.5882E-05
5.0000E+00	8.8294E-02	9.9987E-01	1.1599E+01	1.0000E+00	1.4013E+00	1.5800E-05
1.0000E+01	6.2736E+00	9.8689E-01	8.8292E+00	1.0000E+00	1.3942E+00	2.3549E-05
1.5000E+01	1.1109E+01	9.6816E-01	6.9865E+00	1.0000E+00	1.3703E+00	3.1881E-05
2.0000E+01	1.5651E+01	9.4241E-01	5.6970E+00	9.9999E-01	1.3401E+00	4.0338E-05
2.5000E+01	2.0073E+01	9.0967E-01	4.7506E+00	9.9999E-01	1.3158E+00	4.8489E-05
3.0000E+01	2.4414E+01	8.7016E-01	4.0299E+00	1.0001E+00	1.2934E+00	5.7414E-05
3.5000E+01	2.8696E+01	8.2413E-01	3.4767E+00	1.0006E+00	1.2623E+00	6.6318E-05
4.0000E+01	3.2988E+01	7.7182E-01	3.0575E+00	1.0045E+00	1.2156E+00	7.3864E-05
4.5000E+01	3.7300E+01	7.1354E-01	2.7010E+00	1.0148E+00	1.1802E+00	7.9827E-05
5.0000E+01	4.1519E+01	6.4989E-01	2.3663E+00	1.0300E+00	1.1631E+00	8.4417E-05
5.5000E+01	4.5510E+01	5.8154E-01	2.0435E+00	1.0477E+00	1.1583E+00	8.8268E-05
6.0000E+01	4.9122E+01	5.0915E-01	1.7330E+00	1.0659E+00	1.1583E+00	9.1581E-05
6.5000E+01	5.2140E+01	4.3349E-01	1.4345E+00	1.0830E+00	1.1612E+00	9.4397E-05
7.0000E+01	5.4160E+01	3.5552E-01	1.1481E+00	1.0981E+00	1.1657E+00	9.6786E-05
7.5000E+01	5.4330E+01	2.7663E-01	8.7557E-01	1.1103E+00	1.1707E+00	9.8734E-05
8.0000E+01	5.0512E+01	1.9949E-01	6.2197E-01	1.1192E+00	1.1753E+00	1.0020E-04
8.5000E+01	3.6479E+01	1.3159E-01	4.0641E-01	1.1247E+00	1.1785E+00	1.0112E-04
9.0000E+01	1.6635E-10	9.8722E-02	3.0393E-01	1.1265E+00	1.1796E+00	1.0143E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.9224E+00	1.0497E+00	1.0135E+00	1.0139E+00	-1.0915E-04	1.2593E+06	1.0345E+00
5.0000E+00	1.0265E+00	1.0071E+00	1.0075E+00	2.8350E-06	1.2458E+06	1.0181E+00
1.0000E+01	4.6157E+00	1.7029E+00	1.7073E+00	3.3805E-01	2.1940E+06	2.7073E+00
1.5000E+01	1.0505E+01	2.6631E+00	2.7024E+00	1.1296E+00	2.3138E+06	3.9400E+00
2.0000E+01	1.8596E+01	3.8805E+00	4.0389E+00	1.9962E+00	2.1624E+06	4.7863E+00
2.5000E+01	2.8683E+01	5.2960E+00	5.6858E+00	2.8241E+00	1.9623E+06	5.4091E+00
3.0000E+01	4.0484E+01	6.8498E+00	7.5961E+00	3.5814E+00	1.7301E+06	5.9029E+00
3.5000E+01	5.3688E+01	8.4545E+00	9.7143E+00	4.2668E+00	1.5233E+06	6.3388E+00
4.0000E+01	6.8049E+01	9.9180E+00	1.1982E+01	4.8896E+00	1.3785E+06	6.8222E+00
4.5000E+01	8.3220E+01	1.1075E+01	1.4334E+01	5.4667E+00	1.2785E+06	7.3963E+00
5.0000E+01	9.8623E+01	1.1966E+01	1.6691E+01	6.0059E+00	1.1899E+06	7.9927E+00
5.5000E+01	1.1366E+02	1.2683E+01	1.8978E+01	6.5052E+00	1.0884E+06	8.5432E+00
6.0000E+01	1.2779E+02	1.3287E+01	2.1122E+01	6.9577E+00	9.6898E+05	9.0129E+00
6.5000E+01	1.4056E+02	1.3801E+01	2.3060E+01	7.3538E+00	8.3418E+05	9.3936E+00
7.0000E+01	1.5157E+02	1.4237E+01	2.4731E+01	7.6878E+00	6.8786E+05	9.6836E+00
7.5000E+01	1.6048E+02	1.4594E+01	2.6086E+01	7.9524E+00	5.3596E+05	9.8921E+00
8.0000E+01	1.6703E+02	1.4863E+01	2.7083E+01	8.1442E+00	3.8611E+05	1.0029E+01
8.5000E+01	1.7103E+02	1.5031E+01	2.7694E+01	8.2603E+00	2.5428E+05	1.0105E+01
9.0000E+01	1.7238E+02	1.5089E+01	2.7899E+01	8.2991E+00	1.9065E+05	1.0129E+01

TABLE VI. - Continued

(e) Velocity, 4.2672 km/sec; M_1 = 13.597

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
4.2178E+00	1.4009E-01	9.9982E-01	1.3489E+01	1.0000E+00	1.4012E+00	1.5882E-05
5.0000E+00	1.1751E+00	9.9841E-01	1.2838E+01	1.0000E+00	1.4008E+00	1.7161E-05
1.0000E+01	6.8267E+00	9.8632E-01	9.5332E+00	1.0000E+00	1.3883E+00	2.6298E-05
1.5000E+01	1.1524E+01	9.6771E-01	7.4052E+00	1.0000E+00	1.3542E+00	3.6258E-05
2.0000E+01	1.6028E+01	9.4196E-01	5.9766E+00	9.9999E-01	1.3223E+00	4.6117E-05
2.5000E+01	2.0451E+01	9.0917E-01	4.9616E+00	1.0000E+00	1.2956E+00	5.6589E-05
3.0000E+01	2.4845E+01	8.6954E-01	4.2356E+00	1.0008E+00	1.2565E+00	6.7424E-05
3.5000E+01	2.9324E+01	8.2319E-01	3.7315E+00	1.0079E+00	1.1988E+00	7.6445E-05
4.0000E+01	3.3880E+01	7.7044E-01	3.3075E+00	1.0253E+00	1.1665E+00	8.3227E-05
4.5000E+01	3.8369E+01	7.1187E-01	2.9069E+00	1.0498E+00	1.1581E+00	8.8684E-05
5.0000E+01	4.2680E+01	6.4807E-01	2.5244E+00	1.0775E+00	1.1600E+00	9.3514E-05
5.5000E+01	4.6719E+01	5.7962E-01	2.1574E+00	1.1055E+00	1.1686E+00	9.7963E-05
6.0000E+01	5.0356E+01	5.0717E-01	1.8056E+00	1.1314E+00	1.1829E+00	1.0230E-04
6.5000E+01	5.3371E+01	4.3148E-01	1.4708E+00	1.1534E+00	1.2022E+00	1.0670E-04
7.0000E+01	5.5361E+01	3.5350E-01	1.1578E+00	1.1700E+00	1.2220E+00	1.1104E-04
7.5000E+01	5.5503E+01	2.7456E-01	8.7132E-01	1.1815E+00	1.2345E+00	1.1503E-04
8.0000E+01	5.1710E+01	1.9720E-01	6.1312E-01	1.1886E+00	1.2371E+00	1.1817E-04
8.5000E+01	3.7662E+01	1.2861E-01	3.9551E-01	1.1926E+00	1.2355E+00	1.2012E-04
9.0000E+01	1.7370E-10	9.4945E-02	2.9099E-01	1.1939E+00	1.2344E+00	1.2078E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.2178E+00	1.0497E+00	1.0135E+00	1.0139E+00	-1.0915E-04	1.4692E+06	1.0345E+00
5.0000E+00	1.4639E+00	1.1165E+00	1.1169E+00	4.5720E-03	1.7194E+06	1.3100E+00
1.0000E+01	6.3502E+00	1.9944E+00	2.0046E+00	5.8137E-01	2.6911E+06	3.1804E+00
1.5000E+01	1.4407E+01	3.2618E+00	3.3495E+00	1.5764E+00	2.6562E+06	4.4113E+00
2.0000E+01	2.5499E+01	4.8592E+00	5.1676E+00	2.5859E+00	2.4152E+06	5.2412E+00
2.5000E+01	3.9339E+01	6.7035E+00	7.4114E+00	3.5151E+00	2.1245E+06	5.8612E+00
3.0000E+01	5.5593E+01	8.6689E+00	1.0018E+01	4.3554E+00	1.8621E+06	6.3999E+00
3.5000E+01	7.4060E+01	1.0419E+01	1.2919E+01	5.1251E+00	1.7115E+06	7.0447E+00
4.0000E+01	9.4271E+01	1.1735E+01	1.6027E+01	5.8567E+00	1.6344E+06	7.8259E+00
4.5000E+01	1.1536E+02	1.2759E+01	1.9237E+01	6.5607E+00	1.5579E+06	8.6026E+00
5.0000E+01	1.3651E+02	1.3639E+01	2.2445E+01	7.2293E+00	1.4505E+06	9.2775E+00
5.5000E+01	1.5697E+02	1.4453E+01	2.5552E+01	7.8488E+00	1.3099E+06	9.8129E+00
6.0000E+01	1.7607E+02	1.5249E+01	2.8463E+01	8.4047E+00	1.1400E+06	1.0193E+01
6.5000E+01	1.9319E+02	1.6056E+01	3.1090E+01	8.8844E+00	9.5070E+05	1.0420E+01
7.0000E+01	2.0781E+02	1.6866E+01	3.3353E+01	9.2798E+00	7.5542E+05	1.0518E+01
7.5000E+01	2.1957E+02	1.7611E+01	3.5186E+01	9.5857E+00	5.6763E+05	1.0540E+01
8.0000E+01	2.2819E+02	1.8198E+01	3.6536E+01	9.8031E+00	3.9673E+05	1.0537E+01
8.5000E+01	2.3346E+02	1.8562E+01	3.7362E+01	9.9326E+00	2.5444E+05	1.0533E+01
9.0000E+01	2.3524E+02	1.8685E+01	3.7640E+01	9.9757E+00	1.8679E+05	1.0532E+01

TABLE VI. - Continued

(f) Velocity, 4.8768 km/sec; M_1 = 15.539

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.6898E+00	1.2265E-01	9.9986E-01	1.5417E+01	1.0000E+00	1.4012E+00	1.5882E-05
5.0000E+00	1.8876E+00	9.9767E-01	1.4004E+01	1.0000E+00	1.4001E+00	1.8446E-05
1.0000E+01	7.1924E+00	9.8599E-01	1.0125E+01	1.0000E+00	1.3799E+00	2.9142E-05
1.5000E+01	1.1814E+01	9.6742E-01	7.7513E+00	9.9999E-01	1.3391E+00	4.0649E-05
2.0000E+01	1.6302E+01	9.4165E-01	6.2117E+00	1.0000E+00	1.3058E+00	5.1827E-05
2.5000E+01	2.0752E+01	9.0880E-01	5.1696E+00	1.0004E+00	1.2679E+00	6.5169E-05
3.0000E+01	2.5300E+01	8.6895E-01	4.5097E+00	1.0075E+00	1.2003E+00	7.6208E-05
3.5000E+01	2.9985E+01	8.2230E-01	3.9954E+00	1.0296E+00	1.1633E+00	8.4324E-05
4.0000E+01	3.4629E+01	7.6942E-01	3.5135E+00	1.0622E+00	1.1580E+00	9.0953E-05
4.5000E+01	3.9120E+01	7.1085E-01	3.0536E+00	1.0995E+00	1.1662E+00	9.7013E-05
5.0000E+01	4.3372E+01	6.4711E-01	2.6076E+00	1.1366E+00	1.1868E+00	1.0326E-04
5.5000E+01	4.7263E+01	5.7885E-01	2.1760E+00	1.1684E+00	1.2199E+00	1.1055E-04
6.0000E+01	5.0664E+01	5.0671E-01	1.7917E+00	1.1904E+00	1.2367E+00	1.1901E-04
6.5000E+01	5.3510E+01	4.3126E-01	1.4729E+00	1.2056E+00	1.2124E+00	1.2685E-04
7.0000E+01	5.5546E+01	3.5320E-01	1.1786E+00	1.2182E+00	1.1926E+00	1.3285E-04
7.5000E+01	5.5911E+01	2.7388E-01	8.9934E-01	1.2292E+00	1.1781E+00	1.3726E-04
8.0000E+01	5.2503E+01	1.9576E-01	6.3563E-01	1.2377E+00	1.1701E+00	1.4012E-04
8.5000E+01	3.8823E+01	1.2587E-01	4.0597E-01	1.2431E+00	1.1661E+00	1.4174E-04
9.0000E+01	1.8213E-10	9.0948E-02	2.9269E-01	1.2449E+00	1.1648E+00	1.4226E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.6898E+00	1.0497E+00	1.0135E+00	1.0139E+00	-1.0915E-04	1.6792E+06	1.0345E+00
5.0000E+00	1.9718E+00	1.2246E+00	1.2251E+00	2.9357E-02	2.2438E+06	1.6090E+00
1.0000E+01	8.3580E+00	2.3219E+00	2.3435E+00	8.5485E-01	3.1367E+06	3.5955E+00
1.5000E+01	1.8940E+01	3.9302E+00	4.0953E+00	2.0281E+00	2.9535E+06	4.8131E+00
2.0000E+01	3.3521E+01	5.9456E+00	6.4709E+00	3.1561E+00	2.6381E+06	5.6312E+00
2.5000E+01	5.1758E+01	8.2317E+00	9.4063E+00	4.1745E+00	2.2572E+06	6.2776E+00
3.0000E+01	7.3476E+01	1.0373E+01	1.2828E+01	5.1027E+00	2.0646E+06	7.0227E+00
3.5000E+01	9.8275E+01	1.1948E+01	1.6638E+01	5.9940E+00	2.0063E+06	7.9794E+00
4.0000E+01	1.2502E+02	1.3172E+01	2.0703E+01	6.8703E+00	1.9467E+06	8.9249E+00
4.5000E+01	1.5261E+02	1.4279E+01	2.4890E+01	7.7191E+00	1.8343E+06	9.7093E+00
5.0000E+01	1.8003E+02	1.5425E+01	2.9069E+01	8.5171E+00	1.6572E+06	1.0256E+01
5.5000E+01	2.0625E+02	1.6773E+01	3.3111E+01	9.2383E+00	1.4192E+06	1.0512E+01
6.0000E+01	2.3047E+02	1.8355E+01	3.6893E+01	9.8593E+00	1.1566E+06	1.0535E+01
6.5000E+01	2.5235E+02	1.9815E+01	4.0310E+01	1.0375E+01	9.2483E+05	1.0550E+01
7.0000E+01	2.7149E+02	2.0885E+01	4.3267E+01	1.0793E+01	7.3065E+05	1.0659E+01
7.5000E+01	2.8715E+02	2.1636E+01	4.5669E+01	1.1118E+01	5.5485E+05	1.0784E+01
8.0000E+01	2.9876E+02	2.2127E+01	4.7441E+01	1.1351E+01	3.9250E+05	1.0896E+01
8.5000E+01	3.0589E+02	2.2406E+01	4.8527E+01	1.1492E+01	2.5118E+05	1.0970E+01
9.0000E+01	3.0830E+02	2.2496E+01	4.8892E+01	1.1539E+01	1.8124E+05	1.0995E+01

TABLE VI.- Concluded

(g) Velocity, 5.4864 km/sec; M_1 = 17.481

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.2793E+00	1.0906E-01	9.9989E-01	1.7344E+01	1.0000E+00	1.4012E+00	1.5882E-05
5.0000E+00	2.3661E+00	9.9725E-01	1.5088E+01	1.0000E+00	1.3992E+00	1.9701E-05
1.0000E+01	7.4502E+00	9.8578E-01	1.0630E+01	1.0000E+00	1.3698E+00	3.2048E-05
1.5000E+01	1.2028E+01	9.6723E-01	8.0433E+00	9.9999E-01	1.3253E+00	4.5027E-05
2.0000E+01	1.6517E+01	9.4143E-01	6.4219E+00	1.0001E+00	1.2891E+00	5.8982E-05
2.5000E+01	2.1050E+01	9.0847E-01	5.4354E+00	1.0037E+00	1.2217E+00	7.2953E-05
3.0000E+01	2.5781E+01	8.6838E-01	4.7929E+00	1.0254E+00	1.1665E+00	8.3233E-05
3.5000E+01	3.0530E+01	8.2165E-01	4.2114E+00	1.0636E+00	1.1581E+00	9.1185E-05
4.0000E+01	3.5145E+01	7.6880E-01	3.6551E+00	1.1095E+00	1.1703E+00	9.8601E-05
4.5000E+01	3.9524E+01	7.1035E-01	3.1031E+00	1.1548E+00	1.2038E+00	1.0704E-04
5.0000E+01	4.3547E+01	6.4689E-01	2.5856E+00	1.1987E+00	1.2371E+00	1.1818E-04
5.5000E+01	4.7323E+01	5.7876E-01	2.2035E+00	1.2111E+00	1.1990E+00	1.2954E-04
6.0000E+01	5.0915E+01	5.0635E-01	1.8612E+00	1.2329E+00	1.1743E+00	1.3855E-04
6.5000E+01	5.4097E+01	4.3039E-01	1.5407E+00	1.2546E+00	1.1592E+00	1.4485E-04
7.0000E+01	5.6473E+01	3.5178E-01	1.2326E+00	1.2745E+00	1.1519E+00	1.4932E-04
7.5000E+01	5.7250E+01	2.7176E-01	9.3668E-01	1.2912E+00	1.1481E+00	1.5249E-04
8.0000E+01	5.4393E+01	1.9256E-01	6.5596E-01	1.3038E+00	1.1462E+00	1.5495E-04
8.5000E+01	4.1249E+01	1.2066E-01	4.0813E-01	1.3116E+00	1.1454E+00	1.5660E-04
9.0000E+01	1.9999E-10	8.3506E-02	2.8181E-01	1.3142E+00	1.1451E+00	1.5713E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.2793E+00	1.0497E+00	1.0135E+00	1.0139E+00	-1.0915E-04	1.8891E+06	1.0345E+00
5.0000E+00	2.5409E+00	1.3349E+00	1.3359E+00	7.7847E-02	2.7925E+06	1.9018E+00
1.0000E+01	1.0643E+01	2.6848E+00	2.7254E+00	1.1466E+00	3.5329E+06	3.9596E+00
1.5000E+01	2.4106E+01	4.6654E+00	4.9405E+00	2.4756E+00	3.2156E+06	5.1607E+00
2.0000E+01	4.2677E+01	7.1280E+00	7.9496E+00	3.7053E+00	2.7686E+06	5.9798E+00
2.5000E+01	6.6097E+01	9.7414E+00	1.1677E+01	4.8105E+00	2.4391E+06	6.7524E+00
3.0000E+01	9.4293E+01	1.1736E+01	1.6030E+01	5.8575E+00	2.3686E+06	7.8267E+00
3.5000E+01	1.2604E+02	1.3214E+01	2.0857E+01	6.9025E+00	2.3413E+06	8.9575E+00
4.0000E+01	1.5988E+02	1.4570E+01	2.5994E+01	7.9347E+00	2.2343E+06	9.8788E+00
4.5000E+01	1.9441E+02	1.6119E+01	3.1279E+01	8.9181E+00	2.0081E+06	1.0432E+01
5.0000E+01	2.2824E+02	1.8201E+01	3.6543E+01	9.8043E+00	1.6730E+06	1.0537E+01
5.5000E+01	2.6098E+02	2.0315E+01	4.1646E+01	1.0566E+01	1.3731E+06	1.0595E+01
6.0000E+01	2.9225E+02	2.1858E+01	4.6449E+01	1.1221E+01	1.1483E+06	1.0832E+01
6.5000E+01	3.2086E+02	2.2943E+01	5.0798E+01	1.1781E+01	9.5960E+05	1.1134E+01
7.0000E+01	3.4571E+02	2.3722E+01	5.4556E+01	1.2249E+01	7.8044E+05	1.1421E+01
7.5000E+01	3.6594E+02	2.4279E+01	5.7606E+01	1.2619E+01	6.0268E+05	1.1659E+01
8.0000E+01	3.8087E+02	2.4657E+01	5.9853E+01	1.2888E+01	4.2655E+05	1.1833E+01
8.5000E+01	3.9002E+02	2.4877E+01	6.1230E+01	1.3050E+01	2.6684E+05	1.1940E+01
9.0000E+01	3.9311E+02	2.4949E+01	6.1693E+01	1.3105E+01	1.8460E+05	1.1975E+01

TABLE VII.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS

IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 45.72 km

[p_1 = 136.07 Pa; ρ_1 = 0.001 781 1 kg/m^3; T_1 = 266.152 K; S_1/R = 30.114; h_1 = 266.501 kJ/kg]

(a) Velocity, 1.8288 km/sec; M_1 = 5.5919

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.0302E+01	3.1737E-01	9.9901E-01	5.5467E+00	1.0000E+00	1.4005E+00	1.6960E-05
1.5000E+01	6.4003E+00	9.7691E-01	4.8208E+00	1.0000E+00	1.3985E+00	2.0362E-05
2.0000E+01	1.1853E+01	9.4927E-01	4.1869E+00	1.0000E+00	1.3934E+00	2.4035E-05
2.5000E+01	1.6690E+01	9.1592E-01	3.6470E+00	1.0000E+00	1.3843E+00	2.7807E-05
3.0000E+01	2.1181E+01	8.7639E-01	3.1833E+00	1.0000E+00	1.3720E+00	3.1582E-05
3.5000E+01	2.5426E+01	8.3072E-01	2.7827E+00	1.0000E+00	1.3583E+00	3.5244E-05
4.0000E+01	2.9451E+01	7.7922E-01	2.4309E+00	1.0000E+00	1.3456E+00	3.8719E-05
4.5000E+01	3.3234E+01	7.2228E-01	2.1178E+00	1.0000E+00	1.3346E+00	4.1946E-05
5.0000E+01	3.6706E+01	6.6049E-01	1.8349E+00	1.0000E+00	1.3256E+00	4.4905E-05
5.5000E+01	3.9771E+01	5.9445E-01	1.5766E+00	1.0000E+00	1.3187E+00	4.7558E-05
6.0000E+01	4.2258E+01	5.2497E-01	1.3394E+00	1.0000E+00	1.3119E+00	4.9837E-05
6.5000E+01	4.3872E+01	4.5308E-01	1.1197E+00	1.0000E+00	1.3061E+00	5.1881E-05
7.0000E+01	4.4101E+01	3.8021E-01	9.1592E-01	1.0000E+00	1.3012E+00	5.4256E-05
7.5000E+01	4.1979E+01	3.0868E-01	7.2935E-01	1.0000E+00	1.2973E+00	5.5778E-05
8.0000E+01	3.5650E+01	2.4284E-01	5.6605E-01	1.0000E+00	1.2943E+00	5.6883E-05
8.5000E+01	2.2051E+01	1.9164E-01	4.4315E-01	1.0000E+00	1.2923E+00	5.7556E-05
9.0000E+01	8.8346E-11	1.7099E-01	3.9434E-01	1.0001E+00	1.2916E+00	5.7782E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.0302E+01	1.0469E+00	1.0130E+00	1.0132E+00	-1.2782E-04	1.9809E+05	1.0325E+00
1.5000E+01	2.2773E+00	1.2845E+00	1.2855E+00	5.2954E-02	2.7689E+05	1.7718E+00
2.0000E+01	4.1066E+00	1.6140E+00	1.6184E+00	2.6826E-01	3.2710E+05	2.5426E+00
2.5000E+01	6.3694E+00	1.9936E+00	2.0074E+00	5.8435E-01	3.4253E+05	3.1925E+00
3.0000E+01	9.0030E+00	2.4170E+00	2.4505E+00	9.4167E-01	3.3637E+05	3.7215E+00
3.5000E+01	1.1933E+01	2.8706E+00	2.9380E+00	1.3039E+00	3.1873E+05	4.1515E+00
4.0000E+01	1.5073E+01	3.3409E+00	3.4566E+00	1.6542E+00	2.9536E+05	4.5057E+00
4.5000E+01	1.8329E+01	3.8131E+00	3.9912E+00	1.9799E+00	2.6927E+05	4.8008E+00
5.0000E+01	2.1595E+01	4.2765E+00	4.5256E+00	2.2784E+00	2.4164E+05	5.0437E+00
5.5000E+01	2.4775E+01	4.7168E+00	5.0438E+00	2.5440E+00	2.1359E+05	5.2460E+00
6.0000E+01	2.7767E+01	5.1229E+00	5.5303E+00	2.7745E+00	1.8556E+05	5.4136E+00
6.5000E+01	3.0478E+01	5.4852E+00	5.9700E+00	2.9710E+00	1.5786E+05	5.5495E+00
7.0000E+01	3.2823E+01	5.7937E+00	6.3497E+00	3.1319E+00	1.2913E+05	5.6584E+00
7.5000E+01	3.4731E+01	6.0408E+00	6.6579E+00	3.2569E+00	1.0351E+05	5.7422E+00
8.0000E+01	3.6138E+01	6.2213E+00	6.8850E+00	3.3462E+00	8.0671E+04	5.8014E+00
8.5000E+01	3.7000E+01	6.3312E+00	7.0241E+00	3.3999E+00	6.3302E+04	5.8367E+00
9.0000E+01	3.7291E+01	6.3681E+00	7.0709E+00	3.4179E+00	5.6372E+04	5.8484E+00

TABLE VII.- Continued

(b) Velocity, 2.4384 km/sec; $M_1 = 7.4558$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
7.7080E+00	2.3964E-01	9.9944E-01	7.3988E+00	1.0000E+00	1.4005E+00	1.6960E-05
1.0000E+01	3.3181E+00	9.9154E-01	6.7855E+00	1.0000E+00	1.3993E+00	1.9182E-05
1.5000E+01	9.0461E+00	9.7116E-01	5.6883E+00	1.0000E+00	1.3932E+00	2.4175E-05
2.0000E+01	1.3946E+01	9.4496E-01	4.8181E+00	1.0000E+00	1.3792E+00	2.9422E-05
2.5000E+01	1.8505E+01	9.1216E-01	4.1178E+00	1.0000E+00	1.3604E+00	3.4740E-05
3.0000E+01	2.2875E+01	8.7276E-01	3.5463E+00	1.0000E+00	1.3413E+00	3.9917E-05
3.5000E+01	2.7088E+01	8.2702E-01	3.0669E+00	1.0000E+00	1.3258E+00	4.4841E-05
4.0000E+01	3.1139E+01	7.7530E-01	2.6567E+00	1.0000E+00	1.3133E+00	4.9442E-05
4.5000E+01	3.4995E+01	7.1803E-01	2.3009E+00	1.0000E+00	1.3008E+00	5.4444E-05
5.0000E+01	3.8607E+01	6.5571E-01	1.9871E+00	1.0001E+00	1.2876E+00	5.9061E-05
5.5000E+01	4.1891E+01	5.8892E-01	1.7075E+00	1.0004E+00	1.2708E+00	6.3353E-05
6.0000E+01	4.4715E+01	5.1834E-01	1.4544E+00	1.0012E+00	1.2499E+00	6.6930E-05
6.5000E+01	4.6836E+01	4.4478E-01	1.2193E+00	1.0028E+00	1.2284E+00	6.9775E-05
7.0000E+01	4.7762E+01	3.6950E-01	9.9606E-01	1.0049E+00	1.2105E+00	7.1996E-05
7.5000E+01	4.6513E+01	2.9447E-01	7.8420E-01	1.0072E+00	1.1977E+00	7.3631E-05
8.0000E+01	4.0977E+01	2.2352E-01	5.9027E-01	1.0093E+00	1.1895E+00	7.4745E-05
8.5000E+01	2.6749E+01	1.6563E-01	4.3524E-01	1.0106E+00	1.1850E+00	7.5393E-05
9.0000E+01	1.1112E-10	1.4088E-01	3.6958E-01	1.0111E+00	1.1836E+00	7.5606E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
7.7080E+00	1.0469E+00	1.0130E+00	1.0132E+00	-1.2782E-04	2.6424E+05	1.0325E+00
1.0000E+01	1.7873E+00	1.1868E+00	1.1872E+00	1.7933E-02	3.3788E+05	1.5051E+00
1.5000E+01	4.1841E+00	1.6273E+00	1.6319E+00	2.7878E-01	4.4826E+05	2.5693E+00
2.0000E+01	7.4507E+00	2.1693E+00	2.1901E+00	7.3382E-01	4.7868E+05	3.4317E+00
2.5000E+01	1.1506E+01	2.8056E+00	2.8673E+00	1.2536E+00	4.6705E+05	4.0958E+00
3.0000E+01	1.6244E+01	3.5122E+00	3.6492E+00	1.7751E+00	4.3861E+05	4.6190E+00
3.5000E+01	2.1522E+01	4.2662E+00	4.5135E+00	2.2719E+00	4.0359E+05	5.0386E+00
4.0000E+01	2.7181E+01	5.0439E+00	5.4350E+00	2.7306E+00	3.6654E+05	5.3822E+00
4.5000E+01	3.3047E+01	5.8228E+00	6.3859E+00	3.1468E+00	3.2467E+05	5.6685E+00
5.0000E+01	3.8947E+01	6.5770E+00	7.3376E+00	3.5184E+00	2.8515E+05	5.9139E+00
5.5000E+01	4.4706E+01	7.2782E+00	8.2618E+00	3.8460E+00	2.4758E+05	6.1326E+00
6.0000E+01	5.0158E+01	7.8947E+00	9.1307E+00	4.1306E+00	2.1317E+05	6.3378E+00
6.5000E+01	5.5144E+01	8.4027E+00	9.9183E+00	4.3723E+00	1.8096E+05	6.5364E+00
7.0000E+01	5.9493E+01	8.7993E+00	1.0600E+01	4.5729E+00	1.4978E+05	6.7197E+00
7.5000E+01	6.3053E+01	9.0910E+00	1.1154E+01	4.7304E+00	1.1945E+05	6.8773E+00
8.0000E+01	6.5691E+01	9.2899E+00	1.1562E+01	4.8440E+00	9.0882E+04	6.9977E+00
8.5000E+01	6.7313E+01	9.4057E+00	1.1813E+01	4.9127E+00	6.7484E+04	7.0728E+00
9.0000E+01	6.7860E+01	9.4436E+00	1.1897E+01	4.9357E+00	5.7443E+04	7.0982E+00

TABLE VII.- Continued

(c) Velocity, 3.048 km/sec; $M_1 = 9.3198$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
6.1596E+00	1.9230E-01	9.9964E-01	9.2504E+00	1.0000E+00	1.4005E+00	1.6960E-05
1.0000E+01	5.1192E+00	9.8839E-01	7.7929E+00	1.0000E+00	1.3971E+00	2.1690E-05
1.5000E+01	1.0297E+01	9.6919E-01	6.3633E+00	1.0000E+00	1.3830E+00	2.8227E-05
2.0000E+01	1.4966E+01	9.4333E-01	5.2864E+00	1.0000E+00	1.3590E+00	3.5067E-05
2.5000E+01	1.9439E+01	9.1059E-01	4.4614E+00	1.0000E+00	1.3351E+00	4.1803E-05
3.0000E+01	2.3780E+01	8.7115E-01	3.8051E+00	1.0000E+00	1.3167E+00	4.8253E-05
3.5000E+01	2.8010E+01	8.2529E-01	3.2737E+00	1.0000E+00	1.2988E+00	5.5201E-05
4.0000E+01	3.2126E+01	7.7334E-01	2.8375E+00	1.0003E+00	1.2764E+00	6.2083E-05
4.5000E+01	3.6151E+01	7.1563E-01	2.4850E+00	1.0018E+00	1.2406E+00	6.8210E-05
5.0000E+01	4.0096E+01	6.5251E-01	2.1804E+00	1.0065E+00	1.2016E+00	7.3120E-05
5.5000E+01	4.3874E+01	5.8456E-01	1.8972E+00	1.0144E+00	1.1756E+00	7.6903E-05
6.0000E+01	4.7298E+01	5.1254E-01	1.6225E+00	1.0241E+00	1.1615E+00	7.9813E-05
6.5000E+01	5.0105E+01	4.3731E-01	1.3552E+00	1.0343E+00	1.1543E+00	8.2073E-05
7.0000E+01	5.1844E+01	3.5994E-01	1.0960E+00	1.0439E+00	1.1506E+00	8.3833E-05
7.5000E+01	5.1603E+01	2.8201E-01	8.4676E-01	1.0520E+00	1.1492E+00	8.5161E-05
8.0000E+01	4.7205E+01	2.0657E-01	6.1395E-01	1.0581E+00	1.1489E+00	8.6118E-05
8.5000E+01	3.2927E+01	1.4180E-01	4.1880E-01	1.0620E+00	1.1490E+00	8.6720E-05
9.0000E+01	1.4471E-10	1.1184E-01	3.2963E-01	1.0632E+00	1.1490E+00	8.6921E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
6.1596E+00	1.0469E+00	1.0130E+00	1.0132E+00	-1.2782E-04	3.3037E+05	1.0325E+00
1.0000E+01	2.8909E+00	1.3992E+00	1.4009E+00	1.1470E-01	5.1083E+05	2.0649E+00
1.5000E+01	6.6444E+00	2.0385E+00	2.0539E+00	6.2265E-01	6.0706E+05	3.2568E+00
2.0000E+01	1.1782E+01	2.8477E+00	2.9131E+00	1.2862E+00	6.0344E+05	4.1321E+00
2.5000E+01	1.8183E+01	3.7922E+00	3.9674E+00	1.9659E+00	5.6625E+05	4.7889E+00
3.0000E+01	2.5661E+01	4.8379E+00	5.1881E+00	2.6140E+00	5.1912E+05	5.2977E+00
3.5000E+01	3.4000E+01	5.9464E+00	6.5398E+00	3.2095E+00	4.6349E+05	5.7106E+00
4.0000E+01	4.2961E+01	7.0706E+00	7.9825E+00	3.7502E+00	4.1028E+05	6.0671E+00
4.5000E+01	5.2334E+01	8.1232E+00	9.4752E+00	4.2378E+00	3.6584E+05	6.4232E+00
5.0000E+01	6.1904E+01	9.0000E+00	1.0975E+01	4.6801E+00	3.3068E+05	6.8258E+00
5.5000E+01	7.1359E+01	9.6753E+00	1.2435E+01	5.0812E+00	2.9968E+05	7.2621E+00
6.0000E+01	8.0332E+01	1.0195E+01	1.3808E+01	5.4427E+00	2.6790E+05	7.6844E+00
6.5000E+01	8.8492E+01	1.0599E+01	1.5049E+01	5.7591E+00	2.3321E+05	8.0623E+00
7.0000E+01	9.5559E+01	1.0913E+01	1.6121E+01	6.0268E+00	1.9528E+05	8.3781E+00
7.5000E+01	1.0130E+02	1.1150E+01	1.6990E+01	6.2407E+00	1.5506E+05	8.6257E+00
8.0000E+01	1.0553E+02	1.1318E+01	1.7630E+01	6.3963E+00	1.1462E+05	8.8018E+00
8.5000E+01	1.0813E+02	1.1418E+01	1.8022E+01	6.4908E+00	7.9061E+04	8.9067E+00
9.0000E+01	1.0900E+02	1.1451E+01	1.8154E+01	6.5224E+00	6.2456E+04	8.9415E+00

TABLE VII.- Continued

(d) Velocity, 3.6576 km/sec; $M_1 = 11.184$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
5.1300E+00	1.6052E-01	9.9975E-01	1.1102E+01	1.0000E+00	1.4005E+00	1.6960E-05
1.0000E+01	6.1027E+00	9.8709E-01	8.6475E+00	1.0000E+00	1.3930E+00	2.4275E-05
1.5000E+01	1.0998E+01	9.6829E-01	6.8942E+00	1.0000E+00	1.3691E+00	3.2457E-05
2.0000E+01	1.5571E+01	9.4251E-01	5.6493E+00	1.0000E+00	1.3383E+00	4.0788E-05
2.5000E+01	2.0010E+01	9.0976E-01	4.7216E+00	1.0000E+00	1.3150E+00	4.8855E-05
3.0000E+01	2.4362E+01	8.7024E-01	4.0140E+00	1.0001E+00	1.2916E+00	5.7782E-05
3.5000E+01	2.8670E+01	8.2418E-01	3.4814E+00	1.0011E+00	1.2527E+00	6.6519E-05
4.0000E+01	3.3033E+01	7.7174E-01	3.0853E+00	1.0071E+00	1.1985E+00	7.3525E-05
4.5000E+01	3.7429E+01	7.1333E-01	2.7350E+00	1.0202E+00	1.1659E+00	7.8767E-05
5.0000E+01	4.1716E+01	6.4957E-01	2.3992E+00	1.0379E+00	1.1526E+00	8.2766E-05
5.5000E+01	4.5766E+01	5.8111E-01	2.0746E+00	1.0575E+00	1.1489E+00	8.6021E-05
6.0000E+01	4.9441E+01	5.0861E-01	1.7599E+00	1.0771E+00	1.1505E+00	8.8982E-05
6.5000E+01	5.2532E+01	4.3283E-01	1.4565E+00	1.0954E+00	1.1544E+00	9.1548E-05
7.0000E+01	5.4647E+01	3.5468E-01	1.1649E+00	1.1112E+00	1.1599E+00	9.3759E-05
7.5000E+01	5.4946E+01	2.7552E-01	8.8658E-01	1.1240E+00	1.1659E+00	9.5601E-05
8.0000E+01	5.1312E+01	1.9795E-01	6.2712E-01	1.1333E+00	1.1715E+00	9.7014E-05
8.5000E+01	3.7411E+01	1.2923E-01	4.0541E-01	1.1388E+00	1.1755E+00	9.7909E-05
9.0000E+01	1.7248E-10	9.5551E-02	2.9876E-01	1.1407E+00	1.1769E+00	9.8217E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
5.1300E+00	1.0469E+00	1.0130E+00	1.0132E+00	-1.2782E-04	3.9648E+05	1.0325E+00
1.0000E+01	4.2399E+00	1.6369E+00	1.6417E+00	2.8641E-01	6.8562E+05	2.5883E+00
1.5000E+01	9.6670E+00	2.5214E+00	2.5614E+00	1.0275E+00	7.4434E+05	3.8299E+00
2.0000E+01	1.7124E+01	3.6397E+00	3.7937E+00	1.8629E+00	7.0733E+05	4.6988E+00
2.5000E+01	2.6418E+01	4.9408E+00	5.3112E+00	2.6726E+00	6.4784E+05	5.3404E+00
3.0000E+01	3.7291E+01	6.3681E+00	7.0709E+00	3.4179E+00	5.7380E+05	5.8484E+00
3.5000E+01	4.9481E+01	7.8213E+00	9.0231E+00	4.0965E+00	5.0946E+05	6.3118E+00
4.0000E+01	6.2812E+01	9.0722E+00	1.1116E+01	4.7199E+00	4.6952E+05	6.8665E+00
4.5000E+01	7.6916E+01	1.0008E+01	1.3287E+01	5.3069E+00	4.4388E+05	7.5233E+00
5.0000E+01	9.1201E+01	1.0722E+01	1.5460E+01	5.8623E+00	4.1846E+05	8.1847E+00
5.5000E+01	1.0512E+02	1.1301E+01	1.7568E+01	6.3812E+00	3.8660E+05	8.7848E+00
6.0000E+01	1.1819E+02	1.1794E+01	1.9544E+01	6.8528E+00	3.4601E+05	9.2923E+00
6.5000E+01	1.3000E+02	1.2222E+01	2.1329E+01	7.2682E+00	2.9871E+05	9.6986E+00
7.0000E+01	1.4017E+02	1.2590E+01	2.2863E+01	7.6177E+00	2.4660E+05	1.0006E+01
7.5000E+01	1.4840E+02	1.2897E+01	2.4116E+01	7.8956E+00	1.9196E+05	1.0224E+01
8.0000E+01	1.5444E+02	1.3133E+01	2.5035E+01	8.0971E+00	1.3776E+05	1.0364E+01
8.5000E+01	1.5813E+02	1.3282E+01	2.5597E+01	8.2188E+00	8.9775E+04	1.0441E+01
9.0000E+01	1.5937E+02	1.3334E+01	2.5787E+01	8.2595E+00	6.6328E+04	1.0466E+01

TABLE VII.- Continued

(e) Velocity, 4.2672 km/sec; $M_1 = 13.048$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
4.3956E+00	1.3772E-01	9.9982E-01	1.2953E+01	1.0000E+00	1.4005E+00	1.6960E-05
5.0000E+00	9.0102E-01	9.9875E-01	1.2510E+01	1.0000E+00	1.4000E+00	1.7892E-05
1.0000E+01	6.7031E+00	9.8644E-01	9.3644E+00	1.0000E+00	1.3867E+00	2.6975E-05
1.5000E+01	1.1444E+01	9.6779E-01	7.3285E+00	1.0000E+00	1.3525E+00	3.6764E-05
2.0000E+01	1.5971E+01	9.4202E-01	5.9366E+00	1.0000E+00	1.3213E+00	4.6505E-05
2.5000E+01	2.0408E+01	9.0923E-01	4.9407E+00	1.0000E+00	1.2940E+00	5.6960E-05
3.0000E+01	2.4829E+01	8.6956E-01	4.2462E+00	1.0015E+00	1.2452E+00	6.7577E-05
3.5000E+01	2.9386E+01	8.2310E-01	3.7726E+00	1.0116E+00	1.1823E+00	7.9814E-05
4.0000E+01	3.4014E+01	7.7024E-01	3.3531E+00	1.0326E+00	1.1553E+00	8.1725E-05
4.5000E+01	3.8553E+01	7.1161E-01	2.9526E+00	1.0598E+00	1.1489E+00	8.6390E-05
5.0000E+01	4.2905E+01	6.4775E-01	2.5657E+00	1.0896E+00	1.1529E+00	9.0738E-05
5.5000E+01	4.6985E+01	5.7924E-01	2.1922E+00	1.1190E+00	1.1634E+00	9.4866E-05
6.0000E+01	5.0658E+01	5.0672E-01	1.8312E+00	1.1457E+00	1.1812E+00	9.9080E-05
6.5000E+01	5.3697E+01	4.3098E-01	1.4854E+00	1.1676E+00	1.2066E+00	1.0361E-04
7.0000E+01	5.5698E+01	3.5296E-01	1.1639E+00	1.1831E+00	1.2315E+00	1.0840E-04
7.5000E+01	5.5861E+01	2.7396E-01	8.7474E-01	1.1930E+00	1.2412E+00	1.1269E-04
8.0000E+01	5.2142E+01	1.9641E-01	6.1561E-01	1.1991E+00	1.2369E+00	1.1596E-04
8.5000E+01	3.8169E+01	1.2739E-01	3.9563E-01	1.2025E+00	1.2305E+00	1.1793E-04
9.0000E+01	1.7713E-10	9.3275E-02	2.8887E-01	1.2037E+00	1.2279E+00	1.1858E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.3956E+00	1.0469E+00	1.0130E+00	1.0132E+00	-1.2782E-04	4.6259E+05	1.0325E+00
5.0000E+00	1.3247E+00	1.0843E+00	1.0845E+00	1.7360E-03	5.1793E+05	1.2208E+00
1.0000E+01	5.8388E+00	1.9062E+00	1.9171E+00	5.0998E-01	8.5075E+05	3.0610E+00
1.5000E+01	1.3263E+01	3.0715E+00	3.1581E+00	1.4567E+00	8.6278E+05	4.3123E+00
2.0000E+01	2.3485E+01	4.5393E+00	4.8337E+00	2.4391E+00	7.9553E+05	5.1673E+00
2.5000E+01	3.6236E+01	6.2338E+00	6.9008E+00	3.3524E+00	7.0431E+05	5.8054E+00
3.0000E+01	5.1245E+01	8.0102E+00	9.3029E+00	4.1845E+00	6.2397E+05	6.3801E+00
3.5000E+01	6.8403E+01	9.4809E+00	1.1981E+01	4.9584E+00	5.8780E+05	7.1235E+00
4.0000E+01	8.7169E+01	1.0536E+01	1.4848E+01	5.7083E+00	5.7319E+05	8.0019E+00
4.5000E+01	1.0670E+02	1.1363E+01	1.7807E+01	6.4389E+00	5.5401E+05	8.8493E+00
5.0000E+01	1.2625E+02	1.2087E+01	2.0762E+01	7.1376E+00	5.1951E+05	9.5752E+00
5.5000E+01	1.4516E+02	1.2775E+01	2.3625E+01	7.7867E+00	4.7065E+05	1.0142E+01
6.0000E+01	1.6277E+02	1.3478E+01	2.6306E+01	8.3704E+00	4.0923E+05	1.0528E+01
6.5000E+01	1.7852E+02	1.4233E+01	2.8724E+01	8.8731E+00	3.3921E+05	1.0729E+01
7.0000E+01	1.9193E+02	1.5034E+01	3.0806E+01	9.2853E+00	2.6671E+05	1.0777E+01
7.5000E+01	2.0269E+02	1.5780E+01	3.2493E+01	9.6024E+00	1.9871E+05	1.0754E+01
8.0000E+01	2.1061E+02	1.6349E+01	3.3735E+01	9.8263E+00	1.3813E+05	1.0730E+01
8.5000E+01	2.1547E+02	1.6691E+01	3.4496E+01	9.9595E+00	8.8029E+04	1.0722E+01
9.0000E+01	2.1711E+02	1.6803E+01	3.4752E+01	1.0004E+01	6.4096E+04	1.0721E+01

TABLE VII.- Continued

(f) Velocity, 4.8768 km/sec; M_1 = 14.912

TH	DELTA	V2/V1	M2	T2	GAM2	VIS
3.8452E+00	1.2059E-01	9.9986E-01	1.4804E+01	1.0000E+00	1.4005E+00	1.6960E-05
5.0000E+00	1.6923E+00	9.9786E-01	1.3639E+01	1.0000E+00	1.3993E+00	1.9221E-05
1.0000E+01	7.0994E+00	9.8607E-01	9.9718E+00	1.0000E+00	1.3781E+00	2.9765E-05
1.5000E+01	1.1755E+01	9.6748E-01	7.6868E+00	1.0000E+00	1.3373E+00	4.1096E-05
2.0000E+01	1.6260E+01	9.4170E-01	6.1782E+00	1.0000E+00	1.3052E+00	5.2164E-05
2.5000E+01	2.0729E+01	9.0883E-01	5.1708E+00	1.0008E+00	1.2599E+00	6.5409E-05
3.0000E+01	2.5350E+01	8.6889E-01	4.5589E+00	1.0111E+00	1.1836E+00	7.5606E-05
3.5000E+01	3.0102E+01	8.2215E-01	4.0522E+00	1.0375E+00	1.1528E+00	8.2695E-05
4.0000E+01	3.4787E+01	7.6923E-01	3.5705E+00	1.0732E+00	1.1500E+00	8.8417E-05
4.5000E+01	3.9308E+01	7.1061E-01	3.1042E+00	1.1127E+00	1.1605E+00	9.3971E-05
5.0000E+01	4.3578E+01	6.4685E-01	2.6439E+00	1.1510E+00	1.1862E+00	1.0005E-04
5.5000E+01	4.7451E+01	5.7859E-01	2.1908E+00	1.1816E+00	1.2292E+00	1.0784E-04
6.0000E+01	5.0827E+01	5.0648E-01	1.8067E+00	1.2006E+00	1.2344E+00	1.1692E-04
6.5000E+01	5.3730E+01	4.3093E-01	1.4918E+00	1.2147E+00	1.2008E+00	1.2430E-04
7.0000E+01	5.5868E+01	3.5269E-01	1.1993E+00	1.2276E+00	1.1727E+00	1.2945E-04
7.5000E+01	5.6382E+01	2.7311E-01	9.1309E-01	1.2390E+00	1.1640E+00	1.3337E-04
8.0000E+01	5.3174E+01	1.9459E-01	6.4362E-01	1.2480E+00	1.1570E+00	1.3596E-04
8.5000E+01	3.9679E+01	1.2395E-01	4.0736E-01	1.2536E+00	1.1536E+00	1.3743E-04
9.0000E+01	1.8829E-10	8.8238E-02	2.8936E-01	1.2555E+00	1.1525E+00	1.3791E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.8452E+00	1.0469E+00	1.0130E+00	1.0132E+00	-1.2782E-04	5.2870E+05	1.0325E+00
5.0000E+00	1.8024E+00	1.1899E+00	1.1904E+00	1.8760E-02	6.8263E+05	1.5138E+00
1.0000E+01	7.6894E+00	2.2077E+00	2.2302E+00	7.6632E-01	1.0014E+06	3.4800E+00
1.5000E+01	1.7441E+01	3.6854E+00	3.8456E+00	1.8940E+00	9.6648E+05	4.7264E+00
2.0000E+01	3.0875E+01	5.5378E+00	6.0344E+00	2.9989E+00	8.7317E+05	5.5685E+00
2.5000E+01	4.7695E+01	7.6232E+00	8.7391E+00	4.0048E+00	7.5362E+05	6.2443E+00
3.0000E+01	6.7860E+01	9.4436E+00	1.1897E+01	4.9357E+00	7.0857E+05	7.0982E+00
3.5000E+01	9.0879E+01	1.0708E+01	1.5411E+01	5.8501E+00	7.0563E+05	8.1702E+00
4.0000E+01	1.1564E+02	1.1700E+01	1.9157E+01	6.7614E+00	6.9505E+05	9.1976E+00
4.5000E+01	1.4114E+02	1.2626E+01	2.3015E+01	7.6506E+00	6.5904E+05	1.0034E+01
5.0000E+01	1.6642E+02	1.3639E+01	2.6864E+01	8.4886E+00	5.9461E+05	1.0588E+01
5.5000E+01	1.9050E+02	1.4941E+01	3.0584E+01	9.2422E+00	5.0223E+05	1.0777E+01
6.0000E+01	2.1271E+02	1.6498E+01	3.4063E+01	9.8843E+00	4.0391E+05	1.0726E+01
6.5000E+01	2.3294E+02	1.7798E+01	3.7213E+01	1.0415E+01	3.2406E+05	1.0762E+01
7.0000E+01	2.5069E+02	1.8692E+01	3.9939E+01	1.0845E+01	2.5824E+05	1.0912E+01
7.5000E+01	2.6523E+02	1.9300E+01	4.2154E+01	1.1182E+01	1.9704E+05	1.1078E+01
8.0000E+01	2.7599E+02	1.9696E+01	4.3787E+01	1.1425E+01	1.3941E+05	1.1214E+01
8.5000E+01	2.8260E+02	1.9920E+01	4.4788E+01	1.1571E+01	8.8547E+04	1.1303E+01
9.0000E+01	2.8483E+02	1.9993E+01	4.5125E+01	1.1620E+01	6.2984E+04	1.1333E+01

TABLE VII. - Continued

(g) Velocity, 5.4864 km/sec; M_1 = 16.776

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.4175E+00	1.0724E-01	9.9989E-01	1.6655E+01	1.0000E+00	1.4005E+00	1.6960E-05
5.0000E+00	2.2133E+00	9.9737E-01	1.4711E+01	1.0000E+00	1.3984E+00	2.0476E-05
1.0000E+01	7.3776E+00	9.8584E-01	1.0490E+01	1.0000E+00	1.3686E+00	3.2621E-05
1.5000E+01	1.1983E+01	9.6727E-01	7.9873E+00	1.0000E+00	1.3241E+00	4.5426E-05
2.0000E+01	1.6487E+01	9.4146E-01	6.3995E+00	1.0001E+00	1.2867E+00	5.9342E-05
2.5000E+01	2.1069E+01	9.0845E-01	5.4809E+00	1.0059E+00	1.2049E+00	7.2707E-05
3.0000E+01	2.5874E+01	8.6828E-01	4.8595E+00	1.0326E+00	1.1553E+00	8.1736E-05
3.5000E+01	3.0663E+01	8.2150E-01	4.2803E+00	1.0747E+00	1.1502E+00	8.8626E-05
4.0000E+01	3.5302E+01	7.6863E-01	3.7151E+00	1.1231E+00	1.1655E+00	9.5474E-05
4.5000E+01	3.9679E+01	7.1017E-01	3.1356E+00	1.1690E+00	1.2088E+00	1.0397E-04
5.0000E+01	4.3662E+01	6.4674E-01	2.6060E+00	1.1991E+00	1.2368E+00	1.1598E-04
5.5000E+01	4.7477E+01	5.7856E-01	2.2346E+00	1.2205E+00	1.1864E+00	1.2680E-04
6.0000E+01	5.1160E+01	5.0601E-01	1.8941E+00	1.2429E+00	1.1607E+00	1.3454E-04
6.5000E+01	5.4432E+01	4.2991E-01	1.5687E+00	1.2657E+00	1.1480E+00	1.4026E-04
7.0000E+01	5.6916E+01	3.5114E-01	1.2551E+00	1.2864E+00	1.1419E+00	1.4435E-04
7.5000E+01	5.7843E+01	2.7087E-01	9.5282E-01	1.3038E+00	1.1389E+00	1.4728E-04
8.0000E+01	5.5216E+01	1.9127E-01	6.6520E-01	1.3168E+00	1.1373E+00	1.4927E-04
8.5000E+01	4.2331E+01	1.1853E-01	4.0946E-01	1.3248E+00	1.1366E+00	1.5042E-04
9.0000E+01	2.0845E-10	8.0389E-02	2.7707E-01	1.3275E+00	1.1363E+00	1.5080E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.4175E+00	1.0469E+00	1.0130E+00	1.0132E+00	-1.2782E-04	5.9481E+05	1.0325E+00
5.0000E+00	2.3276E+00	1.2942E+00	1.2952E+00	5.7386E-02	8.5553E+05	1.7974E+00
1.0000E+01	9.7941E+00	2.5413E+00	2.5826E+00	1.0437E+00	1.1369E+06	3.8498E+00
1.5000E+01	2.2201E+01	4.3612E+00	4.6244E+00	2.3309E+00	1.0579E+06	5.0845E+00
2.0000E+01	3.9313E+01	6.6228E+00	7.3966E+00	3.5402E+00	9.1903E+05	5.9281E+00
2.5000E+01	6.0998E+01	8.9260E+00	1.0834E+01	4.6401E+00	8.2849E+05	6.7856E+00
3.0000E+01	8.7189E+01	1.0537E+01	1.4851E+01	5.7090E+00	8.3079E+05	8.0029E+00
3.5000E+01	1.1658E+02	1.1735E+01	1.9300E+01	6.7951E+00	8.3629E+05	9.2327E+00
4.0000E+01	1.4784E+02	1.2876E+01	2.4032E+01	7.8770E+00	8.0323E+05	1.0210E+01
4.5000E+01	1.7965E+02	1.4294E+01	2.8898E+01	8.9082E+00	7.1670E+05	1.0738E+01
5.0000E+01	2.1066E+02	1.6352E+01	3.3742E+01	9.8275E+00	5.8469E+05	1.0730E+01
5.5000E+01	2.4092E+02	1.8231E+01	3.8444E+01	1.0612E+01	4.8221E+05	1.0815E+01
6.0000E+01	2.6996E+02	1.9479E+01	4.2873E+01	1.1289E+01	4.0929E+05	1.1137E+01
6.5000E+01	2.9646E+02	2.0353E+01	4.6881E+01	1.1873E+01	3.4429E+05	1.1495E+01
7.0000E+01	3.1947E+02	2.0981E+01	5.0344E+01	1.2362E+01	2.8100E+05	1.1822E+01
7.5000E+01	3.3819E+02	2.1432E+01	5.3154E+01	1.2751E+01	2.1725E+05	1.2088E+01
8.0000E+01	3.5199E+02	2.1737E+01	5.5225E+01	1.3033E+01	1.5379E+05	1.2283E+01
8.5000E+01	3.6046E+02	2.1915E+01	5.6493E+01	1.3204E+01	9.5487E+04	1.2400E+01
9.0000E+01	3.6331E+02	2.1974E+01	5.6920E+01	1.3262E+01	6.4802E+04	1.2439E+01

TABLE VII. - Concluded

(h) Velocity, 6.096 km/sec; M_1 = 18.640

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.0754E+00	9.6543E-02	9.9991E-01	1.8506E+01	1.0000E+00	1.4005E+00	1.6960E-05
5.0000E+00	2.5860E+00	9.9708E-01	1.5699E+01	1.0000E+00	1.3971E+00	2.1738E-05
1.0000E+01	7.5845E+00	9.8568E-01	1.0945E+01	1.0000E+00	1.3572E+00	3.5507E-05
1.5000E+01	1.2160E+01	9.6711E-01	8.2469E+00	1.0000E+00	1.3124E+00	4.9724E-05
2.0000E+01	1.6687E+01	9.4127E-01	6.6498E+00	1.0010E+00	1.2553E+00	6.6130E-05
2.5000E+01	2.1439E+01	9.0806E-01	5.8129E+00	1.0195E+00	1.1669E+00	7.8565E-05
3.0000E+01	2.6306E+01	8.6783E-01	5.1156E+00	1.0632E+00	1.1490E+00	8.6921E-05
3.5000E+01	3.1051E+01	8.2110E-01	4.4384E+00	1.1191E+00	1.1634E+00	9.4886E-05
4.0000E+01	3.5541E+01	7.6837E-01	3.7249E+00	1.1735E+00	1.2158E+00	1.0520E-04
4.5000E+01	3.9672E+01	7.1017E-01	3.1204E+00	1.2067E+00	1.2204E+00	1.2028E-04
5.0000E+01	4.3829E+01	6.4653E-01	2.7158E+00	1.2352E+00	1.1670E+00	1.3214E-04
5.5000E+01	4.7940E+01	5.7796E-01	2.3376E+00	1.2680E+00	1.1472E+00	1.4075E-04
6.0000E+01	5.1821E+01	5.0514E-01	1.9787E+00	1.3013E+00	1.1393E+00	1.4688E-04
6.5000E+01	5.5274E+01	4.2878E-01	1.6353E+00	1.3326E+00	1.1359E+00	1.5148E-04
7.0000E+01	5.7969E+01	3.4970E-01	1.3048E+00	1.3602E+00	1.1347E+00	1.5516E-04
7.5000E+01	5.9196E+01	2.6899E-01	9.8672E-01	1.3828E+00	1.1345E+00	1.5868E-04
8.0000E+01	5.7050E+01	1.8857E-01	6.8338E-01	1.3997E+00	1.1345E+00	1.6112E-04
8.5000E+01	4.4780E+01	1.1414E-01	4.1064E-01	1.4100E+00	1.1346E+00	1.6256E-04
9.0000E+01	2.2881E-10	7.3762E-02	2.6473E-01	1.4135E+00	1.1346E+00	1.6303E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.0754E+00	1.0469E+00	1.0130E+00	1.0132E+00	-1.2782E-04	6.6091E+05	1.0325E+00
5.0000E+00	2.9143E+00	1.4034E+00	1.4053E+00	1.1734E-01	1.0335E+06	2.0753E+00
1.0000E+01	1.2158E+01	2.9048E+00	2.9753E+00	1.3301E+00	1.2599E+06	4.1800E+00
1.5000E+01	2.7551E+01	5.0938E+00	5.4952E+00	2.7584E+00	1.1408E+06	5.4021E+00
2.0000E+01	4.8849E+01	7.7520E+00	8.9227E+00	4.0643E+00	9.7172E+05	6.2877E+00
2.5000E+01	7.6281E+01	9.9721E+00	1.3190E+01	5.2815E+00	9.4043E+05	7.4939E+00
3.0000E+01	1.0900E+02	1.1451E+01	1.8154E+01	6.5224E+00	9.6928E+05	8.9415E+00
3.5000E+01	1.4525E+02	1.2778E+01	2.3638E+01	7.7897E+00	9.5311E+05	1.0144E+01
4.0000E+01	1.8329E+02	1.4499E+01	2.9462E+01	9.0213E+00	8.5327E+05	1.0759E+01
4.5000E+01	2.2152E+02	1.7099E+01	3.5441E+01	1.0121E+01	6.8744E+05	1.0723E+01
5.0000E+01	2.6054E+02	1.9113E+01	4.1441E+01	1.1075E+01	5.8553E+05	1.1022E+01
5.5000E+01	2.9908E+02	2.0429E+01	4.7275E+01	1.1930E+01	5.1410E+05	1.1531E+01
6.0000E+01	3.3553E+02	2.1370E+01	5.2756E+01	1.2696E+01	4.4997E+05	1.2051E+01
6.5000E+01	3.6860E+02	2.2080E+01	5.7711E+01	1.3368E+01	3.8452E+05	1.2512E+01
7.0000E+01	3.9719E+02	2.2623E+01	6.1989E+01	1.3935E+01	3.1547E+05	1.2892E+01
7.5000E+01	4.2040E+02	2.3028E+01	6.5459E+01	1.4388E+01	2.4269E+05	1.3186E+01
8.0000E+01	4.3751E+02	2.3311E+01	6.8015E+01	1.4717E+01	1.7020E+05	1.3393E+01
8.5000E+01	4.4799E+02	2.3478E+01	6.9581E+01	1.4917E+01	1.0304E+05	1.3516E+01
9.0000E+01	4.5152E+02	2.3534E+01	7.0108E+01	1.4984E+01	6.6597E+04	1.3557E+01

TABLE VIII.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 53.34 km

[p_1 = 52.671 Pa; ρ_1 = 0.000 682 47 kg/m^3; T_1 = 268.858 K; S_1/R = 31.098; h_1 = 269.216 kJ/kg]

(a) Velocity, 2.4384 km/sec; M_1 = 7.4182

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
7.7473E+00	2.5321E-01	9.9941E-01	7.3588E+00	1.0000E+00	1.4005E+00	1.7106E-05
1.0000E+01	3.2671E+00	9.9165E-01	6.7641E+00	1.0000E+00	1.3992E+00	1.9279E-05
1.5000E+01	9.0134E+00	9.7122E-01	5.6750E+00	1.0000E+00	1.3924E+00	2.4267E-05
2.0000E+01	1.3923E+01	9.4500E-01	4.8097E+00	1.0000E+00	1.3785E+00	2.9502E-05
2.5000E+01	1.8490E+01	9.1219E-01	4.1116E+00	1.0000E+00	1.3602E+00	3.4810E-05
3.0000E+01	2.2864E+01	8.7279E-01	3.5411E+00	1.0000E+00	1.3420E+00	3.9977E-05
3.5000E+01	2.7074E+01	8.2705E-01	3.0634E+00	1.0000E+00	1.3263E+00	4.4893E-05
4.0000E+01	3.1126E+01	7.7533E-01	2.6539E+00	1.0000E+00	1.3140E+00	4.9488E-05
4.5000E+01	3.4983E+01	7.1805E-01	2.2998E+00	1.0000E+00	1.3004E+00	5.4491E-05
5.0000E+01	3.8599E+01	6.5573E-01	1.9879E+00	1.0001E+00	1.2856E+00	5.9094E-05
5.5000E+01	4.1898E+01	5.8891E-01	1.7116E+00	1.0006E+00	1.2650E+00	6.3333E-05
6.0000E+01	4.4761E+01	5.1822E-01	1.4621E+00	1.0019E+00	1.2391E+00	6.6798E-05
6.5000E+01	4.6947E+01	4.4450E-01	1.2285E+00	1.0041E+00	1.2147E+00	6.9472E-05
7.0000E+01	4.7957E+01	3.6899E-01	1.0046E+00	1.0070E+00	1.1960E+00	7.1511E-05
7.5000E+01	4.6808E+01	2.9366E-01	7.9068E-01	1.0099E+00	1.1835E+00	7.2990E-05
8.0000E+01	4.1371E+01	2.2228E-01	5.9384E-01	1.0124E+00	1.1759E+00	7.3990E-05
8.5000E+01	2.7137E+01	1.6385E-01	4.3567E-01	1.0140E+00	1.1718E+00	7.4569E-05
9.0000E+01	1.1313E-10	1.3873E-01	3.6831E-01	1.0146E+00	1.1705E+00	7.4759E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
7.7473E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	1.0055E+05	1.0342E+00
1.0000E+01	1.7675E+00	1.1826E+00	1.1831E+00	1.7418E-02	1.2785E+05	1.4936E+00
1.5000E+01	4.1409E+00	1.6197E+00	1.6243E+00	2.7331E-01	1.7018E+05	2.5551E+00
2.0000E+01	7.3757E+00	2.1563E+00	2.1773E+00	7.2377E-01	1.8223E+05	3.4186E+00
2.5000E+01	1.1393E+01	2.7863E+00	2.8480E+00	1.2403E+00	1.7821E+05	4.0866E+00
3.0000E+01	1.6084E+01	3.4855E+00	3.6221E+00	1.7598E+00	1.6755E+05	4.6117E+00
3.5000E+01	2.1306E+01	4.2315E+00	4.4777E+00	2.2553E+00	1.5419E+05	5.0295E+00
4.0000E+01	2.6908E+01	5.0012E+00	5.3899E+00	2.7124E+00	1.4011E+05	5.3740E+00
4.5000E+01	3.2716E+01	5.7718E+00	6.3313E+00	3.1280E+00	1.2415E+05	5.6614E+00
5.0000E+01	3.8560E+01	6.5162E+00	7.2736E+00	3.4989E+00	1.0913E+05	5.9098E+00
5.5000E+01	4.4271E+01	7.2017E+00	8.1889E+00	3.8265E+00	9.4953E+04	6.1363E+00
6.0000E+01	4.9692E+01	7.7919E+00	9.0502E+00	4.1117E+00	8.2084E+04	6.3580E+00
6.5000E+01	5.4662E+01	8.2644E+00	9.8313E+00	4.3548E+00	7.0055E+04	6.5794E+00
7.0000E+01	5.9003E+01	8.6248E+00	1.0507E+01	4.5577E+00	5.8267E+04	6.7857E+00
7.5000E+01	6.2556E+01	8.8861E+00	1.1057E+01	4.7177E+00	4.6616E+04	6.9625E+00
8.0000E+01	6.5189E+01	9.0628E+00	1.1462E+01	4.8334E+00	3.5480E+04	7.0968E+00
8.5000E+01	6.6808E+01	9.1652E+00	1.1710E+01	4.9035E+00	2.6254E+04	7.1802E+00
9.0000E+01	6.7353E+01	9.1987E+00	1.1794E+01	4.9270E+00	2.2260E+04	7.2084E+00

TABLE VIII.- Continued

(b) Velocity, 3.048 km/sec; $M_1 = 9.2727$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
6.1910E+00	2.0319E-01	9.9962E-01	9.2005E+00	1.0000E+00	1.4005E+00	1.7106E-05
1.0000E+01	5.0868E+00	9.8844E-01	7.7710E+00	1.0000E+00	1.3967E+00	2.1785E-05
1.5000E+01	1.0277E+01	9.6922E-01	6.3511E+00	1.0000E+00	1.3823E+00	2.8310E-05
2.0000E+01	1.4955E+01	9.4335E-01	5.2781E+00	1.0000E+00	1.3590E+00	3.5136E-05
2.5000E+01	1.9430E+01	9.1061E-01	4.4544E+00	1.0000E+00	1.3363E+00	4.1865E-05
3.0000E+01	2.3771E+01	8.7117E-01	3.8006E+00	1.0000E+00	1.3176E+00	4.8311E-05
3.5000E+01	2.8001E+01	8.2530E-01	3.2724E+00	1.0000E+00	1.2983E+00	5.5247E-05
4.0000E+01	3.2126E+01	7.7333E-01	2.8421E+00	1.0004E+00	1.2720E+00	6.2086E-05
4.5000E+01	3.6190E+01	7.1555E-01	2.4995E+00	1.0027E+00	1.2283E+00	6.8010E-05
5.0000E+01	4.0207E+01	6.5229E-01	2.2031E+00	1.0089E+00	1.1873E+00	7.2529E-05
5.5000E+01	4.4061E+01	5.8419E-01	1.9198E+00	1.0184E+00	1.1634E+00	7.5913E-05
6.0000E+01	4.7559E+01	5.1202E-01	1.6428E+00	1.0295E+00	1.1515E+00	7.8498E-05
6.5000E+01	5.0443E+01	4.3664E-01	1.3722E+00	1.0407E+00	1.1457E+00	8.0514E-05
7.0000E+01	5.2276E+01	3.5906E-01	1.1092E+00	1.0510E+00	1.1431E+00	8.2088E-05
7.5000E+01	5.2158E+01	2.8084E-01	8.5577E-01	1.0597E+00	1.1421E+00	8.3286E-05
8.0000E+01	4.7918E+01	2.0495E-01	6.1832E-01	1.0663E+00	1.1419E+00	8.4134E-05
8.5000E+01	3.3705E+01	1.3938E-01	4.1797E-01	1.0703E+00	1.1420E+00	8.4641E-05
9.0000E+01	1.4934E-10	1.0874E-01	3.2543E-01	1.0717E+00	1.1421E+00	8.4810E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
6.1910E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	1.2572E+05	1.0342E+00
1.0000E+01	2.8601E+00	1.3935E+00	1.3953E+00	1.1186E-01	1.9359E+05	2.0512E+00
1.5000E+01	6.5773E+00	2.0269E+00	2.0424E+00	6.1351E-01	2.3097E+05	3.2433E+00
2.0000E+01	1.1666E+01	2.8279E+00	2.8933E+00	1.2726E+00	2.3027E+05	4.1232E+00
2.5000E+01	1.8004E+01	3.7626E+00	3.9371E+00	1.9494E+00	2.1636E+05	4.7819E+00
3.0000E+01	2.5404E+01	4.7973E+00	5.1455E+00	2.5963E+00	1.9841E+05	5.2894E+00
3.5000E+01	3.3659E+01	5.8940E+00	6.4836E+00	3.1905E+00	1.7724E+05	5.7038E+00
4.0000E+01	4.2540E+01	6.9999E+00	7.9123E+00	3.7306E+00	1.5722E+05	6.0677E+00
4.5000E+01	5.1860E+01	8.0061E+00	9.3918E+00	4.2195E+00	1.4122E+05	6.4525E+00
5.0000E+01	6.1409E+01	8.8048E+00	1.0880E+01	4.6666E+00	1.2918E+05	6.9049E+00
5.5000E+01	7.0843E+01	9.4027E+00	1.2328E+01	5.0757E+00	1.1829E+05	7.3895E+00
6.0000E+01	7.9783E+01	9.8595E+00	1.3688E+01	5.4469E+00	1.0652E+05	7.8508E+00
6.5000E+01	8.7903E+01	1.0216E+01	1.4918E+01	5.7740E+00	9.3159E+04	8.2581E+00
7.0000E+01	9.4930E+01	1.0494E+01	1.5980E+01	6.0508E+00	7.8221E+04	8.5967E+00
7.5000E+01	1.0064E+02	1.0706E+01	1.6840E+01	6.2725E+00	6.2147E+04	8.8599E+00
8.0000E+01	1.0484E+02	1.0856E+01	1.7474E+01	6.4342E+00	4.5843E+04	9.0472E+00
8.5000E+01	1.0742E+02	1.0945E+01	1.7863E+01	6.5326E+00	3.1373E+04	9.1589E+00
9.0000E+01	1.0829E+02	1.0975E+01	1.7993E+01	6.5656E+00	2.4527E+04	9.1960E+00

TABLE VIII.- Continued

(c) Velocity, 3.6576 km/sec; M_1 = 11.127

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
5.1561E+00	1.6961E-01	9.9974E-01	1.1042E+01	1.0000E+00	1.4005E+00	1.7106E-05
1.0000E+01	6.0814E+00	9.8712E-01	8.6271E+00	1.0000E+00	1.3922E+00	2.4367E-05
1.5000E+01	1.0986E+01	9.6830E-01	6.8840E+00	1.0000E+00	1.3683E+00	3.2531E-05
2.0000E+01	1.5564E+01	9.4252E-01	5.6405E+00	1.0000E+00	1.3394E+00	4.0846E-05
2.5000E+01	2.0002E+01	9.0977E-01	4.7162E+00	1.0000E+00	1.3159E+00	4.8902E-05
3.0000E+01	2.4357E+01	8.7024E-01	4.0142E+00	1.0001E+00	1.2992E+00	5.7822E-05
3.5000E+01	2.8687E+01	8.2415E-01	3.4990E+00	1.0017E+00	1.2425E+00	6.6404E-05
4.0000E+01	3.3116E+01	7.7161E-01	3.1186E+00	1.0097E+00	1.1843E+00	7.2895E-05
4.5000E+01	3.7578E+01	7.1308E-01	2.7701E+00	1.0251E+00	1.1552E+00	7.7568E-05
5.0000E+01	4.1915E+01	6.4924E-01	2.4322E+00	1.0446E+00	1.1445E+00	8.1132E-05
5.5000E+01	4.6012E+01	5.8071E-01	2.1044E+00	1.0656E+00	1.1419E+00	8.4052E-05
6.0000E+01	4.9740E+01	5.0813E-01	1.7860E+00	1.0862E+00	1.1440E+00	8.6610E-05
6.5000E+01	5.2893E+01	4.3223E-01	1.4777E+00	1.1053E+00	1.1488E+00	8.8978E-05
7.0000E+01	5.5090E+01	3.5394E-01	1.1807E+00	1.1217E+00	1.1551E+00	9.1056E-05
7.5000E+01	5.6567E+01	2.7456E-01	8.9705E-01	1.1348E+00	1.1623E+00	9.2817E-05
8.0000E+01	5.7043E+01	1.9659E-01	6.3205E-01	1.1442E+00	1.1690E+00	9.4189E-05
8.5000E+01	3.8275E+01	1.2714E-01	4.0457E-01	1.1499E+00	1.1739E+00	9.5073E-05
9.0000E+01	1.7830E-10	9.2720E-02	2.9399E-01	1.1517E+00	1.1757E+00	9.5380E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
5.1561E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	1.5088E+05	1.0342E+00
1.0000E+01	4.1962E+00	1.6292E+00	1.6340E+00	2.8084E-01	2.6030E+05	2.5741E+00
1.5000E+01	9.5708E+00	2.5049E+00	2.5451E+00	1.0156E+00	2.8373E+05	3.8187E+00
2.0000E+01	1.6955E+01	3.6117E+00	3.7651E+00	1.8470E+00	2.7024E+05	4.6918E+00
2.5000E+01	2.6153E+01	4.8991E+00	5.2673E+00	2.6546E+00	2.4762E+05	5.3322E+00
3.0000E+01	3.6919E+01	6.3104E+00	7.0095E+00	3.3985E+00	2.1952E+05	5.8431E+00
3.5000E+01	4.9018E+01	7.7224E+00	8.9435E+00	4.0774E+00	1.9609E+05	6.3295E+00
4.0000E+01	6.2316E+01	8.8693E+00	1.1020E+01	4.7070E+00	1.8365E+05	6.9504E+00
4.5000E+01	7.6381E+01	9.6951E+00	1.3172E+01	5.3070E+00	1.7616E+05	7.6764E+00
5.0000E+01	9.0597E+01	1.0325E+01	1.5325E+01	5.8806E+00	1.6759E+05	8.3898E+00
5.5000E+01	1.0443E+02	1.0841E+01	1.7413E+01	6.4185E+00	1.5571E+05	9.0291E+00
6.0000E+01	1.1742E+02	1.1284E+01	1.9370E+01	6.9096E+00	1.4013E+05	9.5687E+00
6.5000E+01	1.2914E+02	1.1673E+01	2.1137E+01	7.3424E+00	1.2123E+05	9.9975E+00
7.0000E+01	1.3923E+02	1.2015E+01	2.2661E+01	7.7080E+00	1.0012E+05	1.0319E+01
7.5000E+01	1.4739E+02	1.2305E+01	2.3897E+01	7.9981E+00	7.7849E+04	1.0543E+01
8.0000E+01	1.5338E+02	1.2530E+01	2.4806E+01	8.2079E+00	5.5672E+04	1.0685E+01
8.5000E+01	1.5704E+02	1.2676E+01	2.5363E+01	8.3350E+00	3.5924E+04	1.0762E+01
9.0000E+01	1.5827E+02	1.2726E+01	2.5550E+01	8.3775E+00	2.6171E+04	1.0785E+01

TABLE VIII.- Continued

(d) Velocity, 4.2672 km/sec; M_1 = 12.982

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
4.4179E+00	1.4553E-01	9.9981E-01	1.2883E+01	1.0000E+00	1.4005E+00	1.7106E-05
5.0000E+00	8.6628E-01	9.9879E-01	1.2469E+01	1.0000E+00	1.4000E+00	1.7985E-05
1.0000E+01	6.6878E+00	9.8646E-01	9.3453E+00	1.0000E+00	1.3859E+00	2.7061E-05
1.5000E+01	1.1438E+01	9.6780E-01	7.3177E+00	1.0000E+00	1.3526E+00	3.6830E-05
2.0000E+01	1.5964E+01	9.4203E-01	5.9302E+00	1.0000E+00	1.3218E+00	4.6555E-05
2.5000E+01	2.0403E+01	9.0923E-01	4.9401E+00	1.0001E+00	1.2929E+00	5.7002E-05
3.0000E+01	2.4849E+01	8.6954E-01	4.2722E+00	1.0023E+00	1.2337E+00	6.7412E-05
3.5000E+01	2.9473E+01	8.2298E-01	3.8177E+00	1.0151E+00	1.1693E+00	7.4944E-05
4.0000E+01	3.4152E+01	7.7005E-01	3.3993E+00	1.0388E+00	1.1464E+00	8.0204E-05
4.5000E+01	3.8727E+01	7.1137E-01	2.9965E+00	1.0681E+00	1.1420E+00	8.4363E-05
5.0000E+01	4.3114E+01	6.4746E-01	2.6054E+00	1.0992E+00	1.1471E+00	8.8226E-05
5.5000E+01	4.7224E+01	5.7890E-01	2.2251E+00	1.1296E+00	1.1592E+00	9.2112E-05
6.0000E+01	5.0925E+01	5.0634E-01	1.8543E+00	1.1568E+00	1.1810E+00	9.6248E-05
6.5000E+01	5.3976E+01	4.3056E-01	1.4968E+00	1.1781E+00	1.2136E+00	1.0097E-04
7.0000E+01	5.5972E+01	3.5253E-01	1.1682E+00	1.1921E+00	1.2417E+00	1.0619E-04
7.5000E+01	5.6154E+01	2.7348E-01	8.7899E-01	1.2005E+00	1.2432E+00	1.1086E-04
8.0000E+01	5.2518E+01	1.9574E-01	6.1945E-01	1.2058E+00	1.2307E+00	1.1417E-04
8.5000E+01	3.8635E+01	1.2630E-01	3.9673E-01	1.2090E+00	1.2205E+00	1.1609E-04
9.0000E+01	1.8038E-10	9.1751E-02	2.8754E-01	1.2101E+00	1.2169E+00	1.1671E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.4179E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	1.7603E+05	1.0342E+00
5.0000E+00	1.3090E+00	1.0805E+00	1.0807E+00	2.0314E-03	1.9578E+05	1.2105E+00
1.0000E+01	5.7793E+00	1.8958E+00	1.9069E+00	5.0195E-01	3.2345E+05	3.0468E+00
1.5000E+01	1.3133E+01	3.0494E+00	3.1360E+00	1.4421E+00	3.2939E+05	4.3042E+00
2.0000E+01	2.3249E+01	4.5018E+00	4.7946E+00	2.4225E+00	3.0398E+05	5.1585E+00
2.5000E+01	3.5874E+01	6.1779E+00	6.8410E+00	3.3331E+00	2.6940E+05	5.7996E+00
3.0000E+01	5.0775E+01	7.9005E+00	9.2210E+00	4.1659E+00	2.4059E+05	6.4047E+00
3.5000E+01	6.7895E+01	9.2315E+00	1.1877E+01	4.9503E+00	2.3142E+05	7.2365E+00
4.0000E+01	8.6586E+01	1.0161E+01	1.4719E+01	5.7215E+00	2.2909E+05	8.1931E+00
4.5000E+01	1.0600E+02	1.0896E+01	1.7649E+01	6.4786E+00	2.2341E+05	9.0978E+00
5.0000E+01	1.2542E+02	1.1550E+01	2.0576E+01	7.2061E+00	2.1089E+05	9.8676E+00
5.5000E+01	1.4418E+02	1.2189E+01	2.3410E+01	7.8845E+00	1.9142E+05	1.0459E+01
6.0000E+01	1.6164E+02	1.2869E+01	2.6064E+01	8.4935E+00	1.6614E+05	1.0844E+01
6.5000E+01	1.7719E+02	1.3647E+01	2.8457E+01	9.0171E+00	1.3670E+05	1.1008E+01
7.0000E+01	1.9040E+02	1.4506E+01	3.0517E+01	9.4428E+00	1.0632E+05	1.0997E+01
7.5000E+01	2.0100E+02	1.5294E+01	3.2185E+01	9.7690E+00	7.8552E+04	1.0934E+01
8.0000E+01	2.0884E+02	1.5866E+01	3.3414E+01	9.9981E+00	5.4434E+04	1.0903E+01
8.5000E+01	2.1366E+02	1.6197E+01	3.4168E+01	1.0134E+01	3.4529E+04	1.0898E+01
9.0000E+01	2.1529E+02	1.6304E+01	3.4422E+01	1.0180E+01	2.4952E+04	1.0899E+01

TABLE VIII.- Continued

(e) Velocity, 4.8768 km/sec; M_1 = 14.836

TH	DELTA	V2/V1	M2	Z2	GAM2	VTS
3.8648E+00	1.2742E-01	9.9985E-01	1.4724E+01	1.0000E+00	1.4005E+00	1.7106E-05
5.0000E+00	1.6570E+00	9.9788E-01	1.3595E+01	1.0000E+00	1.3992E+00	1.9317E-05
1.0000E+01	7.0885E+00	9.8608E-01	9.9542E+00	1.0000E+00	1.3774E+00	2.9845E-05
1.5000E+01	1.1750E+01	9.6748E-01	7.6746E+00	1.0000E+00	1.3384E+00	4.1154E-05
2.0000E+01	1.6255E+01	9.4170E-01	6.1741E+00	1.0000E+00	1.3051E+00	5.2207E-05
2.5000E+01	2.0737E+01	9.0882E-01	5.1916E+00	1.0012E+00	1.2514E+00	6.5337E-05
3.0000E+01	2.5421E+01	8.6880E-01	4.6131E+00	1.0146E+00	1.1705E+00	7.4759E-05
3.5000E+01	3.0220E+01	8.2201E-01	4.1091E+00	1.0442E+00	1.1447E+00	8.1060E-05
4.0000E+01	3.4936E+01	7.6905E-01	3.6259E+00	1.0821E+00	1.1433E+00	8.6092E-05
4.5000E+01	3.9480E+01	7.1040E-01	3.1523E+00	1.1232E+00	1.1559E+00	9.1258E-05
5.0000E+01	4.3760E+01	6.4662E-01	2.6762E+00	1.1621E+00	1.1874E+00	9.7230E-05
5.5000E+01	4.7605E+01	5.7839E-01	2.2011E+00	1.1909E+00	1.2397E+00	1.0558E-04
6.0000E+01	5.0970E+01	5.0627E-01	1.8249E+00	1.2072E+00	1.2264E+00	1.1501E-04
6.5000E+01	5.3944E+01	4.3061E-01	1.5132E+00	1.2211E+00	1.1862E+00	1.2202E-04
7.0000E+01	5.6171E+01	3.5223E-01	1.2152E+00	1.2348E+00	1.1625E+00	1.2669E-04
7.5000E+01	5.6822E+01	2.7241E-01	9.2690E-01	1.2466E+00	1.1501E+00	1.2976E-04
8.0000E+01	5.3800E+01	1.9353E-01	6.5107E-01	1.2559E+00	1.1463E+00	1.3204E-04
8.5000E+01	4.0485E+01	1.2223E-01	4.0851E-01	1.2618E+00	1.1440E+00	1.3337E-04
9.0000E+01	1.9424E-10	9.5766E-02	2.8605E-01	1.2638E+00	1.1431E+00	1.3389E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.8648E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	2.0119E+05	1.0342E+00
5.0000E+00	1.7824E+00	1.1858E+00	1.1862E+00	1.8216E-02	2.5828E+05	1.5023E+00
1.0000E+01	7.6120E+00	2.1943E+00	2.2170E+00	7.5603E-01	3.8125E+05	3.4670E+00
1.5000E+01	1.7269E+01	3.6569E+00	3.8166E+00	1.8779E+00	3.6927E+05	4.7194E+00
2.0000E+01	3.0566E+01	5.4899E+00	5.9833E+00	2.9803E+00	3.3385E+05	5.5609E+00
2.5000E+01	4.7242E+01	7.5337E+00	8.6620E+00	3.9854E+00	2.8962E+05	6.2559E+00
3.0000E+01	6.7353E+01	9.1987E+00	1.1794E+01	4.9270E+00	2.7881E+05	7.2084E+00
3.5000E+01	9.0276E+01	1.0312E+01	1.5277E+01	5.8680E+00	2.8264E+05	8.3742E+00
4.0000E+01	1.1488E+02	1.1199E+01	1.8987E+01	6.8146E+00	2.8150E+05	9.4684E+00
4.5000E+01	1.4019E+02	1.2048E+01	2.2806E+01	7.7423E+00	2.6808E+05	1.0347E+01
5.0000E+01	1.6525E+02	1.3031E+01	2.6617E+01	8.6168E+00	2.4125E+05	1.0899E+01
5.5000E+01	1.8899E+02	1.4406E+01	3.0296E+01	9.3983E+00	2.0062E+05	1.1003E+01
6.0000E+01	2.1092E+02	1.6011E+01	3.3740E+01	1.0057E+01	1.5968E+05	1.0899E+01
6.5000E+01	2.3106E+02	1.7220E+01	3.6861E+01	1.0601E+01	1.2891E+05	1.0975E+01
7.0000E+01	2.4874E+02	1.8026E+01	3.9562E+01	1.1045E+01	1.0328E+05	1.1162E+01
7.5000E+01	2.6323E+02	1.8555E+01	4.1757E+01	1.1392E+01	7.9419E+04	1.1366E+01
8.0000E+01	2.7394E+02	1.8903E+01	4.3375E+01	1.1644E+01	5.6222E+04	1.1525E+01
8.5000E+01	2.8052E+02	1.9101E+01	4.4366E+01	1.1796E+01	3.5460E+04	1.1625E+01
9.0000E+01	2.8273E+02	1.9165E+01	4.4709E+01	1.1847E+01	2.4875E+04	1.1660E+01

TABLE VIII.- Continued

(f) Velocity, 5.4864 km/sec; M_1 = 16.690

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.4348E+00	1.1331E-01	9.9988E-01	1.6565E+01	1.0000E+00	1.4005E+00	1.7106E-05
5.0000E+00	2.1933E+00	9.9739E-01	1.4666E+01	1.0000E+00	1.3981E+00	2.0573E-05
1.0000E+01	7.3701E+00	9.8585E-01	1.0474E+01	1.0000E+00	1.3678E+00	3.2695E-05
1.5000E+01	1.1978E+01	9.6727E-01	7.9786E+00	1.0000E+00	1.3245E+00	4.5477E-05
2.0000E+01	1.6484E+01	9.4146E-01	6.4023E+00	1.0001E+00	1.2845E+00	5.9373E-05
2.5000E+01	2.1111E+01	9.0840E-01	5.5382E+00	1.0081E+00	1.1904E+00	7.2155E-05
3.0000E+01	2.5970E+01	8.6817E-01	4.9271E+00	1.0389E+00	1.1464E+00	8.0208E-05
3.5000E+01	3.0787E+01	8.2137E-01	4.3471E+00	1.0836E+00	1.1436E+00	8.6283E-05
4.0000E+01	3.5444E+01	7.6847E-01	3.7716E+00	1.1339E+00	1.1617E+00	9.2695E-05
4.5000E+01	3.9811E+01	7.1002E-01	3.1607E+00	1.1795E+00	1.2163E+00	1.0136E-04
5.0000E+01	4.3762E+01	6.4662E-01	2.6308E+00	1.2059E+00	1.2306E+00	1.1419E-04
5.5000E+01	4.7635E+01	5.7835E-01	2.2665E+00	1.2271E+00	1.1748E+00	1.2426E-04
6.0000E+01	5.1388E+01	5.0570E-01	1.9262E+00	1.2506E+00	1.1481E+00	1.3076E-04
6.5000E+01	5.4734E+01	4.2949E-01	1.5945E+00	1.2743E+00	1.1392E+00	1.3591E-04
7.0000E+01	5.7310E+01	3.5058E-01	1.2756E+00	1.2957E+00	1.1341E+00	1.3962E-04
7.5000E+01	5.8367E+01	2.7012E-01	9.6760E-01	1.3135E+00	1.1316E+00	1.4228E-04
8.0000E+01	5.5942E+01	1.9017E-01	6.7369E-01	1.3269E+00	1.1303E+00	1.4409E-04
8.5000E+01	4.3304E+01	1.1672E-01	4.1077E-01	1.3351E+00	1.1297E+00	1.4515E-04
9.0000E+01	2.1635E-10	7.7682E-02	2.7277E-01	1.3379E+00	1.1295E+00	1.4549E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.4348E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	2.2635E+05	1.0342E+00
5.0000E+00	2.3024E+00	1.2893E+00	1.2903E+00	5.5747E-02	3.2395E+05	1.7846E+00
1.0000E+01	9.6968E+00	2.5246E+00	2.5661E+00	1.0317E+00	4.3340E+05	3.8388E+00
1.5000E+01	2.1979E+01	4.3255E+00	4.5875E+00	2.3143E+00	4.0420E+05	5.0755E+00
2.0000E+01	3.8922E+01	6.5613E+00	7.3320E+00	3.5207E+00	3.5173E+05	5.9242E+00
2.5000E+01	6.0505E+01	8.7386E+00	1.0740E+01	4.6259E+00	3.2336E+05	6.8597E+00
3.0000E+01	8.6606E+01	1.0162E+01	1.4722E+01	5.7223E+00	3.3209E+05	8.1941E+00
3.5000E+01	1.1581E+02	1.1239E+01	1.9128E+01	6.8496E+00	3.3882E+05	9.5056E+00
4.0000E+01	1.4684E+02	1.2285E+01	2.3813E+01	7.9787E+00	3.2684E+05	1.0529E+01
4.5000E+01	1.7830E+02	1.3711E+01	2.8629E+01	9.0537E+00	2.8882E+05	1.1012E+01
5.0000E+01	2.0888E+02	1.5869E+01	3.3421E+01	9.9994E+00	2.3116E+05	1.0903E+01
5.5000E+01	2.3902E+02	1.7608E+01	3.8081E+01	1.0804E+01	1.9256E+05	1.1050E+01
6.0000E+01	2.6794E+02	1.8711E+01	4.2469E+01	1.1503E+01	1.6560E+05	1.1436E+01
6.5000E+01	2.9430E+02	1.9483E+01	4.6439E+01	1.2110E+01	1.4010E+05	1.1840E+01
7.0000E+01	3.1717E+02	2.0038E+01	4.9869E+01	1.2619E+01	1.1472E+05	1.2202E+01
7.5000E+01	3.3577E+02	2.0437E+01	5.2652E+01	1.3024E+01	8.8806E+04	1.2493E+01
8.0000E+01	3.4948E+02	2.0709E+01	5.4702E+01	1.3319E+01	6.2775E+04	1.2703E+01
8.5000E+01	3.5789E+02	2.0869E+01	5.5958E+01	1.3498E+01	3.8634E+04	1.2830E+01
9.0000E+01	3.6072E+02	2.0920E+01	5.6381E+01	1.3558E+01	2.5735E+04	1.2873E+01

TABLE VIII.- Continued

(g) Velocity, 6.096 km/sec; M_1 = 18.545

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.0910E+00	1.0302E-01	9.9991E-01	1.8406E+01	1.0000E+00	1.4005E+00	1.7106E-05
5.0000E+00	2.5780E-01	9.9709E-01	1.5655E+01	1.0000E+00	1.3967E+00	2.1834E-05
1.0000E+01	7.5795E+00	9.8569E-01	1.0928E+01	1.0000E+00	1.3574E+00	3.5575E-05
1.5000E+01	1.2156E+01	9.6712E-01	8.2386E+00	1.0000E+00	1.3130E+00	4.9769E-05
2.0000E+01	1.6695E+01	9.4126E-01	6.6811E+00	1.0015E+00	1.2457E+00	6.6032E-05
2.5000E+01	2.1509E+01	9.0799E-01	5.8887E+00	1.0243E+00	1.1559E+00	7.7388E-05
3.0000E+01	2.6408E+01	8.6773E-01	5.1937E+00	1.0717E+00	1.1421E+00	8.4810E-05
3.5000E+01	3.1171E+01	8.2098E-01	4.5070E+00	1.1298E+00	1.1593E+00	9.2131E-05
4.0000E+01	3.5645E+01	7.6826E-01	3.7500E+00	1.1836E+00	1.2250E+00	1.0269E-04
4.5000E+01	3.9762E+01	7.1007E-01	3.1609E+00	1.2131E+00	1.2074E+00	1.1832E-04
5.0000E+01	4.3978E+01	6.4635E-01	2.7620E+00	1.2428E+00	1.1528E+00	1.2883E-04
5.5000E+01	4.8146E+01	5.7771E-01	2.3774E+00	1.2767E+00	1.1385E+00	1.3636E-04
6.0000E+01	5.2091E+01	5.0481E-01	2.0136E+00	1.3110E+00	1.1319E+00	1.4192E-04
6.5000E+01	5.5598E+01	4.2837E-01	1.6645E+00	1.3431E+00	1.1293E+00	1.4613E-04
7.0000E+01	5.8380E+01	3.4918E-01	1.3282E+00	1.3713E+00	1.1282E+00	1.4934E-04
7.5000E+01	5.9737E+01	2.6829E-01	1.0037E+00	1.3945E+00	1.1279E+00	1.5174E-04
8.0000E+01	5.7804E+01	1.8755E-01	6.9335E-01	1.4117E+00	1.1280E+00	1.5341E-04
8.5000E+01	4.5834E+01	1.1241E-01	4.1261E-01	1.4223E+00	1.1282E+00	1.5441E-04
9.0000E+01	2.3826E-10	7.1045E-02	2.6015E-01	1.4258E+00	1.1282E+00	1.5474E-04

TH	P2/P1	T2/T1	R2/R1	DEL S/R	RE2/M	RHO2/RO1
3.0910E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	2.5153E+05	1.0342E+00
5.0000E+00	2.8823E+00	1.3977E+00	1.3996E+00	1.1445E-01	3.9169E+05	2.0616E+00
1.0000E+01	1.2038E+01	2.8844E+00	2.9550E+00	1.3162E+00	4.8084E+05	4.1714E+00
1.5000E+01	2.7275E+01	5.0506E+00	5.4495E+00	2.7402E+00	4.3606E+05	5.3939E+00
2.0000E+01	4.8389E+01	7.6566E+00	8.8440E+00	4.0451E+00	3.7380E+05	6.3032E+00
2.5000E+01	7.5749E+01	9.6634E+00	1.3075E+01	5.2809E+00	3.7312E+05	7.6438E+00
3.0000E+01	1.0829E+02	1.0975E+01	1.7993E+01	6.5656E+00	3.9144E+05	9.1960E+00
3.5000E+01	1.4427E+02	1.2192E+01	2.3423E+01	7.8876E+00	3.8782E+05	1.0461E+01
4.0000E+01	1.8189E+02	1.3930E+01	2.9187E+01	9.1703E+00	3.4294E+05	1.1019E+01
4.5000E+01	2.1969E+02	1.6581E+01	3.5105E+01	1.0300E+01	2.7238E+05	1.0909E+01
5.0000E+01	2.5855E+02	1.8395E+01	4.1050E+01	1.1281E+01	2.3580E+05	1.1297E+01
5.5000E+01	2.9690E+02	1.9550E+01	4.6830E+01	1.2168E+01	2.0941E+05	1.1881E+01
6.0000E+01	3.3313E+02	2.0383E+01	5.2257E+01	1.2967E+01	1.8427E+05	1.2452E+01
6.5000E+01	3.6597E+02	2.1015E+01	5.7164E+01	1.3669E+01	1.5795E+05	1.2951E+01
7.0000E+01	3.9436E+02	2.1498E+01	6.1402E+01	1.4263E+01	1.2996E+05	1.3361E+01
7.5000E+01	4.1741E+02	2.1860E+01	6.4836E+01	1.4737E+01	1.0060E+05	1.3677E+01
8.0000E+01	4.3439E+02	2.2112E+01	6.7367E+01	1.5083E+01	7.0693E+04	1.3903E+01
8.5000E+01	4.4479E+02	2.2262E+01	6.8918E+01	1.5293E+01	4.2500E+04	1.4032E+01
9.0000E+01	4.4830E+02	2.2312E+01	6.9440E+01	1.5364E+01	2.6887E+04	1.4076E+01

TABLE VIII.- Continued

(h) Velocity, 6.7056 km/sec; M_1 = 20.400

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.8097E+00	9.2763E-02	9.9992E-01	2.0247E+01	1.0000E+00	1.4005E+00	1.7106E-05
5.0000E+00	2.8491E+00	9.9690E-01	1.6562E+01	1.0000E+00	1.3946E+00	2.3117E-05
1.0000E+01	7.7403E+00	9.8557E-01	1.1327E+01	1.0000E+00	1.3467E+00	3.8476E-05
1.5000E+01	1.2300E+01	9.6700E-01	8.4784E+00	1.0000E+00	1.2994E+00	5.4846E-05
2.0000E+01	1.6932E+01	9.4104E-01	7.0432E+00	1.0070E+00	1.1956E+00	7.1562E-05
2.5000E+01	2.1859E+01	9.0767E-01	6.2002E+00	1.0479E+00	1.1438E+00	8.1626E-05
3.0000E+01	2.6729E+01	8.6744E-01	5.3967E+00	1.1103E+00	1.1505E+00	8.9608E-05
3.5000E+01	3.1357E+01	8.2081E-01	4.5157E+00	1.1757E+00	1.2089E+00	1.0030E-04
4.0000E+01	3.5602E+01	7.6831E-01	3.7623E+00	1.2130E+00	1.2074E+00	1.1831E-04
4.5000E+01	3.9995E+01	7.0981E-01	3.3084E+00	1.2497E+00	1.1485E+00	1.3051E-04
5.0000E+01	4.4404E+01	6.4587E-01	2.8780E+00	1.2934E+00	1.1345E+00	1.3926E-04
5.5000E+01	4.8676E+01	5.7709E-01	2.4750E+00	1.3388E+00	1.1295E+00	1.4560E-04
6.0000E+01	5.2698E+01	5.0409E-01	2.0919E+00	1.3826E+00	1.1280E+00	1.5053E-04
6.5000E+01	5.6316E+01	4.2752E-01	1.7253E+00	1.4229E+00	1.1282E+00	1.5447E-04
7.0000E+01	5.9238E+01	3.4814E-01	1.3730E+00	1.4579E+00	1.1290E+00	1.5861E-04
7.5000E+01	6.0815E+01	2.6696E-01	1.0340E+00	1.4865E+00	1.1299E+00	1.6186E-04
8.0000E+01	5.9264E+01	1.8568E-01	7.0993E-01	1.5075E+00	1.1307E+00	1.6417E-04
8.5000E+01	4.7886E+01	1.0929E-01	4.1463E-01	1.5205E+00	1.1312E+00	1.6557E-04
9.0000E+01	2.5779E-10	6.6019E-02	2.4980E-01	1.5248E+00	1.1314E+00	1.6603E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	PHO2/RO1
2.8097E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	2.7666E+05	1.0342E+00
5.0000E+00	3.5256E+00	1.5126E+00	1.5157E+00	1.9198E-01	4.5972E+05	2.3294E+00
1.0000E+01	1.4637E+01	3.2735E+00	3.3841E+00	1.6088E+00	5.2383E+05	4.4686E+00
1.5000E+01	3.3159E+01	5.8292E+00	6.4028E+00	3.1575E+00	4.5841E+05	5.6814E+00
2.0000E+01	5.9118E+01	8.6337E+00	1.0525E+01	4.5629E+00	4.0870E+05	6.7913E+00
2.5000E+01	9.2812E+01	1.0412E+01	1.5660E+01	5.9678E+00	4.3237E+05	8.4964E+00
3.0000E+01	1.3224E+02	1.1777E+01	2.1604E+01	7.4553E+00	4.4748E+05	1.0101E+01
3.5000E+01	1.7525E+02	1.3536E+01	2.8156E+01	8.9527E+00	4.1190E+05	1.0999E+01
4.0000E+01	2.1966E+02	1.6580E+01	3.5101E+01	1.0299E+01	3.2421E+05	1.0909E+01
4.5000E+01	2.6680E+02	1.8674E+01	4.2297E+01	1.1477E+01	2.8422E+05	1.1419E+01
5.0000E+01	3.1479E+02	1.9984E+01	4.9513E+01	1.2566E+01	2.5817E+05	1.2164E+01
5.5000E+01	3.6161E+02	2.0936E+01	5.6513E+01	1.3577E+01	2.3373E+05	1.2886E+01
6.0000E+01	4.0564E+02	2.1678E+01	6.3083E+01	1.4496E+01	2.0715E+05	1.3517E+01
6.5000E+01	4.4548E+02	2.2272E+01	6.9020E+01	1.5307E+01	1.7783E+05	1.4040E+01
7.0000E+01	4.7988E+02	2.2745E+01	7.4144E+01	1.5994E+01	1.4520E+05	1.4454E+01
7.5000E+01	5.0778E+02	2.3108E+01	7.8300E+01	1.6543E+01	1.1144E+05	1.4765E+01
8.0000E+01	5.2833E+02	2.3367E+01	8.1363E+01	1.6943E+01	7.7532E+04	1.4980E+01
8.5000E+01	5.4092E+02	2.3523E+01	8.3238E+01	1.7187E+01	4.5633E+04	1.5106E+01
9.0000E+01	5.4516E+02	2.3576E+01	8.3869E+01	1.7269E+01	2.7563E+04	1.5147E+01

TABLE VIII. - Continued

(i) Velocity, 7.3152 km/sec; $M_1 = 22.255$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.5754E+00	8.5048E-02	9.9993E-01	2.2088E+01	1.0000E+00	1.4005E+00	1.7106E-05
5.0000E+00	3.0620E+00	9.9676E-01	1.7393E+01	1.0000E+00	1.3920E+00	2.4428E-05
1.0000E+01	7.8692E+00	9.8549E-01	1.1677E+01	1.0000E+00	1.3378E+00	4.1375E-05
1.5000E+01	1.2423E+01	9.6690E-01	8.7155E+00	1.0002E+00	1.2822E+00	5.9925E-05
2.0000E+01	1.7186E+01	9.4083E-01	7.4139E+00	1.0188E+00	1.1628E+00	7.6012E-05
2.5000E+01	2.2140E+01	9.0744E-01	6.4676E+00	1.0769E+00	1.1426E+00	8.5445E-05
3.0000E+01	2.6936E+01	8.6727E-01	5.4997E+00	1.1517E+00	1.1757E+00	9.5380E-05
3.5000E+01	3.1326E+01	8.2084E-01	4.4581E+00	1.2054E+00	1.2319E+00	1.1391E-04
4.0000E+01	3.5772E+01	7.6813E-01	3.9243E+00	1.2458E+00	1.1506E+00	1.2957E-04
4.5000E+01	4.0328E+01	7.0946E-01	3.4354E+00	1.2978E+00	1.1338E+00	1.3995E-04
5.0000E+01	4.4806E+01	6.4544E-01	2.9847E+00	1.3539E+00	1.1288E+00	1.4740E-04
5.5000E+01	4.9125E+01	5.7661E-01	2.5609E+00	1.4100E+00	1.1280E+00	1.5325E-04
6.0000E+01	5.3195E+01	5.0355E-01	2.1589E+00	1.4634E+00	1.1292E+00	1.5924E-04
6.5000E+01	5.6876E+01	4.2690E-01	1.7759E+00	1.5119E+00	1.1309E+00	1.6465E-04
7.0000E+01	5.9892E+01	3.4741E-01	1.4095E+00	1.5539E+00	1.1327E+00	1.6910E-04
7.5000E+01	6.1625E+01	2.6603E-01	1.0581E+00	1.5879E+00	1.1346E+00	1.7260E-04
8.0000E+01	6.0354E+01	1.8438E-01	7.2286E-01	1.6129E+00	1.1362E+00	1.7516E-04
8.5000E+01	4.9452E+01	1.0712E-01	4.1632E-01	1.6282E+00	1.1372E+00	1.7672E-04
9.0000E+01	2.7390E-10	6.2377E-02	2.4172E-01	1.6333E+00	1.1376E+00	1.7724E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.5754E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	3.0181E+05	1.0342E+00
5.0000E+00	4.2297E+00	1.6349E+00	1.6399E+00	2.8541E-01	5.2671E+05	2.5856E+00
1.0000E+01	1.7496E+01	3.6895E+00	3.8538E+00	1.9001E+00	5.6354E+05	4.7392E+00
1.5000E+01	3.9645E+01	6.6506E+00	7.4481E+00	3.5637E+00	4.7954E+05	5.9531E+00
2.0000E+01	7.1156E+01	9.4202E+00	1.2376E+01	5.0890E+00	4.5762E+05	7.4057E+00
2.5000E+01	1.1157E+02	1.1087E+01	1.8488E+01	6.6902E+00	4.9488E+05	9.3339E+00
3.0000E+01	1.5827E+02	1.2726E+01	2.5550E+01	8.3775E+00	4.8959E+05	1.0785E+01
3.5000E+01	2.0819E+02	1.5820E+01	3.3313E+01	9.9797E+00	3.9229E+05	1.0904E+01
4.0000E+01	2.6225E+02	1.8522E+01	4.1609E+01	1.1369E+01	3.3598E+05	1.1351E+01
4.5000E+01	3.1935E+02	2.0087E+01	5.0196E+01	1.2667E+01	3.0968E+05	1.2236E+01
5.0000E+01	3.7685E+02	2.1206E+01	5.8789E+01	1.3898E+01	2.8662E+05	1.3111E+01
5.5000E+01	4.3274E+02	2.2088E+01	6.7121E+01	1.5049E+01	2.6068E+05	1.3878E+01
6.0000E+01	4.8520E+02	2.2815E+01	7.4937E+01	1.6100E+01	2.2915E+05	1.4515E+01
6.5000E+01	5.3262E+02	2.3421E+01	8.2001E+01	1.7026E+01	1.9446E+05	1.5023E+01
7.0000E+01	5.7353E+02	2.3920E+01	8.8098E+01	1.7812E+01	1.5808E+05	1.5412E+01
7.5000E+01	6.0671E+02	2.4314E+01	9.3043E+01	1.8439E+01	1.2078E+05	1.5696E+01
8.0000E+01	6.3113E+02	2.4602E+01	9.6686E+01	1.8895E+01	8.3489E+04	1.5887E+01
8.5000E+01	6.4609E+02	2.4778E+01	9.8917E+01	1.9172E+01	4.8407E+04	1.5996E+01
9.0000E+01	6.5112E+02	2.4837E+01	9.9668E+01	1.9265E+01	2.8167E+04	1.6032E+01

TABLE VIII.- Concluded

(j) Velocity, 7.9248 km/sec; M_1 = 24.109

TH	DELTA	V2/V1	M2	Z2	GAM2	VTS
2.3772E+00	7.8517E-02	9.9994E-01	2.3929E+01	1.0000E+00	1.4005E+00	1.7106E-05
5.0000E+00	3.2285E+00	9.9667E-01	1.8152E+01	1.0000E+00	1.3891E+00	2.5768E-05
1.0000E+01	7.9724E+00	9.8542E-01	1.1993E+01	1.0000E+00	1.3283E+00	4.4278E-05
1.5000E+01	1.2540E+01	9.6682E-01	8.9977E+00	1.0011E+00	1.2536E+00	6.5046E-05
2.0000E+01	1.7422E+01	9.4064E-01	7.7537E+00	1.0358E+00	1.1477E+00	7.9680E-05
2.5000E+01	2.2354E+01	9.0727E-01	6.6756E+00	1.1098E+00	1.1503E+00	8.9547E-05
3.0000E+01	2.6999E+01	8.6721E-01	5.4211E+00	1.1879E+00	1.2341E+00	1.0431E-04
3.5000E+01	3.1394E+01	8.2078E-01	4.6192E+00	1.2315E+00	1.1678E+00	1.2570E-04
4.0000E+01	3.6026E+01	7.6789E-01	4.0629E+00	1.2883E+00	1.1356E+00	1.3842E-04
4.5000E+01	4.0638E+01	7.0916E-01	3.5527E+00	1.3539E+00	1.1288E+00	1.4739E-04
5.0000E+01	4.5144E+01	6.4510E-01	3.0789E+00	1.4219E+00	1.1281E+00	1.5438E-04
5.5000E+01	4.9484E+01	5.7624E-01	2.6339E+00	1.4889E+00	1.1300E+00	1.6213E-04
6.0000E+01	5.3581E+01	5.0315E-01	2.2139E+00	1.5520E+00	1.1326E+00	1.6890E-04
6.5000E+01	5.7298E+01	4.2647E-01	1.8154E+00	1.6089E+00	1.1360E+00	1.7475E-04
7.0000E+01	6.0370E+01	3.4691E-01	1.4363E+00	1.6578E+00	1.1393E+00	1.7976E-04
7.5000E+01	6.2198E+01	2.6542E-01	1.0746E+00	1.6971E+00	1.1426E+00	1.8387E-04
8.0000E+01	6.1104E+01	1.8354E-01	7.3092E-01	1.7258E+00	1.1456E+00	1.8697E-04
8.5000E+01	5.0526E+01	1.0572E-01	4.1677E-01	1.7433E+00	1.1476E+00	1.8898E-04
9.0000E+01	2.8556E-10	5.9983E-02	2.3565E-01	1.7491E+00	1.1483E+00	1.8969E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.3772E+00	1.0493E+00	1.0137E+00	1.0139E+00	3.9925E-04	3.2697E+05	1.0342E+00
5.0000E+00	4.9961E+00	1.7651E+00	1.7727E+00	3.9181E-01	5.9176E+05	2.8288E+00
1.0000E+01	2.0611E+01	4.1339E+00	4.3640E+00	2.1932E+00	5.9950E+05	4.9806E+00
1.5000E+01	4.6770E+01	7.4823E+00	8.5871E+00	3.9606E+00	5.0136E+05	6.2368E+00
2.0000E+01	8.4416E+01	1.0068E+01	1.4391E+01	5.6346E+00	5.1621E+05	8.0850E+00
2.5000E+01	1.3194E+02	1.1767E+01	2.1559E+01	7.4445E+00	5.5297E+05	1.0091E+01
3.0000E+01	1.8597E+02	1.4196E+01	2.9823E+01	9.3020E+00	4.9526E+05	1.1014E+01
3.5000E+01	2.4462E+02	1.7855E+01	3.8935E+01	1.0944E+01	3.9242E+05	1.1112E+01
4.0000E+01	3.0938E+02	1.9858E+01	4.8702E+01	1.2447E+01	3.6240E+05	1.2079E+01
4.5000E+01	3.7684E+02	2.1206E+01	5.8787E+01	1.3898E+01	3.4116E+05	1.3111E+01
5.0000E+01	4.4449E+02	2.2258E+01	6.8872E+01	1.5287E+01	3.1704E+05	1.4028E+01
5.5000E+01	5.1011E+02	2.3138E+01	7.8648E+01	1.6589E+01	2.8431E+05	1.4790E+01
6.0000E+01	5.7167E+02	2.3898E+01	8.7820E+01	1.7776E+01	2.4804E+05	1.5395E+01
6.5000E+01	6.2725E+02	2.4556E+01	9.6107E+01	1.8823E+01	2.0930E+05	1.5857E+01
7.0000E+01	6.7518E+02	2.5121E+01	1.0326E+02	1.9707E+01	1.6901E+05	1.6193E+01
7.5000E+01	7.1401E+02	2.5587E+01	1.0906E+02	2.0412E+01	1.2822E+05	1.6423E+01
8.0000E+01	7.4258E+02	2.5939E+01	1.1333E+02	2.0923E+01	8.7963E+04	1.6568E+01
8.5000E+01	7.6006E+02	2.6159E+01	1.1595E+02	2.1233E+01	5.0367E+04	1.6647E+01
9.0000E+01	7.6593E+02	2.6235E+01	1.1683E+02	2.1337E+01	2.8512E+04	1.6671E+01

TABLE IX.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS

IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 60.96 km

[p_1 = 19.796 Pa; ρ_1 = 0.000 271 63 kg/m^3; T_1 = 253.888 K;
S_1/R = 31.876; h_1 = 254.198 kJ/kg]

(a) Velocity, 3.6576 km/sec; M_1 = 11.451

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
5.0101E+00	1.5603E-01	9.9977E-01	1.1365E+01	1.0000E+00	1.4009E+00	1.6331E-05
1.0000E+01	6.2042E+00	9.8697E-01	8.7525E+00	1.0000E+00	1.3933E+00	2.3857E-05
1.5000E+01	1.1065E+01	9.6821E-01	6.9477E+00	1.0000E+00	1.3696E+00	3.2125E-05
2.0000E+01	1.5621E+01	9.4244E-01	5.6759E+00	1.0000E+00	1.3397E+00	4.0528E-05
2.5000E+01	2.0050E+01	9.0970E-01	4.7374E+00	1.0000E+00	1.3159E+00	4.8644E-05
3.0000E+01	2.4395E+01	8.7019E-01	4.0291E+00	1.0001E+00	1.2895E+00	5.7548E-05
3.5000E+01	2.8744E+01	8.2406E-01	3.5278E+00	1.0023E+00	1.2327E+00	6.6003E-05
4.0000E+01	3.3231E+01	7.7142E-01	3.1573E+00	1.0122E+00	1.1724E+00	7.2024E-05
4.5000E+01	3.7744E+01	7.1281E-01	2.8081E+00	1.0294E+00	1.1463E+00	7.6239E-05
5.0000E+01	4.2124E+01	6.4891E-01	2.4674E+00	1.0504E+00	1.1375E+00	7.9460E-05
5.5000E+01	4.6262E+01	5.8031E-01	2.1358E+00	1.0724E+00	1.1360E+00	8.2117E-05
6.0000E+01	5.0036E+01	5.0766E-01	1.8132E+00	1.0939E+00	1.1383E+00	8.4423E-05
6.5000E+01	5.3250E+01	4.3166E-01	1.4999E+00	1.1135E+00	1.1436E+00	8.6518E-05
7.0000E+01	5.5527E+01	3.5323E-01	1.1973E+00	1.1303E+00	1.1508E+00	8.8481E-05
7.5000E+01	5.6058E+01	2.7364E-01	9.0798E-01	1.1437E+00	1.1590E+00	9.0178E-05
8.0000E+01	5.2760E+01	1.9531E-01	6.3726E-01	1.1533E+00	1.1670E+00	9.1525E-05
8.5000E+01	3.9135E+01	1.2516E-01	4.0394E-01	1.1590E+00	1.1729E+00	9.2406E-05
9.0000E+01	1.8427E-10	6.9987E-02	2.8932E-01	1.1609E+00	1.1751E+00	9.2714E-05

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
5.0101E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	6.2785E+04	1.0323E+00
1.0000E+01	4.4523E+00	1.6743E+00	1.6788E+00	3.1568E-01	1.0923E+05	2.6576E+00
1.5000E+01	1.0140E+01	2.6014E+00	2.6409E+00	1.0857E+00	1.1665E+05	3.8956E+00
2.0000E+01	1.7955E+01	3.7754E+00	3.9317E+00	1.9393E+00	1.0980E+05	4.7528E+00
2.5000E+01	2.7696E+01	5.1409E+00	5.5221E+00	2.7591E+00	1.0004E+05	5.3844E+00
3.0000E+01	3.9090E+01	6.6356E+00	7.3664E+00	3.5120E+00	8.8386E+04	5.8835E+00
3.5000E+01	5.1936E+01	8.1026E+00	9.4157E+00	4.1978E+00	7.9232E+04	6.3876E+00
4.0000E+01	6.6115E+01	9.2292E+00	1.1618E+01	4.8386E+00	7.5223E+04	7.0692E+00
4.5000E+01	8.1096E+01	1.0018E+01	1.3899E+01	5.4553E+00	7.2958E+04	7.8544E+00
5.0000E+01	9.6215E+01	1.0621E+01	1.6181E+01	6.0489E+00	6.9894E+04	8.6146E+00
5.5000E+01	1.1091E+02	1.1118E+01	1.8392E+01	6.6070E+00	6.5234E+04	9.2914E+00
6.0000E+01	1.2471E+02	1.1549E+01	2.0465E+01	7.1182E+00	5.8901E+04	9.8592E+00
6.5000E+01	1.3715E+02	1.1933E+01	2.2337E+01	7.5695E+00	5.1105E+04	1.0310E+01
7.0000E+01	1.4786E+02	1.2274E+01	2.3951E+01	7.9503E+00	4.2219E+04	1.0645E+01
7.5000E+01	1.5552E+02	1.2570E+01	2.5260E+01	8.2533E+00	3.2783E+04	1.0874E+01
8.0000E+01	1.6287E+02	1.2804E+01	2.6223E+01	8.4725E+00	2.3355E+04	1.1016E+01
8.5000E+01	1.6674E+02	1.2957E+01	2.6812E+01	8.6049E+00	1.4923E+04	1.1090E+01
9.0000E+01	1.6804E+02	1.3011E+01	2.7011E+01	8.6492E+00	1.0716E+04	1.1113E+01

TABLE IX. - Continued

(b) Velocity, 4.2672 km/sec; $M_1 = 13.359$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
4.2929E+00	1.3387E-01	9.9983E-01	1.3260E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	1.0641E+00	9.9855E-01	1.2696E+01	1.0000E+00	1.4003E+00	1.7473E-05
1.0000E+01	6.7766E+00	9.8637E-01	9.4625E+00	1.0000E+00	1.3872E+00	2.6585E-05
1.5000E+01	1.1494E+01	9.6774E-01	7.3723E+00	1.0000E+00	1.3536E+00	3.6472E-05
2.0000E+01	1.6007E+01	9.4198E-01	5.9601E+00	1.0000E+00	1.3217E+00	4.6282E-05
2.5000E+01	2.0435E+01	9.0919E-01	4.9582E+00	1.0001E+00	1.2926E+00	5.6731E-05
3.0000E+01	2.4900E+01	8.6947E-01	4.3111E+00	1.0031E+00	1.2227E+00	6.6961E-05
3.5000E+01	2.9580E+01	8.2283E-01	3.8679E+00	1.0184E+00	1.1588E+00	7.3878E-05
4.0000E+01	3.4300E+01	7.6985E-01	3.4486E+00	1.0442E+00	1.1390E+00	7.8617E-05
4.5000E+01	3.8904E+01	7.1113E-01	3.0423E+00	1.0750E+00	1.1361E+00	8.2403E-05
5.0000E+01	4.3319E+01	6.4718E-01	2.6469E+00	1.1073E+00	1.1416E+00	8.5817E-05
5.5000E+01	4.7459E+01	5.7858E-01	2.2591E+00	1.1385E+00	1.1555E+00	8.9494E-05
6.0000E+01	5.1184E+01	5.0598E-01	1.8776E+00	1.1659E+00	1.1816E+00	9.3592E-05
6.5000E+01	5.4238E+01	4.3018E-01	1.5067E+00	1.1864E+00	1.2228E+00	9.8576E-05
7.0000E+01	5.6220E+01	3.5216E-01	1.1729E+00	1.1986E+00	1.2504E+00	1.0426E-04
7.5000E+01	5.6435E+01	2.7303E-01	8.8530E-01	1.2058E+00	1.2397E+00	1.0921E-04
8.0000E+01	5.2903E+01	1.9506E-01	6.2467E-01	1.2107E+00	1.2201E+00	1.1246E-04
8.5000E+01	3.9131E+01	1.2517E-01	3.9837E-01	1.2138E+00	1.2078E+00	1.1427E-04
9.0000E+01	1.8392E-10	9.0144E-02	2.8634E-01	1.2149E+00	1.2038E+00	1.1485E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
4.2929E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	7.3254E+04	1.0323E+00
5.0000E+00	1.4034E+00	1.1027E+00	1.1030E+00	3.8717E-03	8.4230E+04	1.2716E+00
1.0000E+01	6.1273E+00	1.9560E+00	1.9665E+00	5.5060E-01	1.3464E+05	3.1309E+00
1.5000E+01	1.3909E+01	3.1788E+00	3.2659E+00	1.5247E+00	1.3449E+05	4.3730E+00
2.0000E+01	2.4621E+01	4.7195E+00	5.0217E+00	2.5232E+00	1.2300E+05	5.2139E+00
2.5000E+01	3.7983E+01	6.4956E+00	7.1880E+00	3.4460E+00	1.0849E+05	5.8402E+00
3.0000E+01	5.3807E+01	8.2819E+00	9.7100E+00	4.2877E+00	9.7363E+04	6.4692E+00
3.5000E+01	7.2060E+01	9.5761E+00	1.2527E+01	5.0882E+00	9.5274E+04	7.3802E+00
4.0000E+01	9.1951E+01	1.0463E+01	1.5539E+01	5.8837E+00	9.5411E+04	8.4061E+00
4.5000E+01	1.1258E+02	1.1171E+01	1.8643E+01	6.6694E+00	9.3663E+04	9.3637E+00
5.0000E+01	1.3321E+02	1.1810E+01	2.1743E+01	7.4275E+00	8.8930E+04	1.0174E+01
5.5000E+01	1.5311E+02	1.2451E+01	2.4744E+01	8.1346E+00	8.0845E+04	1.0789E+01
6.0000E+01	1.7161E+02	1.3164E+01	2.7555E+01	8.7696E+00	6.9982E+04	1.1168E+01
6.5000E+01	1.8803E+02	1.4031E+01	3.0087E+01	9.3132E+00	5.7069E+04	1.1282E+01
7.0000E+01	2.0193E+02	1.5020E+01	3.2266E+01	9.7521E+00	4.3859E+04	1.1203E+01
7.5000E+01	2.1314E+02	1.5888E+01	3.4032E+01	1.0086E+01	3.2201E+04	1.1112E+01
8.0000E+01	2.2145E+02	1.6483E+01	3.5335E+01	1.0321E+01	2.2284E+04	1.1084E+01
8.5000E+01	2.2659E+02	1.6815E+01	3.6134E+01	1.0460E+01	1.4078E+04	1.1088E+01
9.0000E+01	2.2833E+02	1.6921E+01	3.6403E+01	1.0506E+01	1.0092E+04	1.1093E+01

TABLE IX.- Continued

(c) Velocity, 4.8768 km/sec; $M_1 = 15.267$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.7555E+00	1.1721E-01	9.9987E-01	1.5155E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	1.8C61E+00	9.9774E-01	1.3848E+01	1.0000E+00	1.3996E+00	1.8774E-05
1.0000E+01	7.1551E+00	9.8602E-01	1.0061E+01	1.000CE+00	1.3788E+00	2.9405E-05
1.5000E+01	1.1792E+01	9.6744E-01	7.7227E+00	1.0000E+00	1.3387E+00	4.0839E-05
2.0000E+01	1.6285E+01	9.4167E-01	6.1945E+00	1.0000E+00	1.3069E+00	5.1968E-05
2.5000E+01	2.C772E+01	9.0878E-01	5.2298E+00	1.0016E+00	1.2429E+00	6.4979E-05
3.0000E+01	2.5508E+01	8.6869E-01	4.6737E+00	1.0178E+00	1.1599E+00	7.3710E-05
3.5000E+01	3.0344E+01	8.2186E-01	4.1699E+00	1.0499E+00	1.1376E+00	7.9394E-05
4.0000E+01	3.5083E+01	7.6887E-01	3.6831E+00	1.0897E+00	1.1376E+00	8.3979E-05
4.5000E+01	3.9648E+01	7.1020E-01	3.2020E+00	1.1319E+00	1.1517E+00	8.8674E-05
5.0000E+01	4.3935E+01	6.4641E-01	2.7081E+00	1.1711E+00	1.1896E+00	9.4600E-05
5.5000E+01	4.7743E+01	5.7821E-01	2.2111E+00	1.1976E+00	1.2494E+00	1.0361E-04
6.0000E+01	5.1119E+01	5.0607E-01	1.8471E+00	1.2120E+00	1.2147E+00	1.1326E-04
6.5000E+01	5.4170E+01	4.3028E-01	1.5351E+00	1.2263E+00	1.1732E+00	1.1972E-04
7.0000E+01	5.6492E+01	3.5175E-01	1.2322E+00	1.2406E+00	1.1530E+00	1.2392E-04
7.5000E+01	5.7254E+01	2.7175E-01	9.3880E-01	1.2532E+00	1.1422E+00	1.2672E-04
8.0000E+01	5.4409E+01	1.9254E-01	6.5875E-01	1.2627E+00	1.1360E+00	1.2851E-04
8.5000E+01	4.1292E+01	1.2057E-01	4.1004E-01	1.2687E+00	1.1337E+00	1.2952E-04
9.0000E+01	2.0037E-10	8.3360E-02	2.8291E-01	1.2707E+00	1.1332E+00	1.2985E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.7555E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	8.3722E+04	1.0323E+00
5.00CCE+00	1.8977E+00	1.2096E+00	1.2100E+00	2.5217E-02	1.1037E+05	1.5678E+00
1.0000E+01	8.0667E+00	2.2721E+00	2.2941E+00	8.1664E-01	1.5761E+05	3.5483E+00
1.5000E+01	1.8287E+01	3.8234E+00	3.9862E+00	1.9707E+00	1.5000E+05	4.7800E+00
2.0000E+01	3.2364E+01	5.7670E+00	6.2799E+00	3.C891E+00	1.3457E+05	5.6063E+00
2.5000E+01	5.0045E+01	7.9110E+00	9.1172E+00	4.1048E+00	1.1687E+05	6.3083E+00
3.0000E+01	7.1483E+01	9.5448E+00	1.2439E+01	5.0644E+00	1.1474E+05	7.3498E+00
3.5000E+01	9.5874E+01	1.0608E+01	1.6130E+01	6.0358E+00	1.1790E+05	8.5981E+00
4.0000E+01	1.2201E+02	1.1466E+01	2.0059E+01	7.0190E+00	1.1829E+05	9.7535E+00
4.50C0E+01	1.4888E+02	1.2308E+01	2.4105E+01	7.9861E+00	1.1324E+05	1.0674E+01
5.0000E+01	1.7543E+02	1.3339E+01	2.8140E+01	8.8976E+00	1.0153E+05	1.1217E+01
5.50C0E+01	2.0045E+02	1.4907E+01	3.2033E+01	9.7066E+00	8.2914E+04	1.1215E+01
6.0000E+01	2.2367E+02	1.6629E+01	3.5680E+01	1.0381E+01	6.5607E+04	1.1084E+01
6.5000E+01	2.4513E+02	1.7812E+01	3.8988E+01	1.0938E+01	5.3370E+04	1.1210E+01
7.0000E+01	2.6397E+02	1.8581E+01	4.1851E+01	1.1396E+01	4.3005E+04	1.1437E+01
7.50C0E+01	2.7936E+02	1.9093E+01	4.4176E+01	1.1756E+01	3.3128E+04	1.1662E+01
8.0000E+01	2.9076E+02	1.9422E+01	4.5891E+01	1.2015E+01	2.3501E+04	1.1842E+01
8.50C0E+01	2.9777E+02	1.9606E+01	4.6941E+01	1.2173E+01	1.4745E+04	1.1957E+01
9.0000E+01	3.0013E+02	1.9666E+01	4.7295E+01	1.2225E+01	1.0202E+04	1.1996E+01

TABLE IX. - Continued

(d) Velocity, 5.4864 km/sec; $M_1 = 17.176$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.3377E+00	1.0423E-01	9.9990E-01	1.7050E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	2.3026E+00	9.9730E-01	1.4927E+01	1.0000E+00	1.3986E+00	2.0029E-05
1.0000E+01	7.4214E+00	9.8581E-01	1.0571E+01	1.0000E+00	1.3690E+00	3.2291E-05
1.5000E+01	1.2011E+01	9.6724E-01	8.0204E+00	1.0000E+00	1.3245E+00	4.5196E-05
2.0000E+01	1.6508E+01	9.4144E-01	6.4282E+00	1.0002E+00	1.2829E+00	5.9093E-05
2.5000E+01	2.1172E+01	9.0833E-01	5.6061E+00	1.0103E+00	1.1782E+00	7.1352E-05
3.0000E+01	2.6071E+01	8.6807E-01	4.9994E+00	1.0443E+00	1.1390E+00	7.8621E-05
3.5000E+01	3.0910E+01	8.2124E-01	4.4161E+00	1.0912E+00	1.1379E+00	8.4142E-05
4.0000E+01	3.5582E+01	7.6833E-01	3.8299E+00	1.1428E+00	1.1584E+00	9.0059E-05
4.5000E+01	3.9934E+01	7.0988E-01	3.1824E+00	1.1876E+00	1.2261E+00	9.9003E-05
5.0000E+01	4.3863E+01	6.4649E-01	2.6617E+00	1.2107E+00	1.2200E+00	1.1247E-04
5.5000E+01	4.7799E+01	5.7814E-01	2.3011E+00	1.2326E+00	1.1626E+00	1.2174E-04
6.0000E+01	5.1607E+01	5.0541E-01	1.9560E+00	1.2574E+00	1.1390E+00	1.2754E-04
6.5000E+01	5.5027E+01	4.2910E-01	1.6205E+00	1.2815E+00	1.1312E+00	1.3173E-04
7.0000E+01	5.7687E+01	3.5007E-01	1.2959E+00	1.3035E+00	1.1274E+00	1.3509E-04
7.5000E+01	5.8866E+01	2.6943E-01	9.8228E-01	1.3218E+00	1.1252E+00	1.3751E-04
8.0000E+01	5.6634E+01	1.8916E-01	6.8219E-01	1.3354E+00	1.1242E+00	1.3916E-04
8.5000E+01	4.4246E+01	1.1505E-01	4.1224E-01	1.3438E+00	1.1237E+00	1.4012E-04
9.0000E+01	2.2429E-10	7.5139E-02	2.6864E-01	1.3467E+00	1.1235E+00	1.4044E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.3377E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	9.4190E+04	1.0323E+00
5.0000E+00	2.4478E+00	1.3173E+00	1.3182E+00	6.9277E-02	1.3779E+05	1.8570E+00
1.0000E+01	1.0273E+01	2.6222E+00	2.6631E+00	1.1024E+00	1.7813E+05	3.9154E+00
1.5000E+01	2.3276E+01	4.5325E+00	4.8023E+00	2.4135E+00	1.6368E+05	5.1322E+00
2.0000E+01	4.1213E+01	6.9002E+00	7.7079E+00	3.6354E+00	1.4161E+05	5.9645E+00
2.5000E+01	6.4183E+01	9.1035E+00	1.1321E+01	4.7556E+00	1.3223E+05	6.9699E+00
3.0000E+01	9.1972E+01	1.0464E+01	1.5542E+01	5.8845E+00	1.3833E+05	8.4071E+00
3.5000E+01	1.2300E+02	1.1497E+01	2.0209E+01	7.0556E+00	1.4244E+05	9.7927E+00
4.0000E+01	1.5593E+02	1.2549E+01	2.5172E+01	8.2331E+00	1.3807E+05	1.0860E+01
4.5000E+01	1.8920E+02	1.4105E+01	3.0269E+01	9.3509E+00	1.2054E+05	1.1281E+01
5.0000E+01	2.2150E+02	1.6486E+01	3.5342E+01	1.0322E+01	9.4944E+04	1.1084E+01
5.5000E+01	2.5362E+02	1.8183E+01	4.0281E+01	1.1147E+01	7.9992E+04	1.1303E+01
6.0000E+01	2.8437E+02	1.9243E+01	4.4931E+01	1.1870E+01	6.9328E+04	1.1739E+01
6.5000E+01	3.1243E+02	1.9967E+01	4.9138E+01	1.2498E+01	5.9200E+04	1.2195E+01
7.0000E+01	3.3673E+02	2.0498E+01	5.2771E+01	1.3028E+01	4.8608E+04	1.2587E+01
7.5000E+01	3.5648E+02	2.0881E+01	5.5719E+01	1.3450E+01	3.7669E+04	1.2901E+01
8.0000E+01	3.7105E+02	2.1141E+01	5.7891E+01	1.3757E+01	2.6591E+04	1.3127E+01
8.5000E+01	3.7997E+02	2.1293E+01	5.9221E+01	1.3944E+01	1.6229E+04	1.3263E+01
9.0000E+01	3.8298E+02	2.1343E+01	5.9669E+01	1.4006E+01	1.0611E+04	1.3309E+01

TABLE IX. - Continued

(e) Velocity, 6.096 km/sec; $M_1 = 19.084$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.0036E+00	9.3836E-02	9.9992E-01	1.8945E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	2.6580E+00	9.9703E-01	1.5918E+01	1.0000E+00	1.3973E+00	2.1297E-05
1.0000E+01	7.6199E+00	9.8566E-01	1.1015E+01	1.0000E+00	1.3584E+00	3.5205E-05
1.5000E+01	1.2183E+01	9.6709E-01	8.2724E+00	1.0000E+00	1.3137E+00	4.9517E-05
2.0000E+01	1.6724E+01	9.4123E-01	6.7344E+00	1.0020E+00	1.2363E+00	6.5647E-05
2.5000E+01	2.1587E+01	9.0792E-01	5.9710E+00	1.0285E+00	1.1470E+00	7.6078E-05
3.0000E+01	2.6510E+01	8.6763E-01	5.2748E+00	1.0787E+00	1.1363E+00	8.2813E-05
3.5000E+01	3.1287E+01	8.2087E-01	4.5777E+00	1.1367E+00	1.1556E+00	8.9512E-05
4.0000E+01	3.5741E+01	7.6817E-01	3.7710E+00	1.1913E+00	1.2362E+00	1.0046E-04
4.5000E+01	3.9858E+01	7.0996E-01	3.2054E+00	1.2179E+00	1.1938E+00	1.1634E-04
5.0000E+01	4.4128E+01	6.4618E-01	2.8023E+00	1.2490E+00	1.1455E+00	1.2586E-04
5.5000E+01	4.8345E+01	5.7747E-01	2.4172E+00	1.2840E+00	1.1308E+00	1.3214E-04
6.0000E+01	5.2327E+01	5.0452E-01	2.0481E+00	1.3192E+00	1.1255E+00	1.3718E-04
6.5000E+01	5.5903E+01	4.2800E-01	1.6935E+00	1.3520E+00	1.1233E+00	1.4101E-04
7.0000E+01	5.8764E+01	3.4870E-01	1.3511E+00	1.3807E+00	1.1226E+00	1.4396E-04
7.5000E+01	6.0241E+01	2.6765E-01	1.0203E+00	1.4043E+00	1.1224E+00	1.4616E-04
8.0000E+01	5.8509E+01	1.8662E-01	7.0317E-01	1.4218E+00	1.1225E+00	1.4770E-04
8.5000E+01	4.6838E+01	1.1085E-01	4.1474E-01	1.4325E+00	1.1226E+00	1.4862E-04
9.0000E+01	2.4766E-10	6.8533E-02	2.5582E-01	1.4361E+00	1.1226E+00	1.4892E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.0036E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	1.0466E+05	1.0323E+00
5.0000E+00	3.0625E+00	1.4307E+00	1.4324E+00	1.3512E-01	1.6583E+05	2.1392E+00
1.0000E+01	1.2751E+01	3.0039E+00	3.0744E+00	1.3960E+00	1.9667E+05	4.2422E+00
1.5000E+01	2.8884E+01	5.3015E+00	5.7149E+00	2.8457E+00	1.7610E+05	5.4454E+00
2.0000E+01	5.1266E+01	8.0359E+00	9.3102E+00	4.1651E+00	1.5097E+05	6.3592E+00
2.5000E+01	8.0423E+01	9.9878E+00	1.3797E+01	5.4283E+00	1.5452E+05	7.8194E+00
3.0000E+01	1.1501E+02	1.1248E+01	1.9007E+01	6.7599E+00	1.6423E+05	9.4670E+00
3.5000E+01	1.5320E+02	1.2454E+01	2.4759E+01	8.1379E+00	1.6386E+05	1.0791E+01
4.0000E+01	1.9298E+02	1.4359E+01	3.0860E+01	9.4723E+00	1.4267E+05	1.1268E+01
4.5000E+01	2.3301E+02	1.7194E+01	3.7126E+01	1.0630E+01	1.1230E+05	1.1114E+01
5.0000E+01	2.7440E+02	1.8937E+01	4.3427E+01	1.1641E+01	9.8501E+04	1.1587E+01
5.5000E+01	3.1519E+02	2.0032E+01	4.9552E+01	1.2559E+01	8.8569E+04	1.2240E+01
6.0000E+01	3.5368E+02	2.0829E+01	5.5301E+01	1.3390E+01	7.8293E+04	1.2857E+01
6.5000E+01	3.8855E+02	2.1434E+01	6.0499E+01	1.4122E+01	6.7306E+04	1.3392E+01
7.0000E+01	4.1869E+02	2.1900E+01	6.4985E+01	1.4742E+01	5.5471E+04	1.3830E+01
7.5000E+01	4.4316E+02	2.2249E+01	6.8624E+01	1.5238E+01	4.2955E+04	1.4167E+01
8.0000E+01	4.6119E+02	2.2493E+01	7.1305E+01	1.5600E+01	3.0135E+04	1.4404E+01
8.5000E+01	4.7223E+02	2.2638E+01	7.2947E+01	1.5820E+01	1.7963E+04	1.4545E+01
9.0000E+01	4.7595E+02	2.2686E+01	7.3500E+01	1.5894E+01	1.1119E+04	1.4591E+01

TABLE IX. - Continued

(f) Velocity, 6.7056 km/sec; M_1 = 20.993

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.7303E+00	8.5324E-02	9.9993E-01	2.0840E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	2.9216E+00	9.9685E-01	1.6823E+01	1.0000E+00	1.3956E+00	2.2592E-05
1.0000E+01	7.7730E+00	9.8555E-01	1.1407E+01	1.0000E+00	1.3473E+00	3.8135E-05
1.5000E+01	1.2320E+01	9.6698E-01	8.5082E+00	1.0000E+00	1.3000E+00	5.4576E-05
2.0000E+01	1.6978E+01	9.4100E-01	7.1279E+00	1.0090E+00	1.1831E+00	7.0810E-05
2.5000E+01	2.1942E+01	9.0760E-01	6.2933E+00	1.0538E+00	1.1369E+00	7.9908E-05
3.0000E+01	2.6828E+01	8.6735E-01	5.4842E+00	1.1187E+00	1.1455E+00	8.7109E-05
3.5000E+01	3.1448E+01	8.2073E-01	4.5527E+00	1.1841E+00	1.2170E+00	9.7853E-05
4.0000E+01	3.5682E+01	7.6822E-01	3.8154E+00	1.2179E+00	1.1939E+00	1.1633E-04
4.5000E+01	4.0123E+01	7.0968E-01	3.3603E+00	1.2564E+00	1.1398E+00	1.2734E-04
5.0000E+01	4.4574E+01	6.4568E-01	2.9272E+00	1.3012E+00	1.1277E+00	1.3477E-04
5.5000E+01	4.8882E+01	5.7686E-01	2.5191E+00	1.3476E+00	1.1235E+00	1.4054E-04
6.0000E+01	5.2946E+01	5.0381E-01	2.1301E+00	1.3923E+00	1.1225E+00	1.4506E-04
6.5000E+01	5.6618E+01	4.2718E-01	1.7573E+00	1.4332E+00	1.1226E+00	1.4868E-04
7.0000E+01	5.9617E+01	3.4771E-01	1.3985E+00	1.4689E+00	1.1233E+00	1.5156E-04
7.5000E+01	6.1314E+01	2.6638E-01	1.0525E+00	1.4979E+00	1.1242E+00	1.5378E-04
8.0000E+01	5.9968E+01	1.8483E-01	7.2101E-01	1.5193E+00	1.1251E+00	1.5553E-04
8.5000E+01	4.8925E+01	1.0783E-01	4.1742E-01	1.5324E+00	1.1256E+00	1.5682E-04
9.0000E+01	2.6846E-10	6.3561E-02	2.4541E-01	1.5368E+00	1.1258E+00	1.5726E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.7303E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	1.1513E+05	1.0323E+00
5.0000E+00	3.7425E+00	1.5515E+00	1.5543E+00	2.1993E-01	1.9375E+05	2.4108E+00
1.0000E+01	1.5501E+01	3.4165E+00	3.5284E+00	1.6954E+00	2.1344E+05	4.5343E+00
1.5000E+01	3.5108E+01	6.1266E+00	6.7240E+00	3.2686E+00	1.8470E+05	5.7233E+00
2.0000E+01	6.2704E+01	9.0022E+00	1.1093E+01	4.6912E+00	1.6689E+05	6.8949E+00
2.5000E+01	9.8569E+01	1.0705E+01	1.6536E+01	6.1394E+00	1.8055E+05	8.7276E+00
3.0000E+01	1.4044E+02	1.2036E+01	2.2832E+01	7.6870E+00	1.8894E+05	1.0418E+01
3.5000E+01	1.8599E+02	1.3905E+01	2.9769E+01	9.2467E+00	1.7235E+05	1.1282E+01
4.0000E+01	2.3298E+02	1.7193E+01	3.7122E+01	1.0629E+01	1.3367E+05	1.1113E+01
4.5000E+01	2.8317E+02	1.9208E+01	4.4749E+01	1.1843E+01	1.1897E+05	1.1720E+01
5.0000E+01	3.3420E+02	2.0447E+01	5.2394E+01	1.2973E+01	1.0949E+05	1.2546E+01
5.5000E+01	3.8392E+02	2.1359E+01	5.9809E+01	1.4026E+01	9.9607E+04	1.3323E+01
6.0000E+01	4.3067E+02	2.2074E+01	6.6767E+01	1.4986E+01	8.8546E+04	1.3997E+01
6.5000E+01	4.7296E+02	2.2647E+01	7.3055E+01	1.5834E+01	7.6166E+04	1.4554E+01
7.0000E+01	5.0947E+02	2.3103E+01	7.8483E+01	1.6554E+01	6.2662E+04	1.4995E+01
7.5000E+01	5.3908E+02	2.3455E+01	8.2885E+01	1.7130E+01	4.8356E+04	1.5326E+01
8.0000E+01	5.6090E+02	2.3707E+01	8.6128E+01	1.7550E+01	3.3669E+04	1.5555E+01
8.5000E+01	5.7426E+02	2.3858E+01	8.8114E+01	1.7806E+01	1.9649E+04	1.5689E+01
9.0000E+01	5.7876E+02	2.3909E+01	8.8783E+01	1.7891E+01	1.1582E+04	1.5733E+01

TABLE IX. - Continued

(g) Velocity, 7.3152 km/sec; $M_1 = 22.900$

TH	DELTA	V2/V1	M2	Z2	GAM2	VTS
2.5027E+00	7.8227E-02	9.9994E-01	2.2735E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	3.1226E+00	9.9673E-01	1.7647E+01	1.0000E+00	1.3932E+00	2.3918E-05
1.0000E+01	7.8959E+00	9.8547E-01	1.1750E+01	1.0000E+00	1.3380E+00	4.1061E-05
1.5000E+01	1.2440E+01	9.6689E-01	8.7522E+00	1.0002E+00	1.2802E+00	5.9642E-05
2.0000E+01	1.7245E+01	9.4078E-01	7.5147E+00	1.0224E+00	1.1530E+00	7.4840E-05
2.5000E+01	2.2223E+01	9.0737E-01	6.5697E+00	1.0842E+00	1.1368E+00	8.3398E-05
3.0000E+01	2.7026E+01	8.6719E-01	5.5762E+00	1.1609E+00	1.1751E+00	9.2714E-05
3.5000E+01	3.1386E+01	8.2078E-01	4.5100E+00	1.2103E+00	1.2218E+00	1.1220E-04
4.0000E+01	3.5879E+01	7.6803E-01	3.9834E+00	1.2523E+00	1.1429E+00	1.2654E-04
4.5000E+01	4.0471E+01	7.0932E-01	3.4946E+00	1.3056E+00	1.1271E+00	1.3539E-04
5.0000E+01	4.4979E+01	6.4526E-01	3.0389E+00	1.3630E+00	1.1229E+00	1.4218E-04
5.5000E+01	4.9329E+01	5.7640E-01	2.6091E+00	1.4201E+00	1.1225E+00	1.4756E-04
6.0000E+01	5.3439E+01	5.0330E-01	2.2007E+00	1.4744E+00	1.1235E+00	1.5199E-04
6.5000E+01	5.7173E+01	4.2659E-01	1.8106E+00	1.5237E+00	1.1253E+00	1.5597E-04
7.0000E+01	6.0266E+01	3.4702E-01	1.4369E+00	1.5663E+00	1.1272E+00	1.6011E-04
7.5000E+01	6.2117E+01	2.6550E-01	1.0780E+00	1.6009E+00	1.1291E+00	1.6340E-04
8.0000E+01	6.1053E+01	1.8360E-01	7.3487E-01	1.6263E+00	1.1307E+00	1.6581E-04
8.5000E+01	5.0508E+01	1.0575E-01	4.1961E-01	1.6418E+00	1.1318E+00	1.6728E-04
9.0000E+01	2.8560E-10	5.9976E-02	2.3730E-01	1.6470E+00	1.1321E+00	1.6778E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RH02/RO1
2.5027E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	1.2559E+05	1.0323E+00
5.0000E+00	4.4877E+00	1.6804E+00	1.6849E+00	3.2057E-01	2.2101E+05	2.6691E+00
1.0000E+01	1.8527E+01	3.8580E+00	4.0256E+00	1.9933E+00	2.2887E+05	4.7994E+00
1.5000E+01	4.1979E+01	6.9941E+00	7.8309E+00	3.6788E+00	1.9306E+05	5.9935E+00
2.0000E+01	7.5534E+01	9.7561E+00	1.3056E+01	5.2308E+00	1.8891E+05	7.5631E+00
2.5000E+01	1.1850E+02	1.1358E+01	1.9532E+01	6.8894E+00	2.0780E+05	9.6119E+00
3.0000E+01	1.6804E+02	1.3011E+01	2.7011E+01	8.6492E+00	2.0653E+05	1.1113E+01
3.5000E+01	2.2077E+02	1.6436E+01	3.5228E+01	1.0302E+01	1.6112E+05	1.1085E+01
4.0000E+01	2.7832E+02	1.9061E+01	4.4020E+01	1.1732E+01	1.4045E+05	1.1646E+01
4.5000E+01	3.3904E+02	2.0545E+01	5.3117E+01	1.3078E+01	1.3142E+05	1.2624E+01
5.0000E+01	4.0011E+02	2.1618E+01	6.2219E+01	1.4361E+01	1.2231E+05	1.3563E+01
5.5000E+01	4.5943E+02	2.2470E+01	7.1044E+01	1.5565E+01	1.1162E+05	1.4381E+01
6.0000E+01	5.1512E+02	2.3172E+01	7.9323E+01	1.6665E+01	9.9093E+04	1.5060E+01
6.5000E+01	5.6545E+02	2.3759E+01	8.6804E+01	1.7637E+01	8.4783E+04	1.5601E+01
7.0000E+01	6.0887E+02	2.4243E+01	9.3262E+01	1.8462E+01	6.8969E+04	1.6015E+01
7.5000E+01	6.4498E+02	2.4628E+01	9.8499E+01	1.9120E+01	5.2681E+04	1.6317E+01
8.0000E+01	6.7000E+02	2.4909E+01	1.0236E+02	1.9600E+01	3.6346E+04	1.6520E+01
8.5000E+01	6.8587E+02	2.5082E+01	1.0472E+02	1.9891E+01	2.0895E+04	1.6636E+01
9.0000E+01	6.9121E+02	2.5141E+01	1.0552E+02	1.9989E+01	1.1843E+04	1.6673E+01

TABLE IX.- Continued

(h) Velocity, 7.9248 km/sec; M_1 = 24.809

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.3100E+00	7.2219E-02	9.9995E-01	2.4630E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	3.2798E+00	9.9664E-01	1.8398E+01	1.0000E+00	1.3903E+00	2.5275E-05
1.0000E+01	7.9958E+00	9.8541E-01	1.2061E+01	1.0000E+00	1.3279E+00	4.3988E-05
1.5000E+01	1.2560E+01	9.6680E-01	9.0621E+00	1.0015E+00	1.2456E+00	6.4689E-05
2.0000E+01	1.7486E+01	9.4060E-01	7.8671E+00	1.0410E+00	1.1400E+00	7.8142E-05
2.5000E+01	2.2435E+01	9.0722E-01	6.7842E+00	1.1182E+00	1.1453E+00	8.7052E-05
3.0000E+01	2.7060E+01	8.6717E-01	5.4472E+00	1.1951E+00	1.2452E+00	1.0223E-04
3.5000E+01	3.1479E+01	8.2070E-01	4.6914E+00	1.2371E+00	1.1567E+00	1.2303E-04
4.0000E+01	3.6145E+01	7.6778E-01	4.1324E+00	1.2960E+00	1.1286E+00	1.3400E-04
4.5000E+01	4.0783E+01	7.0903E-01	3.6175E+00	1.3629E+00	1.1229E+00	1.4217E-04
5.0000E+01	4.5315E+01	6.4494E-01	3.1376E+00	1.4322E+00	1.1226E+00	1.4859E-04
5.5000E+01	4.9685E+01	5.7605E-01	2.6860E+00	1.5003E+00	1.1243E+00	1.5396E-04
6.0000E+01	5.3821E+01	5.0292E-01	2.2585E+00	1.5644E+00	1.1271E+00	1.5993E-04
6.5000E+01	5.7590E+01	4.2618E-01	1.8522E+00	1.6223E+00	1.1305E+00	1.6542E-04
7.0000E+01	6.0736E+01	3.4654E-01	1.4650E+00	1.6719E+00	1.1339E+00	1.7016E-04
7.5000E+01	6.2680E+01	2.6492E-01	1.0952E+00	1.7118E+00	1.1374E+00	1.7408E-04
8.0000E+01	6.1791E+01	1.8280E-01	7.4337E-01	1.7410E+00	1.1404E+00	1.7707E-04
8.5000E+01	5.1581E+01	1.0442E-01	4.2032E-01	1.7587E+00	1.1425E+00	1.7896E-04
9.0000E+01	2.9787E-10	5.7646E-02	2.3124E-01	1.7646E+00	1.1433E+00	1.7961E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.3100E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	1.3696E+05	1.0323E+00
5.0000E+00	5.2986E+00	1.8178E+00	1.8249E+00	4.3396E-01	2.4727E+05	2.9132E+00
1.0000E+01	2.1827E+01	4.3293E+00	4.5658E+00	2.2907E+00	2.4298E+05	5.0388E+00
1.5000E+01	4.9544E+01	7.8585E+00	9.0378E+00	4.0797E+00	2.0228E+05	6.2877E+00
2.0000E+01	8.9644E+01	1.0374E+01	1.5191E+01	5.7936E+00	2.1483E+05	8.2912E+00
2.5000E+01	1.4012E+02	1.2026E+01	2.2784E+01	7.6757E+00	2.3349E+05	1.0408E+01
3.0000E+01	1.9727E+02	1.4667E+01	3.1532E+01	9.6078E+00	2.0525E+05	1.1241E+01
3.5000E+01	2.5958E+02	1.8419E+01	4.1187E+01	1.1291E+01	1.6338E+05	1.1378E+01
4.0000E+01	3.2845E+02	2.0326E+01	5.1535E+01	1.2849E+01	1.5360E+05	1.2454E+01
4.5000E+01	4.0009E+02	2.1618E+01	6.2217E+01	1.4361E+01	1.4560E+05	1.3563E+01
5.0000E+01	4.7190E+02	2.2633E+01	7.2898E+01	1.5813E+01	1.3585E+05	1.4541E+01
5.5000E+01	5.4156E+02	2.3484E+01	8.3253E+01	1.7178E+01	1.2365E+05	1.5353E+01
6.0000E+01	6.0689E+02	2.4221E+01	9.2967E+01	1.8424E+01	1.0829E+05	1.5998E+01
6.5000E+01	6.6588E+02	2.4865E+01	1.0174E+02	1.9524E+01	9.1440E+04	1.6489E+01
7.0000E+01	7.1675E+02	2.5420E+01	1.0932E+02	2.0454E+01	7.3843E+04	1.6845E+01
7.5000E+01	7.5795E+02	2.5880E+01	1.1546E+02	2.1195E+01	5.5977E+04	1.7088E+01
8.0000E+01	7.8826E+02	2.6230E+01	1.1999E+02	2.1733E+01	3.8313E+04	1.7241E+01
8.5000E+01	8.0681E+02	2.6453E+01	1.2276E+02	2.2059E+01	2.1756E+04	1.7322E+01
9.0000E+01	8.1305E+02	2.6529E+01	1.2369E+02	2.2169E+01	1.1985E+04	1.7347E+01

TABLE IX. - Continued

(i) Velocity, 8.5344 km/sec; M_1 = 26.718

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.1450E+00	6.7068E-02	9.9996E-01	2.6524E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	3.4054E+00	9.9658E-01	1.9083E+01	1.0000E+00	1.3870E+00	2.6659E-05
1.0000E+01	8.0798E+00	9.8536E-01	1.2336E+01	1.0000E+00	1.3201E+00	4.6899E-05
1.5000E+01	1.2695E+01	9.6671E-01	9.4542E+00	1.0054E+00	1.2025E+00	6.8863E-05
2.0000E+01	1.7691E+01	9.4046E-01	8.1825E+00	1.0633E+00	1.1360E+00	8.1076E-05
2.5000E+01	2.2578E+01	9.0712E-01	6.8977E+00	1.1540E+00	1.1676E+00	9.1623E-05
3.0000E+01	2.7021E+01	8.6720E-01	5.5093E+00	1.2149E+00	1.2038E+00	1.1485E-04
3.5000E+01	3.1670E+01	8.2054E-01	4.8632E+00	1.2727E+00	1.1327E+00	1.3020E-04
4.0000E+01	3.6392E+01	7.6757E-01	4.2691E+00	1.3466E+00	1.1235E+00	1.4043E-04
4.5000E+01	4.1046E+01	7.0879E-01	3.7270E+00	1.4266E+00	1.1225E+00	1.4812E-04
5.0000E+01	4.5585E+01	6.4470E-01	3.2222E+00	1.5080E+00	1.1246E+00	1.5454E-04
5.5000E+01	4.9963E+01	5.7580E-01	2.7485E+00	1.5873E+00	1.1283E+00	1.6211E-04
6.0000E+01	5.4104E+01	5.0266E-01	2.3019E+00	1.6613E+00	1.1331E+00	1.6915E-04
6.5000E+01	5.7882E+01	4.2590E-01	1.8796E+00	1.7274E+00	1.1390E+00	1.7566E-04
7.0000E+01	6.1038E+01	3.4625E-01	1.4794E+00	1.7834E+00	1.1459E+00	1.8170E-04
7.5000E+01	6.2995E+01	2.6461E-01	1.1000E+00	1.8276E+00	1.1537E+00	1.8714E-04
8.0000E+01	6.2136E+01	1.8244E-01	7.4231E-01	1.8591E+00	1.1615E+00	1.9180E-04
8.5000E+01	5.1999E+01	1.0392E-01	4.1697E-01	1.8779E+00	1.1675E+00	1.9501E-04
9.0000E+01	3.0242E-10	5.6829E-02	2.2691E-01	1.8841E+00	1.1698E+00	1.9614E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.1450E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	1.4653E+05	1.0323E+00
5.0000E+00	6.1759E+00	1.9640E+00	1.9747E+00	5.5739E-01	2.7235E+05	3.1428E+00
1.0000E+01	2.5405E+01	4.8277E+00	5.1494E+00	2.5851E+00	2.5615E+05	5.2593E+00
1.5000E+01	5.7892E+01	8.6378E+00	1.0348E+01	4.4767E+00	2.1668E+05	6.6583E+00
2.0000E+01	1.0495E+02	1.0923E+01	1.7496E+01	6.3825E+00	2.4270E+05	9.0255E+00
2.5000E+01	1.6331E+02	1.2821E+01	2.6290E+01	8.4877E+00	2.5304E+05	1.1025E+01
3.0000E+01	2.2833E+02	1.6921E+01	3.6403E+01	1.0506E+01	1.9417E+05	1.1093E+01
3.5000E+01	3.0247E+02	1.9725E+01	4.7646E+01	1.2277E+01	1.7582E+05	1.2034E+01
4.0000E+01	3.8290E+02	2.1342E+01	5.9656E+01	1.4005E+01	1.6861E+05	1.3307E+01
4.5000E+01	4.6616E+02	2.2558E+01	7.2044E+01	1.5699E+01	1.6049E+05	1.4468E+01
5.0000E+01	5.4948E+02	2.3576E+01	8.4430E+01	1.7331E+01	1.4929E+05	1.5436E+01
5.5000E+01	6.3021E+02	2.4477E+01	9.6436E+01	1.8862E+01	1.3340E+05	1.6202E+01
6.0000E+01	7.0586E+02	2.5301E+01	1.0770E+02	2.0256E+01	1.1555E+05	1.6774E+01
6.5000E+01	7.7409E+02	2.6065E+01	1.1787E+02	2.1482E+01	9.6518E+04	1.7172E+01
7.0000E+01	8.3283E+02	2.6775E+01	1.2665E+02	2.2513E+01	7.6955E+04	1.7421E+01
7.5000E+01	8.8032E+02	2.7414E+01	1.3377E+02	2.3330E+01	5.7525E+04	1.7550E+01
8.0000E+01	9.1518E+02	2.7942E+01	1.3902E+02	2.3920E+01	3.8801E+04	1.7596E+01
8.5000E+01	9.3645E+02	2.8300E+01	1.4223E+02	2.4275E+01	2.1743E+04	1.7600E+01
9.0000E+01	9.4360E+02	2.8427E+01	1.4331E+02	2.4394E+01	1.1819E+04	1.7597E+01

TABLE IX.- Continued

(j) Velocity, 9.144 km/sec; $M_1 = 28.626$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.0019E+00	6.2602E-02	9.9996E-01	2.8419E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	3.5077E+00	9.9653E-01	1.9713E+01	1.0000E+00	1.3829E+00	2.8066E-05
1.0000E+01	8.1517E+00	9.8532E-01	1.2585E+01	1.0000E+00	1.3131E+00	4.9791E-05
1.5000E+01	1.2844E+01	9.6661E-01	9.8652E+00	1.0131E+00	1.1699E+00	7.2338E-05
2.0000E+01	1.7858E+01	9.4035E-01	8.4569E+00	1.0887E+00	1.1375E+00	8.3880E-05
2.5000E+01	2.2633E+01	9.0708E-01	6.8155E+00	1.1861E+00	1.2220E+00	9.8472E-05
3.0000E+01	2.7106E+01	8.6713E-01	5.7024E+00	1.2396E+00	1.1540E+00	1.2367E-04
3.5000E+01	3.1864E+01	8.2038E-01	5.0137E+00	1.3147E+00	1.1259E+00	1.3661E-04
4.0000E+01	3.6605E+01	7.6739E-01	4.3927E+00	1.4027E+00	1.1224E+00	1.4602E-04
4.5000E+01	4.1262E+01	7.0861E-01	3.8223E+00	1.4960E+00	1.1242E+00	1.5363E-04
5.0000E+01	4.5799E+01	6.4452E-01	3.2917E+00	1.5898E+00	1.1285E+00	1.6235E-04
5.5000E+01	5.0169E+01	5.7562E-01	2.7949E+00	1.6802E+00	1.1346E+00	1.7096E-04
6.0000E+01	5.4297E+01	5.0249E-01	2.3274E+00	1.7635E+00	1.1431E+00	1.7948E-04
6.5000E+01	5.8040E+01	4.2576E-01	1.8856E+00	1.8362E+00	1.1556E+00	1.8829E-04
7.0000E+01	6.1120E+01	3.4617E-01	1.4676E+00	1.8950E+00	1.1742E+00	1.9829E-04
7.5000E+01	6.2910E+01	2.6469E-01	1.0753E+00	1.9375E+00	1.1999E+00	2.0917E-04
8.0000E+01	6.1742E+01	1.8285E-01	7.1754E-01	1.9640E+00	1.2218E+00	2.1948E-04
8.5000E+01	5.1081E+01	1.0503E-01	4.0368E-01	1.9775E+00	1.2314E+00	2.2586E-04
9.0000E+01	2.9026E-10	5.9070E-02	2.2554E-01	1.9816E+00	1.2336E+00	2.2757E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.0019E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	1.5699E+05	1.0323E+00
5.0000E+00	7.1155E+00	2.1189E+00	2.1346E+00	6.8825E-01	2.9616E+05	3.3582E+00
1.0000E+01	2.9263E+01	5.3526E+00	5.7765E+00	2.8730E+00	2.6857E+05	5.4642E+00
1.5000E+01	6.7054E+01	9.2879E+00	1.1762E+01	4.8787E+00	2.3624E+05	7.1179E+00
2.0000E+01	1.2141E+02	1.1448E+01	1.9970E+01	6.9970E+00	2.7092E+05	9.7296E+00
2.5000E+01	1.8775E+02	1.4013E+01	3.0043E+01	9.3039E+00	2.5813E+05	1.1283E+01
3.0000E+01	2.6270E+02	1.8535E+01	4.1660E+01	1.1366E+01	1.9888E+05	1.1420E+01
3.5000E+01	3.4891E+02	2.0738E+01	5.4590E+01	1.3289E+01	1.9064E+05	1.2781E+01
4.0000E+01	4.4151E+02	2.2226E+01	6.8379E+01	1.5205E+01	1.8463E+05	1.4144E+01
4.5000E+01	5.3715E+02	2.3433E+01	8.2598E+01	1.7093E+01	1.7533E+05	1.5305E+01
5.0000E+01	6.3275E+02	2.4504E+01	9.6812E+01	1.8909E+01	1.5997E+05	1.6223E+01
5.5000E+01	7.2527E+02	2.5514E+01	1.1059E+02	2.0608E+01	1.4131E+05	1.6899E+01
6.0000E+01	8.1183E+02	2.6514E+01	1.2351E+02	2.2147E+01	1.2059E+05	1.7342E+01
6.5000E+01	8.8971E+02	2.7550E+01	1.3519E+02	2.3490E+01	9.8658E+04	1.7567E+01
7.0000E+01	9.5645E+02	2.8668E+01	1.4526E+02	2.4606E+01	7.6245E+04	1.7584E+01
7.5000E+01	1.0100E+03	2.9882E+01	1.5341E+02	2.5475E+01	5.4762E+04	1.7424E+01
8.0000E+01	1.0489E+03	3.1031E+01	1.5942E+02	2.6089E+01	3.5571E+04	1.7190E+01
8.5000E+01	1.0726E+03	3.1875E+01	1.6309E+02	2.6452E+01	1.9632E+04	1.6998E+01
9.0000E+01	1.0805E+03	3.2173E+01	1.6432E+02	2.6572E+01	1.0914E+04	1.6929E+01

TABLE IX. - Concluded

(k) Velocity, 9.7536 km/sec; $M_1 = 30.534$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.8767E+00	5.8693E-02	9.9997E-01	3.0314E+01	1.0000E+00	1.4009E+00	1.6331E-05
5.0000E+00	3.5923E+00	9.9650E-01	2.0292E+01	1.0000E+00	1.3785E+00	2.9493E-05
1.0000E+01	8.2127E+00	9.8529E-01	1.2825E+01	1.0000E+00	1.3045E+00	5.2663E-05
1.5000E+01	1.2991E+01	9.6652E-01	1.0256E+01	1.0242E+00	1.1510E+00	7.5223E-05
2.0000E+01	1.7990E+01	9.4027E-01	8.6767E+00	1.1164E+00	1.1446E+00	8.6844E-05
2.5000E+01	2.2597E+01	9.0711E-01	6.7228E+00	1.2058E+00	1.2397E+00	1.0922E-04
3.0000E+01	2.7245E+01	8.6703E-01	5.8851E+00	1.2707E+00	1.1332E+00	1.2985E-04
3.5000E+01	3.2040E+01	8.2025E-01	5.1556E+00	1.3616E+00	1.1230E+00	1.4204E-04
4.0000E+01	3.6784E+01	7.6725E-01	4.5028E+00	1.4637E+00	1.1232E+00	1.5115E-04
4.5000E+01	4.1435E+01	7.0848E-01	3.9023E+00	1.5704E+00	1.1274E+00	1.6050E-04
5.0000E+01	4.5960E+01	6.4439E-01	3.3440E+00	1.6766E+00	1.1343E+00	1.7062E-04
5.5000E+01	5.0307E+01	5.7551E-01	2.8201E+00	1.7774E+00	1.1450E+00	1.8103E-04
6.0000E+01	5.4379E+01	5.0242E-01	2.3223E+00	1.8673E+00	1.1640E+00	1.9316E-04
6.5000E+01	5.7980E+01	4.2581E-01	1.8425E+00	1.9387E+00	1.2009E+00	2.0957E-04
7.0000E+01	6.0759E+01	3.4652E-01	1.4057E+00	1.9841E+00	1.2348E+00	2.2864E-04
7.5000E+01	6.2188E+01	2.6543E-01	1.0361E+00	2.0112E+00	1.2291E+00	2.4175E-04
8.0000E+01	6.0656E+01	1.8404E-01	7.0461E-01	2.0299E+00	1.2111E+00	2.4934E-04
8.5000E+01	4.9544E+01	1.0700E-01	4.0531E-01	2.0419E+00	1.2018E+00	2.5267E-04
9.0000E+01	2.7373E-10	6.2414E-02	2.3561E-01	2.0461E+00	1.1989E+00	2.5373E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.8767E+00	1.0467E+00	1.0128E+00	1.0131E+00	5.6792E-04	1.6746E+05	1.0323E+00
5.0000E+00	8.1303E+00	2.2823E+00	2.3047E+00	8.2513E-01	3.1870E+05	3.5603E+00
1.0000E+01	3.3395E+01	5.9030E+00	6.4468E+00	3.1580E+00	2.8008E+05	5.6506E+00
1.5000E+01	7.6995E+01	9.8278E+00	1.3278E+01	5.2901E+00	2.6007E+05	7.6400E+00
2.0000E+01	1.3897E+02	1.1989E+01	2.2611E+01	7.6346E+00	2.9747E+05	1.0370E+01
2.5000E+01	2.1316E+02	1.5890E+01	3.4036E+01	1.0087E+01	2.4451E+05	1.1112E+01
3.0000E+01	3.0013E+02	1.9666E+01	4.7295E+01	1.2225E+01	2.1221E+05	1.1996E+01
3.5000E+01	3.9873E+02	2.1596E+01	6.2014E+01	1.4333E+01	2.0720E+05	1.3543E+01
4.0000E+01	5.0422E+02	2.3040E+01	7.7702E+01	1.6451E+01	2.0083E+05	1.4934E+01
4.5000E+01	6.1301E+02	2.4288E+01	9.3876E+01	1.8539E+01	1.8772E+05	1.6052E+01
5.0000E+01	7.2161E+02	2.5474E+01	1.1004E+02	2.0542E+01	1.6885E+05	1.6876E+01
5.5000E+01	8.2655E+02	2.6696E+01	1.2571E+02	2.2404E+01	1.4654E+05	1.7399E+01
6.0000E+01	9.2437E+02	2.8094E+01	1.4041E+02	2.4074E+01	1.2128E+05	1.7600E+01
6.5000E+01	1.0116E+03	2.9926E+01	1.5367E+02	2.5501E+01	9.3749E+04	1.7416E+01
7.0000E+01	1.0854E+03	3.2359E+01	1.6509E+02	2.6645E+01	6.7803E+04	1.6887E+01
7.5000E+01	1.1447E+03	3.4643E+01	1.7434E+02	2.7503E+01	4.7734E+04	1.6410E+01
8.0000E+01	1.1886E+03	3.6203E+01	1.8116E+02	2.8099E+01	3.1590E+04	1.6155E+01
8.5000E+01	1.2157E+03	3.7049E+01	1.8534E+02	2.8451E+01	1.8007E+04	1.6050E+01
9.0000E+01	1.2249E+03	3.7318E+01	1.8675E+02	2.8568E+01	1.0442E+04	1.6022E+01

TABLE X.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS

IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 68.58 km

[p_1 = 6.8336 Pa; ρ_1 = 0.000 105 68 kg/m^3; T_1 = 225.258 K; S_1/R = 32.522; h_1 = 225.463 kJ/kg]

(a) Velocity, 4.8768 km/sec; M_1 = 16.209

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.5371E+00	1.1391E-01	9.9988E-01	1.6086E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	2.0724E+00	9.9750E-01	1.4385E+01	1.0000E+00	1.4002E+00	1.7684E-05
1.0000E+01	7.2835E+00	9.8592E-01	1.0278E+01	1.0000E+00	1.3813E+00	2.8543E-05
1.5000E+01	1.1871E+01	9.6737E-01	7.8137E+00	1.0000E+00	1.3406E+00	4.0225E-05
2.0000E+01	1.6343E+01	9.4161E-01	6.2401E+00	1.0000E+00	1.3081E+00	5.1505E-05
2.5000E+01	2.0829E+01	9.0871E-01	5.2826E+00	1.0021E+00	1.2344E+00	6.4361E-05
3.0000E+01	2.5611E+01	8.6857E-01	4.7422E+00	1.0208E+00	1.1505E+00	7.2493E-05
3.5000E+01	3.0477E+01	8.2171E-01	4.2368E+00	1.0550E+00	1.1310E+00	7.7647E-05
4.0000E+01	3.5236E+01	7.6870E-01	3.7451E+00	1.0963E+00	1.1323E+00	8.1856E-05
4.5000E+01	3.9819E+01	7.1001E-01	3.2559E+00	1.1397E+00	1.1474E+00	8.6102E-05
5.0000E+01	4.4111E+01	6.4620E-01	2.7401E+00	1.1789E+00	1.1934E+00	9.2035E-05
5.5000E+01	4.7870E+01	5.7804E-01	2.2238E+00	1.2026E+00	1.2562E+00	1.0178E-04
6.0000E+01	5.1283E+01	5.0584E-01	1.8729E+00	1.2160E+00	1.2014E+00	1.1140E-04
6.5000E+01	5.4414E+01	4.2994E-01	1.5585E+00	1.2308E+00	1.1611E+00	1.1729E-04
7.0000E+01	5.6832E+01	3.5126E-01	1.2508E+00	1.2458E+00	1.1433E+00	1.2107E-04
7.5000E+01	5.7718E+01	2.7106E-01	9.5182E-01	1.2588E+00	1.1346E+00	1.2359E-04
8.0000E+01	5.5052E+01	1.9152E-01	6.6583E-01	1.2688E+00	1.1302E+00	1.2522E-04
8.5000E+01	4.2129E+01	1.1892E-01	4.1103E-01	1.2750E+00	1.1277E+00	1.2614E-04
9.0000E+01	2.0689E-10	8.0946E-02	2.7924E-01	1.2772E+00	1.1269E+00	1.2644E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.5371E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	3.5944E+04	1.0332E+00
5.0000E+00	2.1606E+00	1.2620E+00	1.2627E+00	4.3033E-02	4.9735E+04	1.7107E+00
1.0000E+01	9.1064E+00	2.4489E+00	2.4697E+00	9.5051E-01	6.6160E+04	3.7163E+00
1.5000E+01	2.0612E+01	4.2028E+00	4.3733E+00	2.1700E+00	6.0752E+04	4.9015E+00
2.0000E+01	3.6470E+01	6.3990E+00	6.9570E+00	3.3203E+00	5.3655E+04	5.6944E+00
2.5000E+01	5.6420E+01	8.7940E+00	1.0155E+01	4.3555E+00	4.6533E+04	6.3947E+00
3.0000E+01	8.0729E+01	1.0501E+01	1.3904E+01	5.3391E+00	4.6451E+04	7.5221E+00
3.5000E+01	1.0834E+02	1.1588E+01	1.8066E+01	6.3448E+00	4.8276E+04	8.8511E+00
4.0000E+01	1.3788E+02	1.2476E+01	2.2496E+01	7.3690E+00	4.8733E+04	1.0069E+01
4.5000E+01	1.6823E+02	1.3368E+01	2.7056E+01	8.3788E+00	4.6876E+04	1.1030E+01
5.0000E+01	1.9816E+02	1.4531E+01	3.1604E+01	9.3298E+00	4.1811E+04	1.1554E+01
5.5000E+01	2.2621E+02	1.6442E+01	3.5988E+01	1.0165E+01	3.3449E+04	1.1427E+01
6.0000E+01	2.5244E+02	1.8357E+01	4.0100E+01	1.0856E+01	2.6438E+04	1.1296E+01
6.5000E+01	2.7679E+02	1.9574E+01	4.3832E+01	1.1428E+01	2.1677E+04	1.1475E+01
7.0000E+01	2.9813E+02	2.0354E+01	4.7062E+01	1.1900E+01	1.7560E+04	1.1743E+01
7.5000E+01	3.1557E+02	2.0873E+01	4.9684E+01	1.2272E+01	1.3560E+04	1.1995E+01
8.0000E+01	3.2846E+02	2.1210E+01	5.1617E+01	1.2542E+01	9.6100E+03	1.2191E+01
8.5000E+01	3.3637E+02	2.1401E+01	5.2802E+01	1.2706E+01	5.9826E+03	1.2313E+01
9.0000E+01	3.3904E+02	2.1463E+01	5.3201E+01	1.2760E+01	4.0761E+03	1.2354E+01

TABLE X. - Continued

(b) Velocity, 5.4864 km/sec; M_1 = 18.235

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
3.1437E+00	1.0094E-01	9.9990E-01	1.8097E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	2.5125E+00	9.9713E-01	1.5479E+01	1.0000E+00	1.3994E+00	1.8946E-05
1.0000E+01	7.5208E+00	9.8573E-01	1.0764E+01	1.0000E+00	1.3717E+00	3.1499E-05
1.5000E+01	1.2072E+01	9.6719E-01	8.1000E+00	1.0000E+00	1.3256E+00	4.4649E-05
2.0000E+01	1.6552E+01	9.4140E-01	6.4729E+00	1.0002E+00	1.2817E+00	5.8570E-05
2.5000E+01	2.1249E+01	9.0825E-01	5.6845E+00	1.0125E+00	1.1674E+00	7.0349E-05
3.0000E+01	2.6181E+01	8.6795E-01	5.0789E+00	1.0491E+00	1.1321E+00	7.6944E-05
3.5000E+01	3.1038E+01	8.2111E-01	4.4909E+00	1.0979E+00	1.1326E+00	8.2008E-05
4.0000E+01	3.5723E+01	7.6818E-01	3.8927E+00	1.1507E+00	1.1552E+00	8.7441E-05
4.5000E+01	4.0053E+01	7.0975E-01	3.2012E+00	1.1942E+00	1.2385E+00	9.6789E-05
5.0000E+01	4.3975E+01	6.4636E-01	2.6985E+00	1.2146E+00	1.2071E+00	1.1066E-04
5.5000E+01	4.7974E+01	5.7792E-01	2.3379E+00	1.2374E+00	1.1517E+00	1.1911E-04
6.0000E+01	5.1841E+01	5.0511E-01	1.9866E+00	1.2632E+00	1.1325E+00	1.2432E-04
6.5000E+01	5.5319E+01	4.2872E-01	1.6475E+00	1.2883E+00	1.1234E+00	1.2793E-04
7.0000E+01	5.8067E+01	3.4957E-01	1.3178E+00	1.3106E+00	1.1201E+00	1.3059E-04
7.5000E+01	5.9367E+01	2.6876E-01	9.9771E-01	1.3292E+00	1.1193E+00	1.3279E-04
8.0000E+01	5.7331E+01	1.8819E-01	6.9118E-01	1.3431E+00	1.1184E+00	1.3429E-04
8.5000E+01	4.5210E+01	1.1343E-01	4.1395E-01	1.3517E+00	1.1180E+00	1.3517E-04
9.0000E+01	2.3273E-10	7.2610E-02	2.6443E-01	1.3546E+00	1.1179E+00	1.3546E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
3.1437E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	4.0438E+04	1.0332E+00
5.0000E+00	2.7801E+00	1.3796E+00	1.3806E+00	1.0219E-01	6.1459E+04	2.0139E+00
1.0000E+01	1.1590E+01	2.8442E+00	2.8844E+00	1.2570E+00	7.3894E+04	4.0725E+00
1.5000E+01	2.6231E+01	5.0041E+00	5.2925E+00	2.6273E+00	6.5799E+04	5.2387E+00
2.0000E+01	4.6440E+01	7.6762E+00	8.5661E+00	3.8776E+00	5.6302E+04	6.0413E+00
2.5000E+01	7.2453E+01	1.0049E+01	1.2643E+01	5.0209E+00	5.3244E+04	7.1126E+00
3.0000E+01	1.0392E+02	1.1440E+01	1.7403E+01	6.1877E+00	5.6568E+04	8.6488E+00
3.5000E+01	1.3900E+02	1.2508E+01	2.2664E+01	7.4071E+00	5.8693E+04	1.0110E+01
4.0000E+01	1.7620E+02	1.3630E+01	2.8259E+01	8.6362E+00	5.7155E+04	1.1220E+01
4.5000E+01	2.1361E+02	1.5463E+01	3.4002E+01	9.7994E+00	4.9126E+04	1.1554E+01
5.0000E+01	2.4998E+02	1.8205E+01	3.9719E+01	1.0795E+01	3.8240E+04	1.1291E+01
5.5000E+01	2.8641E+02	1.9950E+01	4.5291E+01	1.1643E+01	3.2601E+04	1.1588E+01
6.0000E+01	3.2123E+02	2.1025E+01	5.0535E+01	1.2392E+01	2.8459E+04	1.2081E+01
6.5000E+01	3.5295E+02	2.1769E+01	5.5279E+01	1.3044E+01	2.4427E+04	1.2571E+01
7.0000E+01	3.8044E+02	2.2302E+01	5.9375E+01	1.3594E+01	2.0178E+04	1.3001E+01
7.5000E+01	4.0276E+02	2.2693E+01	6.2698E+01	1.4034E+01	1.5651E+04	1.3337E+01
8.0000E+01	4.1922E+02	2.2960E+01	6.5147E+01	1.4354E+01	1.1033E+04	1.3578E+01
8.5000E+01	4.2931E+02	2.3116E+01	6.6646E+01	1.4549E+01	6.6773E+03	1.3724E+01
9.0000E+01	4.3271E+02	2.3167E+01	6.7151E+01	1.4614E+01	4.2805E+03	1.3772E+01

TABLE X. - Continued

(c) Velocity, 6.096 km/sec; $M_1 = 20.261$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.8290E+00	9.0869E-02	9.9992E-01	2.0108E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	2.8274E+00	9.9691E-01	1.6470E+01	1.0000E+00	1.3983E+00	2.3231E-05
1.0000E+01	7.6981E+00	9.8560E-01	1.1188E+01	1.0000E+00	1.3606E+00	3.4482E-05
1.5000E+01	1.2230E+01	9.6706E-01	8.3384E+00	1.0000E+00	1.3154E+00	4.9027E-05
2.0000E+01	1.6770E+01	9.4119E-01	6.8062E+00	1.0026E+00	1.2270E+00	6.5037E-05
2.5000E+01	2.1674E+01	9.0784E-01	6.0621E+00	1.0324E+00	1.1390E+00	7.4639E-05
3.0000E+01	2.6617E+01	8.6754E-01	5.3633E+00	1.0850E+00	1.1307E+00	8.0780E-05
3.5000E+01	3.1407E+01	8.2077E-01	4.6542E+00	1.1465E+00	1.1519E+00	8.6910E-05
4.0000E+01	3.5834E+01	7.6807E-01	3.7901E+00	1.1974E+00	1.2488E+00	9.8383E-05
4.5000E+01	3.9965E+01	7.0985E-01	3.2546E+00	1.2221E+00	1.1803E+00	1.1423E-04
5.0000E+01	4.4287E+01	6.4600E-01	2.8482E+00	1.2545E+00	1.1370E+00	1.2282E-04
5.5000E+01	4.8543E+01	5.7724E-01	2.4593E+00	1.2908E+00	1.1228E+00	1.2824E-04
6.0000E+01	5.2574E+01	5.0423E-01	2.0842E+00	1.3265E+00	1.1194E+00	1.3249E-04
6.5000E+01	5.6206E+01	4.2765E-01	1.7237E+00	1.3600E+00	1.1177E+00	1.3598E-04
7.0000E+01	5.9145E+01	3.4825E-01	1.3751E+00	1.3892E+00	1.1171E+00	1.3867E-04
7.5000E+01	6.0742E+01	2.6705E-01	1.0377E+00	1.4132E+00	1.1170E+00	1.4068E-04
8.0000E+01	5.9212E+01	1.8574E-01	7.1352E-01	1.4309E+00	1.1172E+00	1.4209E-04
8.5000E+01	4.7855E+01	1.0934E-01	4.1714E-01	1.4418E+00	1.1174E+00	1.4293E-04
9.0000E+01	2.5762E-10	6.6058E-02	2.5143E-01	1.4455E+00	1.1174E+00	1.4321E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	R+02/R01
2.8290E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	4.4932E+04	1.0332E+00
5.0000E+00	3.4724E+00	1.5047E+00	1.5064E+00	1.8400E-01	7.3210E+04	2.3052E+00
1.0000E+01	1.4379E+01	3.2761E+00	3.3470E+00	1.5695E+00	8.0774E+04	4.3865E+00
1.5000E+01	3.2547E+01	5.8732E+00	6.3204E+00	3.0719E+00	7.0381E+04	5.5384E+00
2.0000E+01	5.7803E+01	8.9288E+00	1.0373E+01	4.4169E+00	6.0127E+04	6.4492E+00
2.5000E+01	9.0854E+01	1.0954E+01	1.5436E+01	5.7153E+00	6.2877E+04	8.0241E+00
3.0000E+01	1.2997E+02	1.2249E+01	2.1310E+01	7.0991E+00	6.7578E+04	9.7672E+00
3.5000E+01	1.7312E+02	1.3526E+01	2.7793E+01	8.5370E+00	6.7840E+04	1.1150E+01
4.0000E+01	2.1784E+02	1.5775E+01	3.4667E+01	9.9244E+00	5.7935E+04	1.1519E+01
4.5000E+01	2.6304E+02	1.8943E+01	4.1732E+01	1.1110E+01	4.5434E+04	1.1349E+01
5.0000E+01	3.0994E+02	2.0715E+01	4.8839E+01	1.2153E+01	4.0365E+04	1.1912E+01
5.5000E+01	3.5608E+02	2.1833E+01	5.5745E+01	1.3107E+01	3.6596E+04	1.2620E+01
6.0000E+01	3.9960E+02	2.2640E+01	6.2227E+01	1.3972E+01	3.2583E+04	1.3289E+01
6.5000E+01	4.3901E+02	2.3260E+01	6.8087E+01	1.4735E+01	2.8034E+04	1.3862E+01
7.0000E+01	4.7306E+02	2.3738E+01	7.3144E+01	1.5383E+01	2.3182E+04	1.4328E+01
7.5000E+01	5.0070E+02	2.4096E+01	7.7246E+01	1.5901E+01	1.7960E+04	1.4686E+01
8.0000E+01	5.2107E+02	2.4347E+01	8.0269E+01	1.6279E+01	1.2581E+04	1.4939E+01
8.5000E+01	5.3354E+02	2.4496E+01	8.2120E+01	1.6510E+01	7.4363E+03	1.5089E+01
9.0000E+01	5.3774E+02	2.4545E+01	8.2743E+01	1.6587E+01	4.4987E+03	1.5138E+01

TABLE X. - Continued

(d) Velocity, 6.7056; $M_1 = 22.287$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.5717E+00	8.2625E-02	9.9994E-01	2.2119E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.0610E+00	9.9677E-01	1.7367E+01	1.0000E+00	1.3968E+00	2.1553E-05
1.0000E+01	7.8363E+00	9.8551E-01	1.1559E+01	1.0000E+00	1.3499E+00	3.7470E-05
1.5000E+01	1.2358E+01	9.6695E-01	8.5665E+00	1.0000E+00	1.3012E+00	5.4058E-05
2.0000E+01	1.7037E+01	9.4095E-01	7.2264E+00	1.0110E+00	1.1720E+00	6.9854E-05
2.5000E+01	2.2030E+01	9.0753E-01	6.3957E+00	1.0591E+00	1.1305E+00	7.8116E-05
3.0000E+01	2.6930E+01	8.6727E-01	5.5787E+00	1.1262E+00	1.1407E+00	8.4701E-05
3.5000E+01	3.1538E+01	8.2065E-01	4.5863E+00	1.1911E+00	1.2279E+00	9.5525E-05
4.0000E+01	3.5771E+01	7.6814E-01	3.8741E+00	1.2220E+00	1.1804E+00	1.1423E-04
4.5000E+01	4.0260E+01	7.0953E-01	3.4143E+00	1.2621E+00	1.1330E+00	1.2415E-04
5.0000E+01	4.4745E+01	6.4550E-01	2.9801E+00	1.3082E+00	1.1203E+00	1.3030E-04
5.5000E+01	4.9086E+01	5.7665E-01	2.5650E+00	1.3555E+00	1.1178E+00	1.3555E-04
6.0000E+01	5.3191E+01	5.0355E-01	2.1700E+00	1.4009E+00	1.1170E+00	1.3967E-04
6.5000E+01	5.6916E+01	4.2686E-01	1.7905E+00	1.4425E+00	1.1174E+00	1.4298E-04
7.0000E+01	5.9990E+01	3.4731E-01	1.4248E+00	1.4787E+00	1.1181E+00	1.4564E-04
7.5000E+01	6.1805E+01	2.6584E-01	1.0717E+00	1.5081E+00	1.1190E+00	1.4768E-04
8.0000E+01	6.0663E+01	1.8403E-01	7.3263E-01	1.5298E+00	1.1197E+00	1.4914E-04
8.5000E+01	4.9967E+01	1.0644E-01	4.2053E-01	1.5431E+00	1.1202E+00	1.5002E-04
9.0000E+01	2.7972E-10	6.1158E-02	2.4102E-01	1.5475E+00	1.1204E+00	1.5031E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.5717E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	4.9426E+04	1.0332E+00
5.0000E+00	4.2381E+00	1.6390E+00	1.6416E+00	2.8482E-01	8.4694E+04	2.5842E+00
1.0000E+01	1.7476E+01	3.7424E+00	3.8580E+00	1.8825E+00	8.6986E+04	4.6669E+00
1.5000E+01	3.9559E+01	6.8053E+00	7.4573E+00	3.5041E+00	7.3595E+04	5.8057E+00
2.0000E+01	7.0776E+01	9.9446E+00	1.2386E+01	4.9548E+00	6.7119E+04	7.0312E+00
2.5000E+01	1.1138E+02	1.1687E+01	1.8524E+01	6.4526E+00	7.3997E+04	8.9878E+00
3.0000E+01	1.5870E+02	1.3076E+01	2.5621E+01	8.0662E+00	7.8109E+04	1.0764E+01
3.5000E+01	2.1001E+02	1.5215E+01	3.3439E+01	9.6914E+00	7.0465E+04	1.1574E+01
4.0000E+01	2.6300E+02	1.8941E+01	4.1727E+01	1.1110E+01	5.4084E+04	1.1349E+01
4.5000E+01	3.1987E+02	2.0989E+01	5.0330E+01	1.2363E+01	4.8845E+04	1.2060E+01
5.0000E+01	3.7758E+02	2.2249E+01	5.8949E+01	1.3537E+01	4.5490E+04	1.2957E+01
5.5000E+01	4.3377E+02	2.3183E+01	6.7309E+01	1.4635E+01	4.1567E+04	1.3787E+01
6.0000E+01	4.8659E+02	2.3916E+01	7.5153E+01	1.5637E+01	3.7061E+04	1.4506E+01
6.5000E+01	5.3436E+02	2.4506E+01	8.2241E+01	1.6525E+01	3.1943E+04	1.5098E+01
7.0000E+01	5.7560E+02	2.4977E+01	8.8360E+01	1.7278E+01	2.6307E+04	1.5566E+01
7.5000E+01	6.0905E+02	2.5341E+01	9.3322E+01	1.7882E+01	2.0306E+04	1.5918E+01
8.0000E+01	6.3370E+02	2.5601E+01	9.6978E+01	1.8322E+01	1.4133E+04	1.6161E+01
8.5000E+01	6.4879E+02	2.5758E+01	9.9217E+01	1.8590E+01	8.1979E+03	1.6304E+01
9.0000E+01	6.5387E+02	2.5810E+01	9.9971E+01	1.8680E+01	4.7147E+03	1.6351E+01

TABLE X. - Continued

(e) Velocity, 7.3152 km/sec; $M_1 = 24.313$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.3572E+00	7.5751E-02	9.9995E-01	2.4130E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.2391E+00	9.9667E-01	1.8176E+01	1.0000E+00	1.3948E+00	2.2911E-05
1.0000E+01	7.9475E+00	9.8544E-01	1.1887E+01	1.0000E+00	1.3399E+00	4.0451E-05
1.5000E+01	1.2472E+01	9.6687E-01	8.8146E+00	1.0003E+00	1.2785E+00	5.9115E-05
2.0000E+01	1.7311E+01	9.4073E-01	7.6274E+00	1.0259E+00	1.1444E+00	7.3517E-05
2.5000E+01	2.2309E+01	9.0731E-01	6.6808E+00	1.0906E+00	1.1314E+00	8.1318E-05
3.0000E+01	2.7118E+01	8.6712E-01	5.6572E+00	1.1688E+00	1.1751E+00	9.0083E-05
3.5000E+01	3.1451E+01	8.2073E-01	4.5723E+00	1.2142E+00	1.2091E+00	1.1041E-04
4.0000E+01	3.5993E+01	7.6792E-01	4.0486E+00	1.2579E+00	1.1351E+00	1.2343E-04
4.5000E+01	4.0615E+01	7.0918E-01	3.5580E+00	1.3127E+00	1.1200E+00	1.3086E-04
5.0000E+01	4.5149E+01	6.4510E-01	3.0954E+00	1.3711E+00	1.1174E+00	1.3704E-04
5.5000E+01	4.9530E+01	5.7620E-01	2.6591E+00	1.4292E+00	1.1172E+00	1.4196E-04
6.0000E+01	5.3679E+01	5.0306E-01	2.2438E+00	1.4843E+00	1.1183E+00	1.4603E-04
6.5000E+01	5.7464E+01	4.2630E-01	1.8466E+00	1.5343E+00	1.1199E+00	1.4944E-04
7.0000E+01	6.0631E+01	3.4664E-01	1.4654E+00	1.5775E+00	1.1218E+00	1.5225E-04
7.5000E+01	6.2598E+01	2.6500E-01	1.0987E+00	1.6126E+00	1.1236E+00	1.5450E-04
8.0000E+01	6.1739E+01	1.8286E-01	7.4750E-01	1.6383E+00	1.1252E+00	1.5657E-04
8.5000E+01	5.1565E+01	1.0446E-01	4.2329E-01	1.6541E+00	1.1263E+00	1.5794E-04
9.0000E+01	2.9796E-10	5.7631E-02	2.3290E-01	1.6593E+00	1.1267E+00	1.5841E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.3572E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	5.3920E+04	1.0332E+00
5.0000E+00	5.0772E+00	1.7830E+00	1.7872E+00	4.0112E-01	9.5711E+04	2.8459E+00
1.0000E+01	2.0883E+01	4.2419E+00	4.4177E+00	2.1934E+00	9.2662E+04	4.9201E+00
1.5000E+01	4.7304E+01	7.7814E+00	8.7047E+00	3.9218E+00	7.6752E+04	6.0700E+00
2.0000E+01	8.5317E+01	1.0717E+01	1.4600E+01	5.5111E+00	7.6674E+04	7.7507E+00
2.5000E+01	1.3391E+02	1.2362E+01	2.1901E+01	7.2340E+00	8.5567E+04	9.9199E+00
3.0000E+01	1.8985E+02	1.4148E+01	3.0332E+01	9.0706E+00	8.5333E+04	1.1467E+01
3.5000E+01	2.4915E+02	1.8153E+01	3.9590E+01	1.0774E+01	6.4886E+04	1.1291E+01
4.0000E+01	3.1439E+02	2.0841E+01	4.9508E+01	1.2248E+01	5.7612E+04	1.1978E+01
4.5000E+01	3.8306E+02	2.2350E+01	5.9765E+01	1.3646E+01	5.4636E+04	1.3041E+01
5.0000E+01	4.5206E+02	2.3449E+01	7.0026E+01	1.4985E+01	5.1108E+04	1.4044E+01
5.5000E+01	5.1908E+02	2.4323E+01	7.9974E+01	1.6243E+01	4.6802E+04	1.4915E+01
6.0000E+01	5.8199E+02	2.5048E+01	8.9307E+01	1.7394E+01	4.1640E+04	1.5635E+01
6.5000E+01	6.3884E+02	2.5655E+01	9.7740E+01	1.8414E+01	3.5750E+04	1.6211E+01
7.0000E+01	6.8788E+02	2.6156E+01	1.0502E+02	1.9279E+01	2.9309E+04	1.6651E+01
7.5000E+01	7.2765E+02	2.6555E+01	1.1092E+02	1.9970E+01	2.2506E+04	1.6972E+01
8.0000E+01	7.5693E+02	2.6848E+01	1.1527E+02	2.0474E+01	1.5519E+04	1.7188E+01
8.5000E+01	7.7485E+02	2.7028E+01	1.1794E+02	2.0781E+01	8.8498E+03	1.7312E+01
9.0000E+01	7.8089E+02	2.7089E+01	1.1883E+02	2.0883E+01	4.8805E+03	1.7352E+01

TABLE X. - Continued

(f) Velocity, 7.9248 km/sec; M_1 = 26.339

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.1758E+00	6.9932E-02	9.9995E-01	2.6141E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.3784E+00	9.9659E-01	1.8907E+01	1.0000E+00	1.3922E+00	2.4302E-05
1.0000E+01	8.0388E+00	9.8538E-01	1.2185E+01	1.0000E+00	1.3297E+00	4.3422E-05
1.5000E+01	1.2592E+01	9.6678E-01	9.1518E+00	1.0019E+00	1.2375E+00	6.4066E-05
2.0000E+01	1.7555E+01	9.4055E-01	7.9918E+00	1.0456E+00	1.1331E+00	7.6510E-05
2.5000E+01	2.2517E+01	9.0716E-01	6.9013E+00	1.1256E+00	1.1405E+00	8.4650E-05
3.0000E+01	2.7118E+01	8.6712E-01	5.4753E+00	1.2005E+00	1.2555E+00	1.0031E-04
3.5000E+01	3.1568E+01	8.2062E-01	4.7682E+00	1.2422E+00	1.1465E+00	1.2027E-04
4.0000E+01	3.6266E+01	7.6767E-01	4.2076E+00	1.3029E+00	1.1208E+00	1.2967E-04
4.5000E+01	4.0927E+01	7.0890E-01	3.6850E+00	1.3711E+00	1.1174E+00	1.3704E-04
5.0000E+01	4.5483E+01	6.4479E-01	3.1985E+00	1.4415E+00	1.1174E+00	1.4290E-04
5.5000E+01	4.9882E+01	5.7587E-01	2.7398E+00	1.5105E+00	1.1190E+00	1.4785E-04
6.0000E+01	5.4055E+01	5.0270E-01	2.3047E+00	1.5756E+00	1.1217E+00	1.5213E-04
6.5000E+01	5.7874E+01	4.2591E-01	1.8904E+00	1.6342E+00	1.1250E+00	1.5621E-04
7.0000E+01	6.1094E+01	3.4619E-01	1.4949E+00	1.6846E+00	1.1286E+00	1.6064E-04
7.5000E+01	6.3153E+01	2.6445E-01	1.1168E+00	1.7251E+00	1.1322E+00	1.6433E-04
8.0000E+01	6.2467E+01	1.8211E-01	7.5647E-01	1.7547E+00	1.1354E+00	1.6716E-04
8.5000E+01	5.2636E+01	1.0318E-01	4.2427E-01	1.7726E+00	1.1375E+00	1.6896E-04
9.0000E+01	3.1090E-10	5.5365E-02	2.2686E-01	1.7786E+00	1.1383E+00	1.6959E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.1758E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	5.8414E+04	1.0332E+00
5.0000E+00	5.9904E+00	1.9371E+00	1.9436E+00	5.2971E-01	1.0614E+05	3.0905E+00
1.0000E+01	2.4599E+01	4.7742E+00	5.0260E+00	2.5006E+00	9.7870E+04	5.1494E+00
1.5000E+01	5.5851E+01	8.7370E+00	1.0066E+01	4.3300E+00	8.0541E+04	6.3727E+00
2.0000E+01	1.0129E+02	1.1348E+01	1.7007E+01	6.0935E+00	8.7780E+04	8.5258E+00
2.5000E+01	1.5834E+02	1.3065E+01	2.5568E+01	8.0544E+00	9.6518E+04	1.0754E+01
3.0000E+01	2.2264E+02	1.6153E+01	3.5424E+01	1.0064E+01	8.3028E+04	1.1468E+01
3.5000E+01	2.9317E+02	2.0189E+01	4.6313E+01	1.1792E+01	6.6721E+04	1.1676E+01
4.0000E+01	3.7108E+02	2.2128E+01	5.7982E+01	1.3408E+01	6.3747E+04	1.2856E+01
4.5000E+01	4.5205E+02	2.3448E+01	7.0024E+01	1.4984E+01	6.0842E+04	1.4043E+01
5.0000E+01	5.3317E+02	2.4492E+01	8.2065E+01	1.6503E+01	5.7002E+04	1.5084E+01
5.5000E+01	6.1185E+02	2.5371E+01	9.3737E+01	1.7932E+01	5.2020E+04	1.5946E+01
6.0000E+01	6.8565E+02	2.6133E+01	1.0469E+02	1.9239E+01	4.6032E+04	1.6632E+01
6.5000E+01	7.5228E+02	2.6802E+01	1.1458E+02	2.0395E+01	3.9172E+04	1.7155E+01
7.0000E+01	8.0972E+02	2.7382E+01	1.2312E+02	2.1372E+01	3.1647E+04	1.7533E+01
7.5000E+01	8.5626E+02	2.7866E+01	1.3005E+02	2.2151E+01	2.3979E+04	1.7791E+01
8.0000E+01	8.9050E+02	2.8238E+01	1.3515E+02	2.2717E+01	1.6378E+04	1.7951E+01
8.5000E+01	9.1144E+02	2.8476E+01	1.3827E+02	2.3060E+01	9.2246E+03	1.8036E+01
9.0000E+01	9.1848E+02	2.8556E+01	1.3933E+02	2.3175E+01	4.9386E+03	1.8062E+01

TABLE X. - Continued

(g) Velocity, 8.5344 km/sec; $M_1 = 28.365$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.0203E+00	6.4943E-02	9.9996E-01	2.8152E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.4897E+00	9.9654E-01	1.9569E+01	1.0000E+00	1.3892E+00	2.5723E-05
1.0000E+01	8.1160E+00	9.8534E-01	1.2450E+01	1.0000E+00	1.3212E+00	4.6375E-05
1.5000E+01	1.2735E+01	9.6668E-01	9.5765E+00	1.0067E+00	1.1910E+00	6.8065E-05
2.0000E+01	1.7759E+01	9.4041E-01	8.3178E+00	1.0691E+00	1.1300E+00	7.9185E-05
2.5000E+01	2.2654E+01	9.0707E-01	7.0049E+00	1.1619E+00	1.1661E+00	8.8983E-05
3.0000E+01	2.7079E+01	8.6715E-01	5.5920E+00	1.2189E+00	1.1901E+00	1.1287E-04
3.5000E+01	3.1767E+01	8.2046E-01	4.9437E+00	1.2793E+00	1.1262E+00	1.2674E-04
4.0000E+01	3.6513E+01	7.6747E-01	4.3480E+00	1.3545E+00	1.1179E+00	1.3545E-04
4.5000E+01	4.1188E+01	7.0867E-01	3.7994E+00	1.4358E+00	1.1173E+00	1.4247E-04
5.0000E+01	4.5750E+01	6.4456E-01	3.2873E+00	1.5184E+00	1.1193E+00	1.4838E-04
5.5000E+01	5.0155E+01	5.7563E-01	2.8056E+00	1.5988E+00	1.1229E+00	1.5361E-04
6.0000E+01	5.4334E+01	5.0245E-01	2.3503E+00	1.6738E+00	1.1277E+00	1.5968E-04
6.5000E+01	5.8160E+01	4.2565E-01	1.9189E+00	1.7409E+00	1.1339E+00	1.6582E-04
7.0000E+01	6.1386E+01	3.4592E-01	1.5095E+00	1.7976E+00	1.1411E+00	1.7161E-04
7.5000E+01	6.3451E+01	2.6417E-01	1.1208E+00	1.8424E+00	1.1499E+00	1.7691E-04
8.0000E+01	6.2781E+01	1.8180E-01	7.5440E-01	1.8743E+00	1.1587E+00	1.8138E-04
8.5000E+01	5.2997E+01	1.0278E-01	4.2022E-01	1.8931E+00	1.1658E+00	1.8450E-04
9.0000E+01	3.1488E-10	5.4703E-02	2.2249E-01	1.8993E+00	1.1686E+00	1.8562E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.0203E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	6.2908E+04	1.0332E+00
5.0000E+00	6.9776E+00	2.1015E+00	2.1113E+00	6.6725E-01	1.1595E+05	3.3182E+00
1.0000E+01	2.8629E+01	5.3378E+00	5.6834E+00	2.8049E+00	1.0273E+05	5.3604E+00
1.5000E+01	6.5315E+01	9.5672E+00	1.1544E+01	4.7354E+00	8.6763E+04	6.7732E+00
2.0000E+01	1.1860E+02	1.1913E+01	1.9606E+01	6.7061E+00	9.9636E+04	9.3017E+00
2.5000E+01	1.8451E+02	1.3932E+01	2.9519E+01	8.9019E+00	1.0467E+05	1.1384E+01
3.0000E+01	2.5772E+02	1.8662E+01	4.0916E+01	1.0984E+01	7.8414E+04	1.1316E+01
3.5000E+01	3.4168E+02	2.1523E+01	5.3596E+01	1.2815E+01	7.2373E+04	1.2395E+01
4.0000E+01	4.3262E+02	2.3165E+01	6.7137E+01	1.4613E+01	7.0377E+04	1.3771E+01
4.5000E+01	5.2668E+02	2.4414E+01	8.1102E+01	1.6383E+01	6.7327E+04	1.5007E+01
5.0000E+01	6.2079E+02	2.5466E+01	9.5064E+01	1.8092E+01	6.2829E+04	1.6036E+01
5.5000E+01	7.1199E+02	2.6398E+01	1.0860E+02	1.9699E+01	5.6949E+04	1.6850E+01
6.0000E+01	7.9743E+02	2.7256E+01	1.2129E+02	2.1164E+01	4.9547E+04	1.7458E+01
6.5000E+01	8.7449E+02	2.8062E+01	1.3276E+02	2.2453E+01	4.1393E+04	1.7879E+01
7.0000E+01	9.4082E+02	2.8821E+01	1.4266E+02	2.3538E+01	3.2976E+04	1.8137E+01
7.5000E+01	9.9443E+02	2.9517E+01	1.5069E+02	2.4397E+01	2.4597E+04	1.8264E+01
8.0000E+01	1.0338E+03	3.0104E+01	1.5660E+02	2.5016E+01	1.6543E+04	1.8299E+01
8.5000E+01	1.0578E+03	3.0513E+01	1.6022E+02	2.5389E+01	9.1894E+03	1.8290E+01
9.0000E+01	1.0658E+03	3.0661E+01	1.6144E+02	2.5514E+01	4.8591E+03	1.8280E+01

TABLE X. - Continued

(h) Velocity, 9.144 km/sec; M_1 = 30.391

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.8856E+00	6.0618E-02	9.9997E-01	3.0163E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.5804E+00	9.9650E-01	2.0174E+01	1.0000E+00	1.3855E+00	2.7169E-05
1.0000E+01	8.1824E+00	9.8530E-01	1.2685E+01	1.0000E+00	1.3147E+00	4.9304E-05
1.5000E+01	1.2890E+01	9.6658E-01	1.0007E+01	1.0156E+00	1.1596E+00	7.1247E-05
2.0000E+01	1.7925E+01	9.4031E-01	8.6008E+00	1.0953E+00	1.1321E+00	8.1765E-05
2.5000E+01	2.2691E+01	9.0704E-01	6.8606E+00	1.1928E+00	1.2339E+00	9.6206E-05
3.0000E+01	2.7181E+01	8.6707E-01	5.7962E+00	1.2447E+00	1.1442E+00	1.2085E-04
3.5000E+01	3.1966E+01	8.2030E-01	5.1046E+00	1.3220E+00	1.1196E+00	1.3197E-04
4.0000E+01	3.6725E+01	7.6730E-01	4.4773E+00	1.4116E+00	1.1170E+00	1.4055E-04
4.5000E+01	4.1400E+01	7.0850E-01	3.8993E+00	1.5062E+00	1.1189E+00	1.4755E-04
5.0000E+01	4.5960E+01	6.4439E-01	3.3604E+00	1.6013E+00	1.1230E+00	1.5378E-04
5.5000E+01	5.0358E+01	5.7546E-01	2.8541E+00	1.6930E+00	1.1293E+00	1.6139E-04
6.0000E+01	5.4521E+01	5.0229E-01	2.3764E+00	1.7775E+00	1.1382E+00	1.6946E-04
6.5000E+01	5.8308E+01	4.2552E-01	1.9232E+00	1.8511E+00	1.1520E+00	1.7806E-04
7.0000E+01	6.1442E+01	3.4587E-01	1.4924E+00	1.9102E+00	1.1745E+00	1.8774E-04
7.5000E+01	6.3294E+01	2.6432E-01	1.0877E+00	1.9517E+00	1.2066E+00	1.9937E-04
8.0000E+01	6.2213E+01	1.8237E-01	7.2184E-01	1.9762E+00	1.2328E+00	2.1097E-04
8.5000E+01	5.1760E+01	1.0421E-01	4.0414E-01	1.9886E+00	1.2392E+00	2.1906E-04
9.0000E+01	2.9808E-10	5.7608E-02	2.2211E-01	1.9923E+00	1.2389E+00	2.2191E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.8856E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	6.7401E+04	1.0332E+00
5.0000E+00	8.0401E+00	2.2760E+00	2.2906E+00	8.1107E-01	1.2513E+05	3.5304E+00
1.0000E+01	3.2974E+01	5.9309E+00	6.3898E+00	3.0997E+00	1.0731E+05	5.5565E+00
1.5000E+01	7.5709E+01	1.0238E+01	1.3140E+01	5.1476E+00	9.5346E+04	7.2726E+00
2.0000E+01	1.3720E+02	1.2457E+01	2.2395E+01	7.3461E+00	1.1162E+05	1.0044E+01
2.5000E+01	2.1198E+02	1.5349E+01	3.3747E+01	9.7507E+00	1.0536E+05	1.1564E+01
3.0000E+01	2.9670E+02	2.0307E+01	4.6846E+01	1.1869E+01	8.1288E+04	1.1724E+01
3.5000E+01	3.9421E+02	2.2548E+01	6.1425E+01	1.3866E+01	7.9341E+04	1.3209E+01
4.0000E+01	4.9884E+02	2.4073E+01	7.6970E+01	1.5866E+01	7.7355E+04	1.4663E+01
4.5000E+01	6.0687E+02	2.5318E+01	9.2998E+01	1.7843E+01	7.3763E+04	1.5896E+01
5.0000E+01	7.1485E+02	2.6427E+01	1.0902E+02	1.9749E+01	6.8326E+04	1.6873E+01
5.5000E+01	8.1935E+02	2.7481E+01	1.2455E+02	2.1534E+01	6.0612E+04	1.7590E+01
6.0000E+01	9.1711E+02	2.8540E+01	1.3912E+02	2.3153E+01	5.1722E+04	1.8057E+01
6.5000E+01	1.0050E+03	2.9668E+01	1.5228E+02	2.4565E+01	4.2212E+04	1.8279E+01
7.0000E+01	1.0803E+03	3.0939E+01	1.6363E+02	2.5737E+01	3.2503E+04	1.8257E+01
7.5000E+01	1.1405E+03	3.2403E+01	1.7282E+02	2.6646E+01	2.3076E+04	1.8012E+01
8.0000E+01	1.1842E+03	3.3856E+01	1.7958E+02	2.7284E+01	1.4767E+04	1.7678E+01
8.5000E+01	1.2107E+03	3.4870E+01	1.8372E+02	2.7660E+01	8.0171E+03	1.7440E+01
9.0000E+01	1.2196E+03	3.5227E+01	1.8511E+02	2.7784E+01	4.3547E+03	1.7359E+01

TABLE X. - Continued

(i) Velocity, 9.7536 km/sec; $M_1 = 32.418$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.7677E+00	5.6833E-02	9.9997E-01	3.2174E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.6556E+00	9.9647E-01	2.0729E+01	1.0000E+00	1.3810E+00	2.8633E-05
1.0000E+01	8.2394E+00	9.8527E-01	1.2917E+01	1.0000E+00	1.3057E+00	5.2208E-05
1.5000E+01	1.3041E+01	9.6649E-01	1.0411E+01	1.0278E+00	1.1426E+00	7.3864E-05
2.0000E+01	1.8054E+01	9.4023E-01	8.8267E+00	1.1238E+00	1.1397E+00	8.4468E-05
2.5000E+01	2.2638E+01	9.0708E-01	6.8005E+00	1.2098E+00	1.2312E+00	1.0751E-04
3.0000E+01	2.7324E+01	8.6697E-01	5.9815E+00	1.2772E+00	1.1269E+00	1.2644E-04
3.5000E+01	3.2141E+01	8.2017E-01	5.2522E+00	1.3698E+00	1.1174E+00	1.3692E-04
4.0000E+01	3.6902E+01	7.6717E-01	4.5922E+00	1.4735E+00	1.1180E+00	1.4526E-04
4.5000E+01	4.1571E+01	7.0837E-01	3.9835E+00	1.5817E+00	1.1220E+00	1.5252E-04
5.0000E+01	4.6119E+01	6.4427E-01	3.4151E+00	1.6894E+00	1.1290E+00	1.6107E-04
5.5000E+01	5.0492E+01	5.7536E-01	2.8796E+00	1.7916E+00	1.1402E+00	1.7096E-04
6.0000E+01	5.4593E+01	5.0223E-01	2.3670E+00	1.8825E+00	1.1616E+00	1.8269E-04
6.5000E+01	5.8206E+01	4.2561E-01	1.8651E+00	1.9529E+00	1.2079E+00	1.9982E-04
7.0000E+01	6.0981E+01	3.4630E-01	1.4192E+00	1.9945E+00	1.2384E+00	2.2368E-04
7.5000E+01	6.2476E+01	2.6513E-01	1.0514E+00	2.0202E+00	1.2173E+00	2.3676E-04
8.0000E+01	6.1117E+01	1.8352E-01	7.1542E-01	2.0397E+00	1.1972E+00	2.4482E-04
8.5000E+01	5.0283E+01	1.0603E-01	4.0928E-01	2.0524E+00	1.1876E+00	2.4828E-04
9.0000E+01	2.8200E-10	6.0695E-02	2.3351E-01	2.0568E+00	1.1849E+00	2.4921E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.7677E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	7.1895E+04	1.0332E+00
5.0000E+00	9.1779E+00	2.4605E+00	2.4817E+00	9.5968E-01	1.3373E+05	3.7280E+00
1.0000E+01	3.7630E+01	6.5527E+00	7.1451E+00	3.3908E+00	1.1160E+05	5.7366E+00
1.5000E+01	8.6972E+01	1.0790E+01	1.4850E+01	5.5725E+00	1.0565E+05	7.8327E+00
2.0000E+01	1.5704E+02	1.3027E+01	2.5372E+01	8.0114E+00	1.2294E+05	1.0715E+01
2.5000E+01	2.4053E+02	1.7564E+01	3.8246E+01	1.0554E+01	9.8334E+04	1.1306E+01
3.0000E+01	3.3904E+02	2.1463E+01	5.3201E+01	1.2760E+01	8.7314E+04	1.2354E+01
3.5000E+01	4.5051E+02	2.3427E+01	6.9795E+01	1.4955E+01	8.6583E+04	1.4022E+01
4.0000E+01	5.6967E+02	2.4911E+01	8.7480E+01	1.7171E+01	8.4387E+04	1.5501E+01
4.5000E+01	6.9255E+02	2.6203E+01	1.0571E+02	1.9360E+01	7.9909E+04	1.6691E+01
5.0000E+01	8.1522E+02	2.7438E+01	1.2394E+02	2.1464E+01	7.2427E+04	1.7566E+01
5.5000E+01	9.3372E+02	2.8736E+01	1.4160E+02	2.3423E+01	6.2842E+04	1.8115E+01
6.0000E+01	1.0441E+03	3.0275E+01	1.5816E+02	2.5178E+01	5.1854E+04	1.8298E+01
6.5000E+01	1.1423E+03	3.2459E+01	1.7311E+02	2.6673E+01	3.9520E+04	1.8000E+01
7.0000E+01	1.2251E+03	3.5448E+01	1.8597E+02	2.7860E+01	2.7623E+04	1.7309E+01
7.5000E+01	1.2920E+03	3.8021E+01	1.9641E+02	2.8743E+01	1.9393E+04	1.6801E+01
8.0000E+01	1.3418E+03	3.9627E+01	2.0410E+02	2.9357E+01	1.2812E+04	1.6581E+01
8.5000E+01	1.3726E+03	4.0489E+01	2.0882E+02	2.9721E+01	7.2621E+03	1.6497E+01
9.0000E+01	1.3830E+03	4.0760E+01	2.1041E+02	2.9842E+01	4.1363E+03	1.6476E+01

TABLE X. - Continued

(j) Velocity, 10.3632 km/sec; M_1 = 34.444

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.6637E+00	5.3492E-02	9.9997E-01	3.4185E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.7188E+00	9.9644E-01	2.1239E+01	1.0000E+00	1.3764E+00	3.0111E-05
1.0000E+01	8.2918E+00	9.8525E-01	1.3156E+01	1.0001E+00	1.2933E+00	5.6091E-05
1.5000E+01	1.3177E+01	9.6641E-01	1.0787E+01	1.0427E+00	1.1340E+00	7.6129E-05
2.0000E+01	1.8149E+01	9.4018E-01	8.9601E+00	1.1532E+00	1.1573E+00	8.7767E-05
2.5000E+01	2.2662E+01	9.0706E-01	7.0177E+00	1.2275E+00	1.1674E+00	1.1623E-04
3.0000E+01	2.7469E+01	8.6687E-01	6.1553E+00	1.3139E+00	1.1200E+00	1.3100E-04
3.5000E+01	3.2293E+01	8.2007E-01	5.3873E+00	1.4217E+00	1.1171E+00	1.4137E-04
4.0000E+01	3.7048E+01	7.6706E-01	4.6924E+00	1.5398E+00	1.1201E+00	1.4980E-04
4.5000E+01	4.1705E+01	7.0828E-01	4.0497E+00	1.6618E+00	1.1268E+00	1.5862E-04
5.0000E+01	4.6227E+01	6.4418E-01	3.4461E+00	1.7814E+00	1.1387E+00	1.6987E-04
5.5000E+01	5.0536E+01	5.7532E-01	2.8622E+00	1.8906E+00	1.1648E+00	1.8406E-04
6.0000E+01	5.4424E+01	5.0238E-01	2.2686E+00	1.9722E+00	1.2290E+00	2.0878E-04
6.5000E+01	5.7745E+01	4.2603E-01	1.8005E+00	2.0172E+00	1.2205E+00	2.3540E-04
7.0000E+01	6.0537E+01	3.4674E-01	1.4193E+00	2.0550E+00	1.1860E+00	2.4883E-04
7.5000E+01	6.2179E+01	2.6544E-01	1.0612E+00	2.0891E+00	1.1710E+00	2.5500E-04
8.0000E+01	6.0923E+01	1.8374E-01	7.2261E-01	2.1156E+00	1.1642E+00	2.5885E-04
8.5000E+01	5.0149E+01	1.0620E-01	4.1364E-01	2.1323E+00	1.1611E+00	2.6099E-04
9.0000E+01	2.8101E-10	6.0895E-02	2.3641E-01	2.1380E+00	1.1602E+00	2.6165E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.6637E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	7.6389E+04	1.0332E+00
5.0000E+00	1.0391E+01	2.6546E+00	2.6846E+00	1.1122E+00	1.4178E+05	3.9120E+00
1.0000E+01	4.2612E+01	7.1977E+00	7.9500E+00	3.6748E+00	1.1375E+05	5.9127E+00
1.5000E+01	9.9045E+01	1.1268E+01	1.6670E+01	6.0128E+00	1.1706E+05	8.4197E+00
2.0000E+01	1.7803E+02	1.3694E+01	2.8537E+01	8.6952E+00	1.3211E+05	1.1260E+01
2.5000E+01	2.7167E+02	1.9354E+01	4.3054E+01	1.1311E+01	9.7629E+04	1.1422E+01
3.0000E+01	3.8444E+02	2.2375E+01	5.9970E+01	1.3673E+01	9.4661E+04	1.3061E+01
3.5000E+01	5.1052E+02	2.4218E+01	7.8704E+01	1.6084E+01	9.4088E+04	1.4809E+01
4.0000E+01	6.4507E+02	2.5719E+01	9.8665E+01	1.8524E+01	9.1240E+04	1.6269E+01
4.5000E+01	7.8364E+02	2.7117E+01	1.1924E+02	2.0930E+01	8.4947E+04	1.7370E+01
5.0000E+01	9.2173E+02	2.8594E+01	1.3981E+02	2.3228E+01	7.5064E+04	1.8074E+01
5.5000E+01	1.0546E+03	3.0456E+01	1.5974E+02	2.5340E+01	6.2621E+04	1.8292E+01
6.0000E+01	1.1765E+03	3.3581E+01	1.7839E+02	2.7174E+01	4.6759E+04	1.7743E+01
6.5000E+01	1.2843E+03	3.7750E+01	1.9521E+02	2.8645E+01	3.3389E+04	1.6845E+01
7.0000E+01	1.3787E+03	4.0648E+01	2.0975E+02	2.9792E+01	2.5158E+04	1.6484E+01
7.5000E+01	1.4562E+03	4.2452E+01	2.2156E+02	3.0669E+01	1.8696E+04	1.6399E+01
8.0000E+01	1.5136E+03	4.3576E+01	2.3026E+02	3.1294E+01	1.2748E+04	1.6399E+01
8.5000E+01	1.5489E+03	4.4199E+01	2.3560E+02	3.1669E+01	7.3155E+03	1.6414E+01
9.0000E+01	1.5608E+03	4.4400E+01	2.3739E+02	3.1794E+01	4.1858E+03	1.6422E+01

TABLE X. - Continued

(k) Velocity, 10.9728 km/sec; M_1 = 36.470

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.5712E+00	5.0523E-02	9.9998E-01	3.6196E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.7727E+00	9.9642E-01	2.1711E+01	1.0000E+00	1.3713E+00	3.1602E-05
1.0000E+01	8.3418E+00	9.8522E-01	1.3420E+01	1.0004E+00	1.2761E+00	5.9506E-05
1.5000E+01	1.3297E+01	9.6635E-01	1.1133E+01	1.0598E+00	1.1304E+00	7.8193E-05
2.0000E+01	1.8197E+01	9.4016E-01	8.9156E+00	1.1810E+00	1.1982E+00	9.2512E-05
2.5000E+01	2.2746E+01	9.0701E-01	7.2238E+00	1.2512E+00	1.1391E+00	1.2219E-04
3.0000E+01	2.7599E+01	8.6679E-01	6.3133E+00	1.3546E+00	1.1179E+00	1.3546E-04
3.5000E+01	3.2422E+01	8.1998E-01	5.5086E+00	1.4774E+00	1.1181E+00	1.4555E-04
4.0000E+01	3.7166E+01	7.6698E-01	4.7761E+00	1.6102E+00	1.1235E+00	1.5435E-04
4.5000E+01	4.1803E+01	7.0821E-01	4.0940E+00	1.7457E+00	1.1344E+00	1.6628E-04
5.0000E+01	4.6274E+01	6.4415E-01	3.4363E+00	1.8745E+00	1.1587E+00	1.8141E-04
5.5000E+01	5.0391E+01	5.7544E-01	2.7431E+00	1.9740E+00	1.2307E+00	2.0975E-04
6.0000E+01	5.4075E+01	5.0269E-01	2.2250E+00	2.0287E+00	1.2083E+00	2.4045E-04
6.5000E+01	5.7554E+01	4.2621E-01	1.8144E+00	2.0806E+00	1.1739E+00	2.5362E-04
7.0000E+01	6.0497E+01	3.4678E-01	1.4316E+00	2.1305E+00	1.1614E+00	2.6077E-04
7.5000E+01	6.2243E+01	2.6537E-01	1.0703E+00	2.1730E+00	1.1562E+00	2.6058E-04
8.0000E+01	6.1092E+01	1.8355E-01	7.2840E-01	2.2052E+00	1.1538E+00	2.5973E-04
8.5000E+01	5.0460E+01	1.0581E-01	4.1584E-01	2.2251E+00	1.1527E+00	2.5924E-04
9.0000E+01	2.8468E-10	6.0157E-02	2.3568E-01	2.2318E+00	1.1524E+00	2.5908E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.5712E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	8.0882E+04	1.0332E+00
5.0000E+00	1.1681E+01	2.8585E+00	2.8995E+00	1.2677E+00	1.4932E+05	4.0838E+00
1.0000E+01	4.7929E+01	7.8569E+00	8.8049E+00	3.9535E+00	1.1694E+05	6.0909E+00
1.5000E+01	1.1189E+02	1.1703E+01	1.8600E+01	6.4706E+00	1.2913E+05	9.0102E+00
2.0000E+01	1.9999E+02	1.4624E+01	3.1884E+01	9.3861E+00	1.3630E+05	1.1566E+01
2.5000E+01	3.0550E+02	2.0584E+01	4.8172E+01	1.2059E+01	1.0199E+05	1.1848E+01
3.0000E+01	4.3271E+02	2.3167E+01	6.7151E+01	1.4614E+01	1.0220E+05	1.3772E+01
3.5000E+01	5.7420E+02	2.4962E+01	8.8152E+01	1.7253E+01	1.0160E+05	1.5551E+01
4.0000E+01	7.2497E+02	2.6528E+01	1.1053E+02	1.9924E+01	9.7685E+04	1.6952E+01
4.5000E+01	8.8003E+02	2.8122E+01	1.3359E+02	2.2545E+01	8.8430E+04	1.7905E+01
5.0000E+01	1.0340E+03	3.0108E+01	1.5663E+02	2.5020E+01	7.5350E+04	1.8299E+01
5.5000E+01	1.1799E+03	3.3704E+01	1.7893E+02	2.7223E+01	5.6354E+04	1.7714E+01
6.0000E+01	1.3139E+03	3.8757E+01	1.9979E+02	2.9017E+01	4.0464E+04	1.6691E+01
6.5000E+01	1.4373E+03	4.2048E+01	2.1869E+02	3.0460E+01	3.1979E+04	1.6410E+01
7.0000E+01	1.5451E+03	4.4134E+01	2.3502E+02	3.1628E+01	2.5310E+04	1.6412E+01
7.5000E+01	1.6329E+03	4.5532E+01	2.4828E+02	3.2540E+01	1.9467E+04	1.6484E+01
8.0000E+01	1.6978E+03	4.6448E+01	2.5805E+02	3.3195E+01	1.3569E+04	1.6556E+01
8.5000E+01	1.7376E+03	4.6971E+01	2.6403E+02	3.3591E+01	7.8595E+03	1.6606E+01
9.0000E+01	1.7510E+03	4.7142E+01	2.6605E+02	3.3723E+01	4.4759E+03	1.6623E+01

TABLE X.- Concluded

(l) Velocity, 11.5824 km/sec; M_1 = 38.496

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.4885E+00	4.7865E-02	9.9998E-01	3.8207E+01	1.0000E+00	1.4013E+00	1.4814E-05
5.0000E+00	3.8193E+00	9.9641E-01	2.2152E+01	1.0000E+00	1.3658E+00	3.3099E-05
1.0000E+01	8.3939E+00	9.8519E-01	1.3754E+01	1.0013E+00	1.2494E+00	6.2859E-05
1.5000E+01	1.3399E+01	9.6630E-01	1.1448E+01	1.0787E+00	1.1302E+00	8.0161E-05
2.0000E+01	1.8182E+01	9.4017E-01	8.6793E+00	1.2005E+00	1.2554E+00	1.0026E-04
2.5000E+01	2.2845E+01	9.0695E-01	7.4168E+00	1.2792E+00	1.1262E+00	1.2673E-04
3.0000E+01	2.7715E+01	8.6671E-01	6.4617E+00	1.3985E+00	1.1170E+00	1.3947E-04
3.5000E+01	3.2531E+01	8.1991E-01	5.6158E+00	1.5367E+00	1.1200E+00	1.4960E-04
4.0000E+01	3.7260E+01	7.6692E-01	4.8411E+00	1.6842E+00	1.1286E+00	1.6061E-04
4.5000E+01	4.1862E+01	7.0817E-01	4.1065E+00	1.8317E+00	1.1474E+00	1.7555E-04
5.0000E+01	4.6200E+01	6.4420E-01	3.3272E+00	1.9578E+00	1.2134E+00	2.0187E-04
5.5000E+01	5.0115E+01	5.7567E-01	2.6934E+00	2.0271E+00	1.2099E+00	2.3979E-04
6.0000E+01	5.3970E+01	5.0278E-01	2.2427E+00	2.0918E+00	1.1701E+00	2.5543E-04
6.5000E+01	5.7574E+01	4.2619E-01	1.8293E+00	2.1577E+00	1.1577E+00	2.6103E-04
7.0000E+01	6.0595E+01	3.4668E-01	1.4435E+00	2.2175E+00	1.1531E+00	2.5942E-04
7.5000E+01	6.2414E+01	2.6519E-01	1.0790E+00	2.2672E+00	1.1512E+00	2.5831E-04
8.0000E+01	6.1362E+01	1.8326E-01	7.3360E-01	2.3043E+00	1.1505E+00	2.5757E-04
8.5000E+01	5.0892E+01	1.0526E-01	4.1731E-01	2.3272E+00	1.1503E+00	2.5715E-04
9.0000E+01	2.8968E-10	5.9181E-02	2.3387E-01	2.3349E+00	1.1502E+00	2.5701E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.4885E+00	1.0479E+00	1.0130E+00	1.0134E+00	-1.9139E-04	8.5376E+04	1.0332E+00
5.0000E+00	1.3047E+01	3.0716E+00	3.1264E+00	1.4246E+00	1.5643E+05	4.2450E+00
1.0000E+01	5.3612E+01	8.5040E+00	9.7111E+00	4.2277E+00	1.2065E+05	6.2887E+00
1.5000E+01	1.2548E+02	1.2118E+01	2.0638E+01	6.9449E+00	1.4148E+05	9.5879E+00
2.0000E+01	2.2253E+02	1.6144E+01	3.5407E+01	1.0061E+01	1.3164E+05	1.1469E+01
2.5000E+01	3.4166E+02	2.1522E+01	5.3592E+01	1.2814E+01	1.0857E+05	1.2394E+01
3.0000E+01	4.8383E+02	2.3880E+01	7.4742E+01	1.5585E+01	1.1007E+05	1.4470E+01
3.5000E+01	6.4151E+02	2.5682E+01	9.8138E+01	1.8461E+01	1.0893E+05	1.6236E+01
4.0000E+01	8.0932E+02	2.7378E+01	1.2306E+02	2.1365E+01	1.0247E+05	1.7531E+01
4.5000E+01	9.8148E+02	2.9339E+01	1.4875E+02	2.4191E+01	9.0071E+04	1.8241E+01
5.0000E+01	1.1506E+03	3.2715E+01	1.7439E+02	2.6796E+01	7.0091E+04	1.7943E+01
5.5000E+01	1.3098E+03	3.8624E+01	1.9917E+02	2.8967E+01	4.9103E+04	1.6709E+01
6.0000E+01	1.4621E+03	4.2577E+01	2.2246E+02	3.0735E+01	3.9509E+04	1.6397E+01
6.5000E+01	1.6016E+03	4.5057E+01	2.4355E+02	3.2218E+01	3.2884E+04	1.6454E+01
7.0000E+01	1.7226E+03	4.6776E+01	2.6176E+02	3.3442E+01	2.7133E+04	1.6587E+01
7.5000E+01	1.8209E+03	4.7989E+01	2.7654E+02	3.4405E+01	2.1006E+04	1.6716E+01
8.0000E+01	1.8935E+03	4.8808E+01	2.8743E+02	3.5100E+01	1.4645E+04	1.6815E+01
8.5000E+01	1.9379E+03	4.9283E+01	2.9410E+02	3.5520E+01	8.4565E+03	1.6877E+01
9.0000E+01	1.9529E+03	4.9439E+01	2.9635E+02	3.5661E+01	4.7627E+03	1.6897E+01

TABLE XI. - OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 76.20 km

$[p_1 = 2.0340$ Pa; $\rho_1 = 0.000\ 036\ 250$ kg/m^3; $T_1 = 195.461$ K; $S_1/R = 33.238$; $h_1 = 195.588$ kJ/kg$]$

(a) Velocity, 6.0960 km/sec; $M_1 = 21.751$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.6351E+00	9.1497E-02	9.9993E-01	2.1576E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.0041E+00	9.9680E-01	1.7122E+01	1.0000E+00	1.3993E+00	1.9065E-05
1.0000E+01	7.7800E+00	9.8555E-01	1.1377E+01	1.0000E+00	1.3635E+00	3.3712E-05
1.5000E+01	1.2280E+01	9.6702E-01	8.4120E+00	1.0000E+00	1.3162E+00	4.8511E-05
2.0000E+01	1.6822E+01	9.4114E-01	6.8942E+00	1.0035E+00	1.2146E+00	6.4300E-05
2.5000E+01	2.1772E+01	9.0775E-01	6.1664E+00	1.0369E+00	1.1309E+00	7.3033E-05
3.0000E+01	2.6734E+01	8.6743E-01	5.4543E+00	1.0918E+00	1.1248E+00	7.8587E-05
3.5000E+01	3.1535E+01	8.2065E-01	4.7390E+00	1.1547E+00	1.1486E+00	8.4279E-05
4.0000E+01	3.5920E+01	7.6799E-01	3.8061E+00	1.2026E+00	1.2625E+00	9.0484E-05
4.5000E+01	4.0085E+01	7.0972E-01	3.3115E+00	1.2264E+00	1.1656E+00	1.1169E-04
5.0000E+01	4.4463E+01	6.4580E-01	2.9005E+00	1.2604E+00	1.1280E+00	1.1949E-04
5.5000E+01	4.8763E+01	5.7699E-01	2.5045E+00	1.2978E+00	1.1171E+00	1.2433E-04
6.0000E+01	5.2838E+01	5.0393E-01	2.1253E+00	1.3346E+00	1.1123E+00	1.2785E-04
6.5000E+01	5.6532E+01	4.2728E-01	1.7584E+00	1.3684E+00	1.1111E+00	1.3062E-04
7.0000E+01	5.9554E+01	3.4778E-01	1.4023E+00	1.3981E+00	1.1113E+00	1.3304E-04
7.5000E+01	6.1279E+01	2.6642E-01	1.0575E+00	1.4225E+00	1.1114E+00	1.3487E-04
8.0000E+01	5.9969E+01	1.8483E-01	7.2540E-01	1.4405E+00	1.1116E+00	1.3615E-04
8.5000E+01	4.8971E+01	1.0777E-01	4.2011E-01	1.4515E+00	1.1117E+00	1.3691E-04
9.0000E+01	2.6911E-10	6.3418E-02	2.4665E-01	1.4553E+00	1.1118E+00	1.3716E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.6351E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	1.7399E+04	1.0360E+00
5.0000E+00	4.0270E+00	1.6031E+00	1.6047E+00	2.5641E-01	2.9006E+04	2.5105E+00
1.0000E+01	1.6581E+01	3.6433E+00	3.7152E+00	1.7888E+00	2.9384E+04	4.5485E+00
1.5000E+01	3.7501E+01	6.6460E+00	7.1391E+00	3.3499E+00	2.4842E+04	5.6396E+00
2.0000E+01	6.6661E+01	1.0121E+01	1.1811E+01	4.7233E+00	2.1205E+04	6.5563E+00
2.5000E+01	1.0499E+02	1.2233E+01	1.7653E+01	6.0642E+00	2.2707E+04	8.2674E+00
3.0000E+01	1.5022E+02	1.3583E+01	2.4424E+01	7.5091E+00	2.4678E+04	1.0118E+01
3.5000E+01	2.0006E+02	1.4967E+01	3.1896E+01	9.0165E+00	2.4880E+04	1.1563E+01
4.0000E+01	2.5140E+02	1.7751E+01	3.9812E+01	1.0462E+01	2.0691E+04	1.1763E+01
4.5000E+01	3.0370E+02	2.1271E+01	4.7961E+01	1.1679E+01	1.6300E+04	1.1629E+01
5.0000E+01	3.5806E+02	2.3081E+01	5.6158E+01	1.2758E+01	1.4682E+04	1.2294E+01
5.5000E+01	4.1143E+02	2.4233E+01	6.4120E+01	1.3753E+01	1.3400E+04	1.3067E+01
6.0000E+01	4.6172E+02	2.5070E+01	7.1592E+01	1.4657E+01	1.2006E+04	1.3784E+01
6.5000E+01	5.0728E+02	2.5707E+01	7.8346E+01	1.5457E+01	1.0413E+04	1.4404E+01
7.0000E+01	5.4662E+02	2.6204E+01	8.4176E+01	1.6136E+01	8.6087E+03	1.4903E+01
7.5000E+01	5.7854E+02	2.6577E+01	8.8904E+01	1.6681E+01	6.6720E+03	1.5280E+01
8.0000E+01	6.0207E+02	2.6839E+01	9.2388E+01	1.7078E+01	4.6666E+03	1.5555E+01
8.5000E+01	6.1649E+02	2.6994E+01	9.4522E+01	1.7320E+01	2.7337E+03	1.5715E+01
9.0000E+01	6.2134E+02	2.7046E+01	9.5240E+01	1.7402E+01	1.6111E+03	1.5780E+01

TABLE XI.- Continued

(b) Velocity, 6.7056 km/sec; M_1 = 23.926

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.3954E+00	8.3193E-02	9.9994E-01	2.3734E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.2066E+00	9.9668E-01	1.8002E+01	1.0000E+00	1.3981E+00	2.0420E-05
1.0000E+01	7.9024E+00	9.8547E-01	1.1727E+01	1.0000E+00	1.3524E+00	3.6765E-05
1.5000E+01	1.2397E+01	9.6692E-01	8.6300E+00	1.0000E+00	1.3019E+00	5.3518E-05
2.0000E+01	1.7105E+01	9.4089E-01	7.3414E+00	1.0134E+00	1.1599E+00	6.8749E-05
2.5000E+01	2.2127E+01	9.0745E-01	6.5123E+00	1.0649E+00	1.1239E+00	7.6163E-05
3.0000E+01	2.7040E+01	8.6718E-01	5.6848E+00	1.1340E+00	1.1359E+00	8.2229E-05
3.5000E+01	3.1625E+01	8.2058E-01	4.6090E+00	1.1976E+00	1.2446E+00	9.3310E-05
4.0000E+01	3.5873E+01	7.6804E-01	3.9420E+00	1.2264E+00	1.1656E+00	1.1188E-04
4.5000E+01	4.0411E+01	7.0938E-01	3.4779E+00	1.2683E+00	1.1246E+00	1.2066E-04
5.0000E+01	4.4927E+01	6.4532E-01	3.0365E+00	1.3159E+00	1.1145E+00	1.2616E-04
5.5000E+01	4.9307E+01	5.7642E-01	2.6179E+00	1.3638E+00	1.1111E+00	1.3022E-04
6.0000E+01	5.3453E+01	5.0328E-01	2.2149E+00	1.4100E+00	1.1113E+00	1.3395E-04
6.5000E+01	5.7235E+01	4.2653E-01	1.8282E+00	1.4523E+00	1.1117E+00	1.3695E-04
7.0000E+01	6.0390E+01	3.4689E-01	1.4547E+00	1.4889E+00	1.1125E+00	1.3936E-04
7.5000E+01	6.2331E+01	2.6528E-01	1.0935E+00	1.5188E+00	1.1134E+00	1.4122E-04
8.0000E+01	6.1410E+01	1.8321E-01	7.4586E-01	1.5408E+00	1.1142E+00	1.4255E-04
8.5000E+01	5.1106E+01	1.0500E-01	4.2426E-01	1.5542E+00	1.1147E+00	1.4335E-04
9.0000E+01	2.9271E-10	5.8603E-02	2.3620E-01	1.5588E+00	1.1149E+00	1.4362E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.3954E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	1.9139E+04	1.0360E+00
5.0000E+00	4.9090E+00	1.7558E+00	1.7583E+00	3.7722E-01	3.3151E+04	2.7942E+00
1.0000E+01	2.0146E+01	4.1825E+00	4.3034E+00	2.1177E+00	3.1367E+04	4.8142E+00
1.5000E+01	4.5579E+01	7.7227E+00	8.4487E+00	3.7922E+00	2.5888E+04	5.8949E+00
2.0000E+01	8.1723E+01	1.1192E+01	1.4134E+01	5.2757E+00	2.3942E+04	7.1968E+00
2.5000E+01	1.2874E+02	1.2994E+01	2.1212E+01	6.8325E+00	2.6913E+04	9.2927E+00
3.0000E+01	1.8342E+02	1.4468E+01	2.9393E+01	8.5225E+00	2.8623E+04	1.1166E+01
3.5000E+01	2.4246E+02	1.7034E+01	3.8399E+01	1.0222E+01	2.5378E+04	1.1872E+01
4.0000E+01	3.0366E+02	2.1269E+01	4.7955E+01	1.1678E+01	1.9404E+04	1.1628E+01
4.5000E+01	3.6955E+02	2.3363E+01	5.7877E+01	1.2976E+01	1.7801E+04	1.2458E+01
5.0000E+01	4.3627E+02	2.4668E+01	6.7813E+01	1.4203E+01	1.6692E+04	1.3425E+01
5.5000E+01	5.0123E+02	2.5626E+01	7.7450E+01	1.5351E+01	1.5413E+04	1.4325E+01
6.0000E+01	5.6225E+02	2.6390E+01	8.6491E+01	1.6404E+01	1.3784E+04	1.5093E+01
6.5000E+01	6.1744E+02	2.7004E+01	9.4662E+01	1.7336E+01	1.1905E+04	1.5726E+01
7.0000E+01	6.6507E+02	2.7497E+01	1.0171E+02	1.8129E+01	9.8177E+03	1.6226E+01
7.5000E+01	7.0371E+02	2.7878E+01	1.0743E+02	1.8764E+01	7.5806E+03	1.6602E+01
8.0000E+01	7.3217E+02	2.8150E+01	1.1165E+02	1.9228E+01	5.2677E+03	1.6862E+01
8.5000E+01	7.4960E+02	2.8315E+01	1.1423E+02	1.9510E+01	3.0291E+03	1.7014E+01
9.0000E+01	7.5547E+02	2.8370E+01	1.1510E+02	1.9605E+01	1.6925E+03	1.7064E+01

TABLE XI. - Continued

(c) Velocity, 7.3152 km/sec; M_1 = 26.101

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.1957E+00	7.6270E-02	9.9995E-01	2.5892E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.3610E+00	9.9660E-01	1.8789E+01	1.0000E+00	1.3964E+00	2.1816E-05
1.0000E+01	8.0013E+00	9.8541E-01	1.2037E+01	1.0000E+00	1.3420E+00	3.9806E-05
1.5000E+01	1.2507E+01	9.6684E-01	8.8865E+00	1.0004E+00	1.2753E+00	5.8558E-05
2.0000E+01	1.7387E+01	9.4067E-01	7.7566E+00	1.0299E+00	1.1354E+00	7.2028E-05
2.5000E+01	2.2402E+01	9.0724E-01	6.8074E+00	1.0976E+00	1.1256E+00	7.9082E-05
3.0000E+01	2.7214E+01	8.6705E-01	5.7416E+00	1.1770E+00	1.1772E+00	8.7353E-05
3.5000E+01	3.1525E+01	8.2066E-01	4.6483E+00	1.2180E+00	1.1927E+00	1.0844E-04
4.0000E+01	3.6118E+01	7.6781E-01	4.1238E+00	1.2639E+00	1.1264E+00	1.2004E-04
4.5000E+01	4.0768E+01	7.0904E-01	3.6266E+00	1.3205E+00	1.1138E+00	1.2660E-04
5.0000E+01	4.5333E+01	6.4493E-01	3.1596E+00	1.3798E+00	1.1112E+00	1.3157E-04
5.5000E+01	4.9746E+01	5.7600E-01	2.7157E+00	1.4387E+00	1.1115E+00	1.3602E-04
6.0000E+01	5.3934E+01	5.0281E-01	2.2926E+00	1.4946E+00	1.1127E+00	1.3972E-04
6.5000E+01	5.7774E+01	4.2600E-01	1.8871E+00	1.5453E+00	1.1144E+00	1.4282E-04
7.0000E+01	6.1019E+01	3.4627E-01	1.4974E+00	1.5892E+00	1.1162E+00	1.4540E-04
7.5000E+01	6.3111E+01	2.6449E-01	1.1221E+00	1.6247E+00	1.1180E+00	1.4746E-04
8.0000E+01	6.2473E+01	1.8210E-01	7.6187E-01	1.6508E+00	1.1195E+00	1.4898E-04
8.5000E+01	5.2713E+01	1.0310E-01	4.2768E-01	1.6667E+00	1.1205E+00	1.4991E-04
9.0000E+01	3.1219E-10	5.5149E-02	2.2813E-01	1.6721E+00	1.1209E+00	1.5022E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.1957E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	2.0879E+04	1.0360E+00
5.0000E+00	5.8754E+00	1.9204E+00	1.9243E+00	5.1240E-01	3.7039E+04	3.0576E+00
1.0000E+01	2.4067E+01	4.7607E+00	4.9476E+00	2.4430E+00	3.3168E+04	5.0527E+00
1.5000E+01	5.4508E+01	8.8437E+00	9.8862E+00	4.2182E+00	2.6944E+04	6.1539E+00
2.0000E+01	9.8580E+01	1.1989E+01	1.6688E+01	5.8516E+00	2.7618E+04	7.9749E+00
2.5000E+01	1.5478E+02	1.3703E+01	2.5105E+01	7.6506E+00	3.1268E+04	1.0279E+01
3.0000E+01	2.1935E+02	1.5688E+01	3.4822E+01	9.5753E+00	3.1231E+04	1.1866E+01
3.5000E+01	2.8757E+02	2.0452E+01	4.5489E+01	1.1333E+01	2.3140E+04	1.1531E+01
4.0000E+01	3.6321E+02	2.3210E+01	5.6929E+01	1.2856E+01	2.0977E+04	1.2367E+01
4.5000E+01	4.4260E+02	2.4772E+01	6.8754E+01	1.4317E+01	2.0072E+04	1.3515E+01
5.0000E+01	5.2236E+02	2.5903E+01	8.0582E+01	1.5719E+01	1.8976E+04	1.4599E+01
5.5000E+01	5.9978E+02	2.6814E+01	9.2049E+01	1.7040E+01	1.7438E+04	1.5530E+01
6.0000E+01	6.7245E+02	2.7571E+01	1.0281E+02	1.8251E+01	1.5555E+04	1.6300E+01
6.5000E+01	7.3811E+02	2.8207E+01	1.1253E+02	1.9324E+01	1.3378E+04	1.6914E+01
7.0000E+01	7.9476E+02	2.8735E+01	1.2092E+02	2.0235E+01	1.0978E+04	1.7384E+01
7.5000E+01	8.4069E+02	2.9156E+01	1.2772E+02	2.0965E+01	8.4316E+03	1.7727E+01
8.0000E+01	8.7450E+02	2.9467E+01	1.3274E+02	2.1497E+01	5.8208E+03	1.7958E+01
8.5000E+01	8.9521E+02	2.9657E+01	1.3581E+02	2.1820E+01	3.2990E+03	1.8090E+01
9.0000E+01	9.0218E+02	2.9722E+01	1.3684E+02	2.1928E+01	1.7652E+03	1.8133E+01

TABLE XI. - Continued

(d) Velocity, 7.9248 km/sec; M_1 = 28.276

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.0267E+00	7.0410E-02	9.9996E-01	2.8050E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.4818E+00	9.9654E-01	1.9492E+01	1.0000E+00	1.3942E+00	2.3249E-05
1.0000E+01	8.0840E+00	9.8536E-01	1.2317E+01	1.0000E+00	1.3319E+00	4.2825E-05
1.5000E+01	1.2629E+01	9.6675E-01	9.2625E+00	1.0026E+00	1.2263E+00	6.3364E-05
2.0000E+01	1.7632E+01	9.4050E-01	8.1338E+00	1.0508E+00	1.1259E+00	7.4714E-05
2.5000E+01	2.2606E+01	9.0710E-01	7.0328E+00	1.1335E+00	1.1357E+00	8.2182E-05
3.0000E+01	2.7172E+01	8.6708E-01	5.5084E+00	1.2051E+00	1.2626E+00	9.8553E-05
3.5000E+01	3.1668E+01	8.2054E-01	4.8550E+00	1.2476E+00	1.1361E+00	1.1724E-04
4.0000E+01	3.6395E+01	7.6756E-01	4.2868E+00	1.3104E+00	1.1153E+00	1.2563E-04
4.5000E+01	4.1081E+01	7.0876E-01	3.7618E+00	1.3797E+00	1.1112E+00	1.3157E-04
5.0000E+01	4.5662E+01	6.4463E-01	3.2674E+00	1.4512E+00	1.1117E+00	1.3688E-04
5.5000E+01	5.0092E+01	5.7569E-01	2.8004E+00	1.5212E+00	1.1135E+00	1.4137E-04
6.0000E+01	5.4304E+01	5.0248E-01	2.3566E+00	1.5872E+00	1.1161E+00	1.4529E-04
6.5000E+01	5.8177E+01	4.2563E-01	1.9334E+00	1.6466E+00	1.1193E+00	1.4873E-04
7.0000E+01	6.1474E+01	3.4584E-01	1.5288E+00	1.6977E+00	1.1228E+00	1.5174E-04
7.5000E+01	6.3655E+01	2.6398E-01	1.1414E+00	1.7388E+00	1.1264E+00	1.5426E-04
8.0000E+01	6.3188E+01	1.8140E-01	7.7147E-01	1.7688E+00	1.1298E+00	1.5667E-04
8.5000E+01	5.3782E+01	1.0191E-01	4.2899E-01	1.7870E+00	1.1321E+00	1.5836E-04
9.0000E+01	3.2593E-10	5.2947E-02	2.2209E-01	1.7931E+00	1.1330E+00	1.5895E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RH02/R01
2.0267E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	2.2619E+04	1.0360E+00
5.0000E+00	6.9267E+00	2.0973E+00	2.1032E+00	6.5869E-01	4.0646E+04	3.3009E+00
1.0000E+01	2.8349E+01	5.3755E+00	5.6483E+00	2.7610E+00	3.4839E+04	5.2709E+00
1.5000E+01	6.4397E+01	9.9129E+00	1.1456E+01	4.6345E+00	2.8368E+04	6.4725E+00
2.0000E+01	1.1706E+02	1.2642E+01	1.9464E+01	6.4580E+00	3.1829E+04	8.8020E+00
2.5000E+01	1.8300E+02	1.4457E+01	2.9331E+01	8.5101E+00	3.5369E+04	1.1155E+01
3.0000E+01	2.5690E+02	1.8218E+01	4.0685E+01	1.0605E+01	2.9542E+04	1.1688E+01
3.5000E+01	3.3864E+02	2.2545E+01	5.3245E+01	1.2383E+01	2.4179E+04	1.2026E+01
4.0000E+01	4.2877E+02	2.4541E+01	6.6698E+01	1.4068E+01	2.3375E+04	1.3318E+01
4.5000E+01	5.2234E+02	2.5903E+01	8.0579E+01	1.5718E+01	2.2592E+04	1.4599E+01
5.0000E+01	6.1606E+02	2.6990E+01	9.4458E+01	1.7313E+01	2.1255E+04	1.5711E+01
5.5000E+01	7.0694E+02	2.7909E+01	1.0791E+02	1.8817E+01	1.9457E+04	1.6632E+01
6.0000E+01	7.9217E+02	2.8711E+01	1.2053E+02	2.0194E+01	1.7252E+04	1.7364E+01
6.5000E+01	8.6913E+02	2.9417E+01	1.3194E+02	2.1412E+01	1.4734E+04	1.7922E+01
7.0000E+01	9.3549E+02	3.0032E+01	1.4178E+02	2.2444E+01	1.2000E+04	1.8327E+01
7.5000E+01	9.8923E+02	3.0550E+01	1.4977E+02	2.3267E+01	9.1439E+03	1.8601E+01
8.0000E+01	1.0288E+03	3.0951E+01	1.5565E+02	2.3866E+01	6.2435E+03	1.8770E+01
8.5000E+01	1.0530E+03	3.1207E+01	1.5925E+02	2.4228E+01	3.4866E+03	1.8860E+01
9.0000E+01	1.0611E+03	3.1295E+01	1.6046E+02	2.4350E+01	1.8073E+03	1.8887E+01

TABLE XI. - Continued

(e) Velocity, 8.5344 km/sec; M_1 = 30.451

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.8819E+00	6.5386E-02	9.9996E-01	3.0208E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.5782E+00	9.9650E-01	2.0124E+01	1.0010E+00	1.3914E+00	2.4713E-05
1.0000E+01	8.1538E+00	9.8532E-01	1.2570E+01	1.0000E+00	1.3225E+00	4.5824E-05
1.5000E+01	1.2780E+01	9.6665E-01	9.7216E+00	1.0085E+00	1.1777E+00	6.7135E-05
2.0000E+01	1.7835E+01	9.4036E-01	8.4722E+00	1.0753E+00	1.1236E+00	7.7131E-05
2.5000E+01	2.2735E+01	9.0702E-01	7.1204E+00	1.1702E+00	1.1657E+00	8.6223E-05
3.0000E+01	2.7146E+01	8.6710E-01	5.6890E+00	1.2230E+00	1.1746E+00	1.1067E-04
3.5000E+01	3.1875E+01	8.2037E-01	5.0367E+00	1.2859E+00	1.1194E+00	1.2298E-04
4.0000E+01	3.6644E+01	7.6736E-01	4.4387E+00	1.3628E+00	1.1111E+00	1.3014E-04
4.5000E+01	4.1339E+01	7.0855E-01	3.8813E+00	1.4455E+00	1.1116E+00	1.3649E-04
5.0000E+01	4.5925E+01	6.4442E-01	3.3607E+00	1.5292E+00	1.1138E+00	1.4186E-04
5.5000E+01	5.0360E+01	5.7546E-01	2.8697E+00	1.6107E+00	1.1173E+00	1.4665E-04
6.0000E+01	5.4577E+01	5.0225E-01	2.4050E+00	1.6868E+00	1.1219E+00	1.5109E-04
6.5000E+01	5.8456E+01	4.2539E-01	1.9635E+00	1.7548E+00	1.1282E+00	1.5541E-04
7.0000E+01	6.1757E+01	3.4559E-01	1.5436E+00	1.8124E+00	1.1361E+00	1.6088E-04
7.5000E+01	6.3936E+01	2.6372E-01	1.1445E+00	1.8577E+00	1.1458E+00	1.6603E-04
8.0000E+01	6.3467E+01	1.8114E-01	7.6792E-01	1.8899E+00	1.1563E+00	1.7048E-04
8.5000E+01	5.4072E+01	1.0160E-01	4.2388E-01	1.9087E+00	1.1652E+00	1.7368E-04
9.0000E+01	3.2908E-10	5.2467E-02	2.1762E-01	1.9149E+00	1.1689E+00	1.7485E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.8819E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	2.4359E+04	1.0360E+00
5.0000E+00	8.0635E+00	2.2863E+00	2.2954E+00	8.1310E-01	4.3973E+04	3.5249E+00
1.0000E+01	3.2989E+01	6.0272E+00	6.4053E+00	3.0744E+00	3.6389E+04	5.4703E+00
1.5000E+01	7.5382E+01	1.0800E+01	1.3163E+01	5.0501E+00	3.0795E+04	6.9132E+00
2.0000E+01	1.3708E+02	1.3229E+01	2.2460E+01	7.0972E+00	3.6306E+04	9.6257E+00
2.5000E+01	2.1320E+02	1.5433E+01	3.3886E+01	9.3991E+00	3.8376E+04	1.1792E+01
3.0000E+01	2.9753E+02	2.0981E+01	4.7019E+01	1.1548E+01	2.8074E+04	1.1582E+01
3.5000E+01	3.9479E+02	2.3911E+01	6.1642E+01	1.3448E+01	2.6466E+04	1.2825E+01
4.0000E+01	4.9989E+02	2.5608E+01	7.7252E+01	1.5328E+01	2.6100E+04	1.4307E+01
4.5000E+01	6.0856E+02	2.6909E+01	9.3349E+01	1.7187E+01	2.5099E+04	1.5628E+01
5.0000E+01	7.1727E+02	2.8008E+01	1.0944E+02	1.8985E+01	2.3509E+04	1.6727E+01
5.5000E+01	8.2260E+02	2.8991E+01	1.2504E+02	2.0679E+01	2.1361E+04	1.7596E+01
6.0000E+01	9.2128E+02	2.9899E+01	1.3967E+02	2.2225E+01	1.8765E+04	1.8246E+01
6.5000E+01	1.0103E+03	3.0761E+01	1.5290E+02	2.3587E+01	1.5831E+04	1.8695E+01
7.0000E+01	1.0869E+03	3.1587E+01	1.6431E+02	2.4733E+01	1.2603E+04	1.8964E+01
7.5000E+01	1.1488E+03	3.2362E+01	1.7356E+02	2.5640E+01	9.3791E+03	1.9086E+01
8.0000E+01	1.1941E+03	3.3033E+01	1.8037E+02	2.6294E+01	6.2801E+03	1.9106E+01
8.5000E+01	1.2218E+03	3.3515E+01	1.8454E+02	2.6688E+01	3.4526E+03	1.9077E+01
9.0000E+01	1.2311E+03	3.3692E+01	1.8595E+02	2.6819E+01	1.7693E+03	1.9060E+01

TABLE XI. - Continued

(f) Velocity, 9.144 km/sec; M_1 = 32.626

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.7564E+00	6.1031E-02	9.9997E-01	3.2366E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.6568E+00	9.9647E-01	2.0696E+01	1.0000E+00	1.3881E+00	2.6201E-05
1.0000E+01	8.2146E+00	9.8529E-01	1.2796E+01	1.0000E+00	1.3155E+00	4.8793E-05
1.5000E+01	1.2943E+01	9.6655E-01	1.0171E+01	1.0186E+00	1.1487E+00	6.9996E-05
2.0000E+01	1.7997E+01	9.4027E-01	8.7645E+00	1.1025E+00	1.1264E+00	7.9493E-05
2.5000E+01	2.2746E+01	9.0701E-01	6.8909E+00	1.1990E+00	1.2508E+00	9.4071E-05
3.0000E+01	2.7264E+01	8.6701E-01	5.9024E+00	1.2502E+00	1.1341E+00	1.1775E-04
3.5000E+01	3.2073E+01	8.2022E-01	5.2067E+00	1.3300E+00	1.1127E+00	1.2746E-04
4.0000E+01	3.6853E+01	7.6720E-01	4.5725E+00	1.4208E+00	1.1114E+00	1.3475E-04
4.5000E+01	4.1548E+01	7.0839E-01	3.9862E+00	1.5168E+00	1.1134E+00	1.4110E-04
5.0000E+01	4.6131E+01	6.4426E-01	3.4376E+00	1.6132E+00	1.1174E+00	1.4680E-04
5.5000E+01	5.0559E+01	5.7530E-01	2.9211E+00	1.7062E+00	1.1234E+00	1.5225E-04
6.0000E+01	5.4759E+01	5.0210E-01	2.4318E+00	1.7920E+00	1.1328E+00	1.5884E-04
6.5000E+01	5.8593E+01	4.2527E-01	1.9654E+00	1.8665E+00	1.1483E+00	1.6716E-04
7.0000E+01	6.1779E+01	3.4557E-01	1.5186E+00	1.9258E+00	1.1768E+00	1.7710E-04
7.5000E+01	6.3678E+01	2.6396E-01	1.0987E+00	1.9655E+00	1.2180E+00	1.8956E-04
8.0000E+01	6.2677E+01	1.8190E-01	7.2652E-01	1.9875E+00	1.2432E+00	2.0258E-04
8.5000E+01	5.2435E+01	1.0341E-01	4.0570E-01	1.9984E+00	1.2410E+00	2.1122E-04
9.0000E+01	3.0623E-10	5.6161E-02	2.1925E-01	2.0018E+00	1.2378E+00	2.1414E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.7564E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	2.6099E+04	1.0360E+00
5.0000E+00	9.2863E+00	2.4874E+00	2.5010E+00	9.7262E-01	4.7036E+04	3.7312E+00
1.0000E+01	3.7993E+01	6.7128E+00	7.2190E+00	3.3785E+00	3.7864E+04	5.6568E+00
1.5000E+01	8.7446E+01	1.1495E+01	1.5005E+01	5.4745E+00	3.4145E+04	7.4599E+00
2.0000E+01	1.5858E+02	1.3803E+01	2.5674E+01	7.7681E+00	4.0810E+04	1.0409E+01
2.5000E+01	2.4471E+02	1.7205E+01	3.8754E+01	1.0283E+01	3.7868E+04	1.1849E+01
3.0000E+01	3.4273E+02	2.2665E+01	5.3860E+01	1.2463E+01	2.9486E+04	1.2081E+01
3.5000E+01	4.5549E+02	2.4975E+01	7.0668E+01	1.4547E+01	2.9217E+04	1.3697E+01
4.0000E+01	5.7640E+02	2.6553E+01	8.8586E+01	1.6644E+01	2.8800E+04	1.5261E+01
4.5000E+01	7.0119E+02	2.7853E+01	1.0706E+02	1.8723E+01	2.7588E+04	1.6578E+01
5.0000E+01	8.2590E+02	2.9021E+01	1.2553E+02	2.0731E+01	2.5633E+04	1.7621E+01
5.5000E+01	9.4661E+02	3.0138E+01	1.4343E+02	2.2615E+01	2.3031E+04	1.8388E+01
6.0000E+01	1.0595E+03	3.1278E+01	1.6022E+02	2.4326E+01	1.9784E+04	1.8882E+01
6.5000E+01	1.1610E+03	3.2533E+01	1.7539E+02	2.5818E+01	1.6105E+04	1.9098E+01
7.0000E+01	1.2477E+03	3.4031E+01	1.8847E+02	2.7053E+01	1.2300E+04	1.9017E+01
7.5000E+01	1.3169E+03	3.5905E+01	1.9906E+02	2.8007E+01	8.6033E+03	1.8640E+01
8.0000E+01	1.3669E+03	3.7782E+01	2.0685E+02	2.8671E+01	5.4117E+03	1.8182E+01
8.5000E+01	1.3973E+03	3.9029E+01	2.1162E+02	2.9060E+01	2.9044E+03	1.7897E+01
9.0000E+01	1.4076E+03	3.9449E+01	2.1323E+02	2.9188E+01	1.5479E+03	1.7806E+01

TABLE XI. - Continued

(g) Velocity, 9.7536 km/sec; $M_1 = 34.802$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.6466E+00	5.7220E-02	9.9997E-01	3.4523E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.7221E+00	9.9644E-01	2.1219E+01	1.0000E+00	1.3839E+00	2.7708E-05
1.0000E+01	8.2675E+00	9.8526E-01	1.3016E+01	1.0000E+00	1.3067E+00	5.1730E-05
1.5000E+01	1.3097E+01	9.6646E-01	1.0589E+01	1.0319E+00	1.1339E+00	7.2339E-05
2.0000E+01	1.8124E+01	9.4020E-01	8.9953E+00	1.1316E+00	1.1349E+00	8.2010E-05
2.5000E+01	2.2683E+01	9.0705E-01	6.9025E+00	1.2134E+00	1.2163E+00	1.0568E-04
3.0000E+01	2.7413E+01	8.6691E-01	6.0944E+00	1.2838E+00	1.1199E+00	1.2272E-04
3.5000E+01	3.2250E+01	8.2010E-01	5.3622E+00	1.3784E+00	1.1112E+00	1.3146E-04
4.0000E+01	3.7027E+01	7.6708E-01	4.6933E+00	1.4836E+00	1.1124E+00	1.3902E-04
4.5000E+01	4.1716E+01	7.0827E-01	4.0746E+00	1.5933E+00	1.1164E+00	1.4565E-04
5.0000E+01	4.6287E+01	6.4414E-01	3.4955E+00	1.7026E+00	1.1231E+00	1.5203E-04
5.5000E+01	5.0688E+01	5.7520E-01	2.9468E+00	1.8063E+00	1.1350E+00	1.6026E-04
6.0000E+01	5.4818E+01	5.0205E-01	2.4161E+00	1.8981E+00	1.1599E+00	1.7181E-04
6.5000E+01	5.8431E+01	4.2541E-01	1.8853E+00	1.9665E+00	1.2194E+00	1.9006E-04
7.0000E+01	6.1202E+01	3.4609E-01	1.4372E+00	2.0039E+00	1.2354E+00	2.1592E-04
7.5000E+01	6.2803E+01	2.6480E-01	1.0708E+00	2.0297E+00	1.2011E+00	2.3122E-04
8.0000E+01	6.1644E+01	1.8296E-01	7.2831E-01	2.0505E+00	1.1811E+00	2.3831E-04
8.5000E+01	5.1141E+01	1.0495E-01	4.1383E-01	2.0641E+00	1.1729E+00	2.4206E-04
9.0000E+01	2.9198E-10	5.8742E-02	2.3089E-01	2.0688E+00	1.1706E+00	2.4324E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.6466E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	2.7839E+04	1.0360E+00
5.0000E+00	1.0596E+01	2.7003E+00	2.7204E+00	1.1353E+00	4.9866E+04	3.9218E+00
1.0000E+01	4.3358E+01	7.4310E+00	8.0892E+00	3.6761E+00	3.9256E+04	5.8295E+00
1.5000E+01	1.0050E+02	1.2065E+01	1.6977E+01	5.9154E+00	3.8086E+04	8.0628E+00
2.0000E+01	1.8150E+02	1.4415E+01	2.9106E+01	8.4651E+00	4.5049E+04	1.1114E+01
2.5000E+01	2.7757E+02	1.9827E+01	4.3938E+01	1.1107E+01	3.4973E+04	1.1524E+01
3.0000E+01	3.9173E+02	2.3849E+01	6.1187E+01	1.3391E+01	3.1919E+04	1.2780E+01
3.5000E+01	5.2056E+02	2.5880E+01	8.0316E+01	1.5687E+01	3.2150E+04	1.4576E+01
4.0000E+01	6.5822E+02	2.7428E+01	1.0070E+02	1.8016E+01	3.1519E+04	1.6157E+01
4.5000E+01	8.0015E+02	2.8785E+01	1.2172E+02	2.0321E+01	2.9963E+04	1.7427E+01
5.0000E+01	9.4183E+02	3.0092E+01	1.4272E+02	2.2542E+01	2.7507E+04	1.8362E+01
5.5000E+01	1.0787E+03	3.1492E+01	1.6309E+02	2.4612E+01	2.4037E+04	1.8941E+01
6.0000E+01	1.2061E+03	3.3234E+01	1.8217E+02	2.6465E+01	1.9731E+04	1.9098E+01
6.5000E+01	1.3190E+03	3.5978E+01	1.9939E+02	2.8035E+01	1.4737E+04	1.8622E+01
7.0000E+01	1.4139E+03	3.9706E+01	2.1422E+02	2.9266E+01	1.0060E+04	1.7752E+01
7.5000E+01	1.4914E+03	4.2510E+01	2.2624E+02	3.0178E+01	6.9908E+03	1.7265E+01
8.0000E+01	1.5493E+03	4.4153E+01	2.3512E+02	3.0814E+01	4.6395E+03	1.7092E+01
8.5000E+01	1.5850E+03	4.5020E+01	2.4056E+02	3.1192E+01	2.6117E+03	1.7036E+01
9.0000E+01	1.5970E+03	4.5293E+01	2.4239E+02	3.1318E+01	1.4536E+03	1.7024E+01

TABLE XI. - Continued

(h) Velocity, 10.3632 km/sec; M_1 = 36.977

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.5497E+00	5.3856E-02	9.9998E-01	3.6681E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.7771E+00	9.9642E-01	2.1699E+01	1.0000E+00	1.3793E+00	2.9228E-05
1.0000E+01	8.3162E+00	9.8523E-01	1.3253E+01	1.0001E+00	1.2931E+00	5.5552E-05
1.5000E+01	1.3234E+01	9.6638E-01	1.0978E+01	1.0478E+00	1.1266E+00	7.4372E-05
2.0000E+01	1.8214E+01	9.4015E-01	9.1191E+00	1.1615E+00	1.1549E+00	8.5062E-05
2.5000E+01	2.2723E+01	9.0702E-01	7.1433E+00	1.2321E+00	1.1540E+00	1.1365E-04
3.0000E+01	2.7558E+01	8.6681E-01	6.2754E+00	1.3217E+00	1.1137E+00	1.2671E-04
3.5000E+01	3.2400E+01	8.2000E-01	5.5029E+00	1.4312E+00	1.1114E+00	1.3549E-04
4.0000E+01	3.7170E+01	7.6698E-01	4.7984E+00	1.5509E+00	1.1146E+00	1.4316E-04
4.5000E+01	4.1847E+01	7.0818E-01	4.1446E+00	1.6745E+00	1.1211E+00	1.5036E-04
5.0000E+01	4.6392E+01	6.4406E-01	3.5271E+00	1.7959E+00	1.1334E+00	1.5923E-04
5.5000E+01	5.0720E+01	5.7518E-01	2.9203E+00	1.9063E+00	1.1639E+00	1.7323E-04
6.0000E+01	5.4583E+01	5.0224E-01	2.2887E+00	1.9839E+00	1.2404E+00	2.0015E-04
6.5000E+01	5.7935E+01	4.2585E-01	1.8345E+00	2.0265E+00	1.2047E+00	2.3000E-04
7.0000E+01	6.0834E+01	3.4644E-01	1.4487E+00	2.0669E+00	1.1715E+00	2.4275E-04
7.5000E+01	6.2617E+01	2.6498E-01	1.0831E+00	2.1030E+00	1.1587E+00	2.4928E-04
8.0000E+01	6.1583E+01	1.8302E-01	7.3618E-01	2.1310E+00	1.1531E+00	2.5260E-04
8.5000E+01	5.1186E+01	1.0490E-01	4.1796E-01	2.1484E+00	1.1506E+00	2.5445E-04
9.0000E+01	2.9297E-10	5.8555E-02	2.3257E-01	2.1544E+00	1.1498E+00	2.5505E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.5497E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	2.9580E+04	1.0360E+00
5.0000E+00	1.1992E+01	2.9245E+00	2.9535E+00	1.3003E+00	5.2489E+04	4.0985E+00
1.0000E+01	4.9096E+01	8.1751E+00	9.0164E+00	3.9666E+00	3.9963E+04	5.9982E+00
1.5000E+01	1.1447E+02	1.2559E+01	1.9075E+01	6.3739E+00	4.2415E+04	8.6891E+00
2.0000E+01	2.0573E+02	1.5157E+01	3.2753E+01	9.1826E+00	4.8464E+04	1.1672E+01
2.5000E+01	3.1372E+02	2.1691E+01	4.9485E+01	1.1886E+01	3.5151E+04	1.1725E+01
3.0000E+01	4.4419E+02	2.4797E+01	6.8990E+01	1.4345E+01	3.4791E+04	1.3538E+01
3.5000E+01	5.8990E+02	2.6705E+01	9.0585E+01	1.6873E+01	3.5051E+04	1.5417E+01
4.0000E+01	7.4531E+02	2.8274E+01	1.1359E+02	1.9440E+01	3.4169E+04	1.6977E+01
4.5000E+01	9.0536E+02	2.9751E+01	1.3731E+02	2.1978E+01	3.2116E+04	1.8152E+01
5.0000E+01	1.0648E+03	3.1337E+01	1.6102E+02	2.4406E+01	2.8718E+04	1.8899E+01
5.5000E+01	1.2181E+03	3.3447E+01	1.8399E+02	2.6636E+01	2.3803E+04	1.9083E+01
6.0000E+01	1.3580E+03	3.7433E+01	2.0548E+02	2.8556E+01	1.7219E+04	1.8267E+01
6.5000E+01	1.4824E+03	4.2226E+01	2.2486E+02	3.0076E+01	1.2036E+04	1.7303E+01
7.0000E+01	1.5920E+03	4.5181E+01	2.4163E+02	3.1266E+01	9.1294E+03	1.7028E+01
7.5000E+01	1.6819E+03	4.6993E+01	2.5525E+02	3.2181E+01	6.7883E+03	1.6999E+01
8.0000E+01	1.7484E+03	4.8121E+01	2.6529E+02	3.2835E+01	4.6358E+03	1.7031E+01
8.5000E+01	1.7893E+03	4.8750E+01	2.7144E+02	3.3228E+01	2.6429E+03	1.7065E+01
9.0000E+01	1.8031E+03	4.8952E+01	2.7352E+02	3.3359E+01	1.4729E+03	1.7078E+01

TABLE XI. - Continued

(i) Velocity, 10.9728 km/sec; $M_1 = 39.152$

TH	DELTA	V2/V1	M2	Z2	GAM2	VTS
1.4636E+00	5.0866E-02	9.9998E-01	3.8839E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.8241E+00	9.9640E-01	2.2142E+01	1.0000E+00	1.3744E+00	3.0758E-05
1.0000E+01	8.3644E+00	9.8521E-01	1.3533E+01	1.0005E+00	1.2723E+00	5.8944E-05
1.5000E+01	1.3353E+01	9.6633E-01	1.1337E+01	1.0657E+00	1.1238E+00	7.6233E-05
2.0000E+01	1.8252E+01	9.4013E-01	9.0082E+00	1.1886E+00	1.2076E+00	8.9949E-05
2.5000E+01	2.2815E+01	9.0697E-01	7.3578E+00	1.2570E+00	1.1298E+00	1.1893E-04
3.0000E+01	2.7689E+01	8.6673E-01	6.4455E+00	1.3629E+00	1.1111E+00	1.3014E-04
3.5000E+01	3.2527E+01	8.1992E-01	5.6304E+00	1.4877E+00	1.1125E+00	1.3928E-04
4.0000E+01	3.7287E+01	7.6690E-01	4.8866E+00	1.6223E+00	1.1179E+00	1.4732E-04
4.5000E+01	4.1942E+01	7.0811E-01	4.1910E+00	1.7597E+00	1.1287E+00	1.5584E-04
5.0000E+01	4.6431E+01	6.4404E-01	3.5099E+00	1.8901E+00	1.1564E+00	1.7051E-04
5.5000E+01	5.0520E+01	5.7533E-01	2.7676E+00	1.9855E+00	1.2418E+00	2.0124E-04
6.0000E+01	5.4241E+01	5.0254E-01	2.2701E+00	2.0386E+00	1.1915E+00	2.3450E-04
6.5000E+01	5.7809E+01	4.2597E-01	1.8535E+00	2.0940E+00	1.1612E+00	2.4808E-04
7.0000E+01	6.0852E+01	3.4643E-01	1.4630E+00	2.1465E+00	1.1508E+00	2.5426E-04
7.5000E+01	6.2738E+01	2.6486E-01	1.0935E+00	2.1909E+00	1.1464E+00	2.5841E-04
8.0000E+01	6.1819E+01	1.8277E-01	7.4276E-01	2.2242E+00	1.1444E+00	2.6114E-04
8.5000E+01	5.1596E+01	1.0440E-01	4.2030E-01	2.2448E+00	1.1436E+00	2.6122E-04
9.0000E+01	2.9799E-10	5.7626E-02	2.3127E-01	2.2518E+00	1.1433E+00	2.6106E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.4636E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	3.1320E+04	1.0360E+00
5.0000E+00	1.3477E+01	3.1600E+00	3.2006E+00	1.4671E+00	5.4923E+04	4.2624E+00
1.0000E+01	5.5230E+01	8.9296E+00	1.0002E+01	4.2505E+00	4.1054E+04	6.1751E+00
1.5000E+01	1.2932E+02	1.3011E+01	2.1309E+01	6.8512E+00	4.6975E+04	9.3166E+00
2.0000E+01	2.3099E+02	1.6274E+01	3.6610E+01	9.9048E+00	4.9585E+04	1.1927E+01
2.5000E+01	3.5293E+02	2.2947E+01	5.5389E+01	1.2660E+01	3.7072E+04	1.2222E+01
3.0000E+01	5.0000E+02	2.5610E+01	7.7268E+01	1.5330E+01	3.7904E+04	1.4309E+01
3.5000E+01	6.6346E+02	2.7481E+01	1.0148E+02	1.8102E+01	3.7956E+04	1.6210E+01
4.0000E+01	8.3759E+02	2.9128E+01	1.2726E+02	2.0916E+01	3.6660E+04	1.7705E+01
4.5000E+01	1.0167E+03	3.0826E+01	1.5385E+02	2.3683E+01	3.3836E+04	1.8721E+01
5.0000E+01	1.1944E+03	3.3038E+01	1.8041E+02	2.6298E+01	2.8704E+04	1.9105E+01
5.5000E+01	1.3620E+03	3.7589E+01	2.0609E+02	2.8608E+01	2.0730E+04	1.8229E+01
6.0000E+01	1.5168E+03	4.3270E+01	2.3015E+02	3.0460E+01	1.4640E+04	1.7175E+01
6.5000E+01	1.6600E+03	4.6586E+01	2.5194E+02	3.1962E+01	1.1609E+04	1.6997E+01
7.0000E+01	1.7849E+03	4.8684E+01	2.7078E+02	3.3186E+01	9.2462E+03	1.7061E+01
7.5000E+01	1.8866E+03	5.0094E+01	2.8606E+02	3.4144E+01	7.0005E+03	1.7171E+01
8.0000E+01	1.9618E+03	5.1018E+01	2.9733E+02	3.4835E+01	4.8075E+03	1.7268E+01
8.5000E+01	2.0078E+03	5.1547E+01	3.0423E+02	3.5252E+01	2.7553E+03	1.7332E+01
9.0000E+01	2.0233E+03	5.1720E+01	3.0655E+02	3.5391E+01	1.5236E+03	1.7353E+01

TABLE XI. - Concluded

(j) Velocity, 11.5824 km/sec; M_1 = 41.327

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.3865E+00	4.8190E-02	9.9998E-01	4.0997E+01	1.0000E+00	1.4014E+00	1.3157E-05
5.0000E+00	3.8648E+00	9.9639E-01	2.2556E+01	1.0000E+00	1.3689E+00	3.2293E-05
1.0000E+01	8.4173E+00	9.8518E-01	1.3905E+01	1.0017E+00	1.2400E+00	6.2213E-05
1.5000E+01	1.3454E+01	9.6628E-01	1.1663E+01	1.0853E+00	1.1241E+00	7.8020E-05
2.0000E+01	1.8217E+01	9.4015E-01	8.7315E+00	1.2050E+00	1.2627E+00	9.8506E-05
2.5000E+01	2.2918E+01	9.0691E-01	7.5567E+00	1.2859E+00	1.1194E+00	1.2298E-04
3.0000E+01	2.7804E+01	8.6666E-01	6.5984E+00	1.4076E+00	1.1113E+00	1.3377E-04
3.5000E+01	3.2633E+01	8.1985E-01	5.7427E+00	1.5477E+00	1.1145E+00	1.4297E-04
4.0000E+01	3.7378E+01	7.6685E-01	4.9555E+00	1.6973E+00	1.1227E+00	1.5172E-04
4.5000E+01	4.1998E+01	7.0808E-01	4.2007E+00	1.8469E+00	1.1436E+00	1.6470E-04
5.0000E+01	4.6322E+01	6.4411E-01	3.3617E+00	1.9711E+00	1.2255E+00	1.9239E-04
5.5000E+01	5.0251E+01	5.7555E-01	2.7479E+00	2.0370E+00	1.1932E+00	2.3392E-04
6.0000E+01	5.4183E+01	5.0259E-01	2.2920E+00	2.1059E+00	1.1580E+00	2.4964E-04
6.5000E+01	5.7864E+01	4.2592E-01	1.8709E+00	2.1745E+00	1.1478E+00	2.5700E-04
7.0000E+01	6.0980E+01	3.4630E-01	1.4768E+00	2.2370E+00	1.1439E+00	2.6139E-04
7.5000E+01	6.2940E+01	2.6466E-01	1.1035E+00	2.2884E+00	1.1424E+00	2.6030E-04
8.0000E+01	6.2129E+01	1.8245E-01	7.4871E-01	2.3266E+00	1.1420E+00	2.5957E-04
8.5000E+01	5.2091E+01	1.0381E-01	4.2200E-01	2.3502E+00	1.1418E+00	2.5915E-04
9.0000E+01	3.0406E-10	5.6541E-02	2.2911E-01	2.3582E+00	1.1418E+00	2.5901E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.3865E+00	1.0516E+00	1.0146E+00	1.0145E+00	1.2033E-04	3.3060E+04	1.0360E+00
5.0000E+00	1.5049E+01	3.4065E+00	3.4616E+00	1.6345E+00	5.7197E+04	4.4152E+00
1.0000E+01	6.1801E+01	9.6568E+00	1.1047E+01	4.5301E+00	4.2429E+04	6.3815E+00
1.5000E+01	1.4504E+02	1.3445E+01	2.3649E+01	7.3473E+00	5.1628E+04	9.9284E+00
2.0000E+01	2.5677E+02	1.8207E+01	4.0665E+01	1.0602E+01	4.6844E+04	1.1690E+01
2.5000E+01	3.9476E+02	2.3911E+01	6.1637E+01	1.3447E+01	3.9706E+04	1.2824E+01
3.0000E+01	5.5906E+02	2.6352E+01	8.6018E+01	1.6349E+01	4.0951E+04	1.5054E+01
3.5000E+01	7.4120E+02	2.8236E+01	1.1299E+02	1.9374E+01	4.0789E+04	1.6941E+01
4.0000E+01	9.3502E+02	3.0028E+01	1.4171E+02	2.2437E+01	3.8888E+04	1.8324E+01
4.5000E+01	1.1338E+03	3.2161E+01	1.7132E+02	2.5423E+01	3.4417E+04	1.9067E+01
5.0000E+01	1.3285E+03	3.6313E+01	2.0086E+02	2.8163E+01	2.6062E+04	1.8540E+01
5.5000E+01	1.5121E+03	4.3134E+01	2.2943E+02	3.0409E+01	1.7758E+04	1.7190E+01
6.0000E+01	1.6888E+03	4.7118E+01	2.5630E+02	3.2250E+01	1.4370E+04	1.7001E+01
6.5000E+01	1.8503E+03	4.9614E+01	2.8062E+02	3.3805E+01	1.1918E+04	1.7128E+01
7.0000E+01	1.9904E+03	5.1350E+01	3.0162E+02	3.5094E+01	9.6273E+03	1.7307E+01
7.5000E+01	2.1042E+03	5.2579E+01	3.1865E+02	3.6111E+01	7.4570E+03	1.7468E+01
8.0000E+01	2.1881E+03	5.3409E+01	3.3121E+02	3.6847E+01	5.1908E+03	1.7589E+01
8.5000E+01	2.2396E+03	5.3892E+01	3.3890E+02	3.7292E+01	2.9707E+03	1.7662E+01
9.0000E+01	2.2569E+03	5.4050E+01	3.4149E+02	3.7441E+01	1.6210E+03	1.7686E+01

TABLE XII.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 83.82 km

[p_1 = 0.51263 Pa; ρ_1 = 0.000 009 885 kg/m^3; T_1 = 180.650 K; S_1/R = 34.341; h_1 = 180.736 kJ/kg]

(a) Velocity, 7.315 km/sec; M_1 = 27.149

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
2.1109E+00	7.5111E-02	9.9995E-01	2.6931E+01	1.0000E+00	1.4013E+00	1.2296E-05
5.0000E+00	3.4218E+00	9.9657E-01	1.9121E+01	1.0000E+00	1.3972E+00	2.1252E-05
1.0000E+01	8.0284E+00	9.8539E-01	1.2113E+01	1.0000E+00	1.3432E+00	3.9479E-05
1.5000E+01	1.2528E+01	9.6683E-01	8.9566E+00	1.0007E+00	1.2661E+00	5.8213E-05
2.0000E+01	1.7473E+01	9.4061E-01	7.9072E+00	1.0354E+00	1.1252E+00	7.0333E-05
2.5000E+01	2.2507E+01	9.0717E-01	6.9551E+00	1.1063E+00	1.1192E+00	7.6585E-05
3.0000E+01	2.7314E+01	8.6698E-01	5.8182E+00	1.1864E+00	1.1855E+00	8.4613E-05
3.5000E+01	3.1610E+01	8.2059E-01	4.7429E+00	1.2225E+00	1.1719E+00	1.0608E-04
4.0000E+01	3.6262E+01	7.6768E-01	4.2132E+00	1.2712E+00	1.1169E+00	1.1617E-04
4.5000E+01	4.0944E+01	7.0888E-01	3.7094E+00	1.3293E+00	1.1071E+00	1.2190E-04
5.0000E+01	4.5537E+01	6.4474E-01	3.2349E+00	1.3901E+00	1.1048E+00	1.2612E-04
5.5000E+01	4.9586E+01	5.7578E-01	2.7840E+00	1.4498E+00	1.1046E+00	1.2949E-04
6.0000E+01	5.4220E+01	5.0256E-01	2.3509E+00	1.5065E+00	1.1064E+00	1.3270E-04
6.5000E+01	5.8120E+01	4.2568E-01	1.9357E+00	1.5580E+00	1.1081E+00	1.3548E-04
7.0000E+01	6.1453E+01	3.4586E-01	1.5359E+00	1.6024E+00	1.1099E+00	1.3780E-04
7.5000E+01	6.3685E+01	2.6395E-01	1.1502E+00	1.6384E+00	1.1117E+00	1.3966E-04
8.0000E+01	6.3297E+01	1.8130E-01	7.7925E-01	1.6649E+00	1.1132E+00	1.4103E-04
8.5000E+01	5.4026E+01	1.0165E-01	4.3326E-01	1.6811E+00	1.1143E+00	1.4187E-04
9.0000E+01	3.2961E-10	5.2387E-02	2.2265E-01	1.6866E+00	1.1146E+00	1.4216E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
2.1109E+00	1.0527E+00	1.0156E+00	1.0148E+00	2.7382E-04	6.0977E+03	1.0369E+00
5.0000E+00	6.3700E+00	2.0049E+00	2.0087E+00	5.8121E-01	1.0768E+04	3.1754E+00
1.0000E+01	2.6041E+01	5.0814E+00	5.2757E+00	2.5859E+00	9.2449E+03	5.1221E+00
1.5000E+01	5.8589E+01	9.4857E+00	1.0619E+01	4.3859E+00	7.4553E+03	6.2077E+00
2.0000E+01	1.0707E+02	1.2526E+01	1.7991E+01	6.0674E+00	7.9746E+03	8.2463E+00
2.5000E+01	1.6810E+02	1.4170E+01	2.7100E+01	7.5585E+00	9.1742E+03	1.0711E+01
3.0000E+01	2.3802E+02	1.6281E+01	3.7611E+01	9.9897E+00	9.1193E+03	1.2308E+01
3.5000E+01	3.1177E+02	2.1550E+01	4.9152E+01	1.1800E+01	6.6127E+03	1.1821E+01
4.0000E+01	3.9417E+02	2.4116E+01	6.1540E+01	1.3387E+01	6.1373E+03	1.2843E+01
4.5000E+01	4.8038E+02	2.5592E+01	7.4338E+01	1.4922E+01	5.9310E+03	1.4104E+01
5.0000E+01	5.6690E+02	2.6678E+01	8.7137E+01	1.6403E+01	5.6448E+03	1.5270E+01
5.5000E+01	6.5089E+02	2.7548E+01	9.9545E+01	1.7801E+01	5.2340E+03	1.6279E+01
6.0000E+01	7.2971E+02	2.8277E+01	1.1119E+02	1.9086E+01	4.6856E+03	1.7110E+01
6.5000E+01	8.0092E+02	2.8892E+01	1.2170E+02	2.0225E+01	4.0379E+03	1.7773E+01
7.0000E+01	8.6236E+02	2.9405E+01	1.3078E+02	2.1194E+01	3.3178E+03	1.8281E+01
7.5000E+01	9.1217E+02	2.9817E+01	1.3815E+02	2.1970E+01	2.5490E+03	1.8651E+01
8.0000E+01	9.4885E+02	3.0120E+01	1.4357E+02	2.2535E+01	1.7569E+03	1.8900E+01
8.5000E+01	9.7130E+02	3.0307E+01	1.4689E+02	2.2879E+01	9.8659E+02	1.9042E+01
9.0000E+01	9.7886E+02	3.0371E+01	1.4801E+02	2.2995E+01	5.0866E+02	1.9089E+01

TABLE XII. - Continued

(b) Velocity, 7.9248 km/sec; M_1 = 29.412

TH	DELTA	V2/V1	M2	Z?	GAM?	VTS
1.9484E+00	6.9340E-02	9.9996E-01	2.9176E+01	1.0000E+00	1.4013E+00	1.2296E-05
5.0000E+00	3.5333E+00	9.9652E-01	1.9808E+01	1.0000E+00	1.3952E+00	2.2707E-05
1.0000E+01	8.1066E+00	9.8535E-01	1.2384E+01	1.0000E+00	1.3332E+00	4.2522E-05
1.5000E+01	1.2664E+01	9.6673E-01	9.3985E+00	1.0039E+00	1.2069E+00	6.2716E-05
2.0000E+01	1.7719E+01	9.4044E-01	8.2993E+00	1.0577E+00	1.1179E+00	7.2684E-05
2.5000E+01	2.2704E+01	9.0704E-01	7.1836E+00	1.1431E+00	1.1309E+00	7.9461E-05
3.0000E+01	2.7218E+01	8.6705E-01	5.5632E+00	1.2091E+00	1.2569E+00	9.7063E-05
3.5000E+01	3.1783E+01	8.2045E-01	4.9583E+00	1.2542E+00	1.1248E+00	1.1375E-04
4.0000E+01	3.6543E+01	7.6744E-01	4.3847E+00	1.3190E+00	1.1080E+00	1.2105E-04
4.5000E+01	4.1253E+01	7.0862E-01	3.8517E+00	1.3900E+00	1.1048E+00	1.2612E-04
5.0000E+01	4.5863E+01	6.4447E-01	3.3504E+00	1.4625E+00	1.1049E+00	1.3017E-04
5.5000E+01	5.0326E+01	5.7549E-01	2.8729E+00	1.5335E+00	1.1072E+00	1.3418E-04
6.0000E+01	5.4581E+01	5.0224E-01	2.4188E+00	1.6004E+00	1.1098E+00	1.3770E-04
6.5000E+01	5.8514E+01	4.2534E-01	1.9849E+00	1.6607E+00	1.1130E+00	1.4081E-04
7.0000E+01	6.1897E+01	3.4547E-01	1.5693E+00	1.7125E+00	1.1166E+00	1.4355E-04
7.5000E+01	6.4215E+01	2.6347E-01	1.1708E+00	1.7542E+00	1.1202E+00	1.4588E-04
8.0000E+01	6.3995E+01	1.8065E-01	7.8961E-01	1.7847E+00	1.1236E+00	1.4769E-04
8.5000E+01	5.5085E+01	1.0055E-01	4.3498E-01	1.8031E+00	1.1261E+00	1.4886E-04
9.0000E+01	3.4428E-10	5.0266E-02	2.1668E-01	1.8093E+00	1.1270E+00	1.4927E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.9484E+00	1.0527E+00	1.0156E+00	1.0148E+00	2.7382E-04	6.6059E+03	1.0369E+00
5.0000E+00	7.5070E+00	2.1958E+00	2.2016E+00	7.3743E-01	1.1747E+04	3.4169E+00
1.0000E+01	3.0671E+01	5.7475E+00	6.0335E+00	2.9100E+00	9.6822E+03	5.3338E+00
1.5000E+01	6.9775E+01	1.0570E+01	1.2321E+01	4.8087E+00	7.9317E+03	6.5687E+00
2.0000E+01	1.2716E+02	1.3144E+01	2.0996E+01	6.7034E+00	9.2599E+03	9.1359E+00
2.5000E+01	1.9871E+02	1.4927E+01	3.1672E+01	8.8671E+00	1.0402E+04	1.1633E+01
3.0000E+01	2.7829E+02	1.9347E+01	4.3946E+01	1.1055E+01	8.3155E+03	1.1883E+01
3.5000E+01	3.6745E+02	2.3493E+01	5.7552E+01	1.2892E+01	7.0387E+03	1.2457E+01
4.0000E+01	4.6536E+02	2.5373E+01	7.2113E+01	1.4660E+01	6.8983E+03	1.3890E+01
4.5000E+01	5.6688E+02	2.6678E+01	8.7134E+01	1.6403E+01	6.7210E+03	1.5269E+01
5.0000E+01	6.6855E+02	2.7716E+01	1.0215E+02	1.8091E+01	6.3895E+03	1.6475E+01
5.5000E+01	7.6712E+02	2.8604E+01	1.1671E+02	1.9687E+01	5.8690E+03	1.7468E+01
6.0000E+01	8.5956E+02	2.9382E+01	1.3037E+02	2.1150E+01	5.2173E+03	1.8259E+01
6.5000E+01	9.4302E+02	3.0072E+01	1.4271E+02	2.2446E+01	4.4633E+03	1.8862E+01
7.0000E+01	1.0150E+03	3.0679E+01	1.5336E+02	2.3544E+01	3.6381E+03	1.9297E+01
7.5000E+01	1.0733E+03	3.1194E+01	1.6200E+02	2.4421E+01	2.7720E+03	1.9592E+01
8.0000E+01	1.1161E+03	3.1596E+01	1.6836E+02	2.5058E+01	1.8946E+03	1.9772E+01
8.5000E+01	1.1424E+03	3.1856E+01	1.7226E+02	2.5445E+01	1.0512E+03	1.9866E+01
9.0000E+01	1.1512E+03	3.1946E+01	1.7357E+02	2.5574E+01	5.2479E+02	1.9894E+01

TABLE XII.- Continued

(c) Velocity, 8.5344 km/sec; $M_1 = 31.674$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.8092E+00	6.4392E-02	9.9997E-01	3.1420E+01	1.0000E+00	1.4013E+00	1.2296E-05
5.0000E+00	3.6224E+00	9.9648E-01	2.0422E+01	1.0000E+00	1.3925E+00	2.4194E-05
1.0000E+01	8.1728E+00	9.8531E-01	1.2632E+01	1.0000E+00	1.3234E+00	4.5545E-05
1.5000E+01	1.2831E+01	9.6662E-01	9.8944E+00	1.0115E+00	1.1604E+00	6.6106E-05
2.0000E+01	1.7919E+01	9.4031E-01	8.6516E+00	1.0832E+00	1.1167E+00	7.4830E-05
2.5000E+01	2.2821E+01	9.0696E-01	7.2368E+00	1.1799E+00	1.1693E+00	8.3473E-05
3.0000E+01	2.7224E+01	8.6704E-01	5.8068E+00	1.2280E+00	1.1562E+00	1.0809E-04
3.5000E+01	3.1998E+01	8.2028E-01	5.1492E+00	1.2939E+00	1.1113E+00	1.1873E-04
4.0000E+01	3.6788E+01	7.6725E-01	4.5425E+00	1.3728E+00	1.1052E+00	1.2502E-04
4.5000E+01	4.1508E+01	7.0842E-01	3.9800E+00	1.4566E+00	1.1047E+00	1.2985E-04
5.0000E+01	4.6120E+01	6.4426E-01	3.4483E+00	1.5416E+00	1.1075E+00	1.3462E-04
5.5000E+01	5.0588E+01	5.7528E-01	2.9465E+00	1.6243E+00	1.1109E+00	1.3893E-04
6.0000E+01	5.4848E+01	5.0203E-01	2.4701E+00	1.7015E+00	1.1157E+00	1.4295E-04
6.5000E+01	5.8785E+01	4.2512E-01	2.0167E+00	1.7705E+00	1.1219E+00	1.4683E-04
7.0000E+01	6.2168E+01	3.4524E-01	1.5845E+00	1.8289E+00	1.1302E+00	1.5061E-04
7.5000E+01	6.4476E+01	2.6325E-01	1.1728E+00	1.8748E+00	1.1414E+00	1.5426E-04
8.0000E+01	6.4227E+01	1.8044E-01	7.8369E-01	1.9072E+00	1.1548E+00	1.5854E-04
8.5000E+01	5.5277E+01	1.0036E-01	4.2803E-01	1.9261E+00	1.1672E+00	1.6183E-04
9.0000E+01	3.4602E-10	5.0027E-02	2.1194E-01	1.9322E+00	1.1722E+00	1.6309E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.8092E+00	1.0527E+00	1.0156E+00	1.0148E+00	2.7382E-04	7.1141E+03	1.0369E+00
5.0000E+00	8.7363E+00	2.4002E+00	2.4090E+00	9.0073E-01	1.2641E+04	3.6379E+00
1.0000E+01	3.5690E+01	6.4538E+00	6.8523E+00	3.2284E+00	1.0088E+04	5.5272E+00
1.5000E+01	8.1790E+01	1.1415E+01	1.4173E+01	5.2348E+00	8.7287E+03	7.0760E+00
2.0000E+01	1.4890E+02	1.3709E+01	2.4238E+01	7.3757E+00	1.0618E+04	1.0016E+01
2.5000E+01	2.3139E+02	1.5982E+01	3.6599E+01	9.8041E+00	1.1235E+04	1.2257E+01
3.0000E+01	3.2265E+02	2.2042E+01	5.0809E+01	1.2024E+01	8.0575E+03	1.1907E+01
3.5000E+01	4.2847E+02	2.4776E+01	6.6642E+01	1.4007E+01	7.7816E+03	1.3351E+01
4.0000E+01	5.4252E+02	2.6397E+01	8.3533E+01	1.5991E+01	7.7422E+03	1.4954E+01
4.5000E+01	6.6042E+02	2.7639E+01	1.0095E+02	1.7958E+01	7.5415E+03	1.6385E+01
5.0000E+01	7.7832E+02	2.8700E+01	1.1837E+02	1.9866E+01	7.0944E+03	1.7571E+01
5.5000E+01	8.9255E+02	2.9655E+01	1.3525E+02	2.1665E+01	6.4661E+03	1.8510E+01
6.0000E+01	9.9958E+02	3.0546E+01	1.5108E+02	2.3310E+01	5.6916E+03	1.9211E+01
6.5000E+01	1.0961E+03	3.1405E+01	1.6539E+02	2.4761E+01	4.8098E+03	1.9692E+01
7.0000E+01	1.1792E+03	3.2242E+01	1.7774E+02	2.5983E+01	3.8628E+03	1.9975E+01
7.5000E+01	1.2462E+03	3.3052E+01	1.8775E+02	2.6950E+01	2.8920E+03	2.0089E+01
8.0000E+01	1.2954E+03	3.3790E+01	1.9512E+02	2.7646E+01	1.9279E+03	2.0078E+01
8.5000E+01	1.3253E+03	3.4327E+01	1.9963E+02	2.8065E+01	1.0474E+03	2.0021E+01
9.0000E+01	1.3353E+03	3.4532E+01	2.0115E+02	2.8204E+01	5.1728E+02	1.9989E+01

TABLE XII.- Continued

(d) Velocity, 9.144 km/sec; $M_1 = 33.937$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.6886E+00	6.0102E-02	9.9997E-01	3.3664E+01	1.0000E+00	1.4013E+00	1.2296E-05
5.0000E+00	3.6949E+00	9.9645E-01	2.0976E+01	1.0000E+00	1.3892E+00	2.5705E-05
1.0000E+01	8.2307E+00	9.8528E-01	1.2851E+01	1.0000E+00	1.3162E+00	4.8533E-05
1.5000E+01	1.3003E+01	9.6651E-01	1.0362E+01	1.0231E+00	1.1360E+00	6.8575E-05
2.0000E+01	1.8079E+01	9.4022E-01	8.9555E+00	1.1113E+00	1.1202E+00	7.6959E-05
2.5000E+01	2.2792E+01	9.0698E-01	6.8986E+00	1.2046E+00	1.2716E+00	9.2305E-05
3.0000E+01	2.7360E+01	8.6695E-01	6.0286E+00	1.2569E+00	1.1232E+00	1.1418E-04
3.5000E+01	3.2197E+01	8.2013E-01	5.3264E+00	1.3390E+00	1.1065E+00	1.2265E-04
4.0000E+01	3.6995E+01	7.6710E-01	4.6873E+00	1.4317E+00	1.1043E+00	1.2853E-04
4.5000E+01	4.1713E+01	7.0827E-01	4.0899E+00	1.5290E+00	1.1071E+00	1.3394E-04
5.0000E+01	4.6321E+01	6.4411E-01	3.5299E+00	1.6269E+00	1.1111E+00	1.3906E-04
5.5000E+01	5.0782E+01	5.7513E-01	3.0008E+00	1.7212E+00	1.1173E+00	1.4402E-04
6.0000E+01	5.5023E+01	5.0189E-01	2.4980E+00	1.8081E+00	1.1268E+00	1.4919E-04
6.5000E+01	5.8909E+01	4.2502E-01	2.0158E+00	1.8837E+00	1.1443E+00	1.5512E-04
7.0000E+01	6.2145E+01	3.4526E-01	1.5472E+00	1.9427E+00	1.1823E+00	1.6557E-04
7.5000E+01	6.4063E+01	2.6361E-01	1.1062E+00	1.9793E+00	1.2394E+00	1.8009E-04
8.0000E+01	6.3148E+01	1.8144E-01	7.3474E-01	1.9980E+00	1.2436E+00	1.9417E-04
8.5000E+01	5.3144E+01	1.0261E-01	4.0977E-01	2.0078E+00	1.2291E+00	2.0311E-04
9.0000E+01	3.1523E-10	5.4645E-02	2.1739E-01	2.0111E+00	1.2230E+00	2.0596E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.6886E+00	1.0527E+00	1.0156E+00	1.0148E+00	2.7382E-04	7.6223E+03	1.0369E+00
5.0000E+00	1.0058E+01	2.6177E+00	2.6310E+00	1.0687E+00	1.3456E+04	3.8402E+00
1.0000E+01	4.1102E+01	7.1966E+00	7.7324E+00	3.5370E+00	1.0475E+04	5.7083E+00
1.5000E+01	9.4952E+01	1.2064E+01	1.6168E+01	5.6746E+00	9.7899E+03	7.6846E+00
2.0000E+01	1.7223E+02	1.4269E+01	2.7716E+01	8.0825E+00	1.1981E+04	1.0849E+01
2.5000E+01	2.6516E+02	1.8184E+01	4.1859E+01	1.0725E+01	1.0739E+04	1.2092E+01
3.0000E+01	3.7190E+02	2.3605E+01	5.8217E+01	1.2976E+01	8.5924E+03	1.2520E+01
3.5000E+01	4.9436E+02	2.5786E+01	7.6409E+01	1.5165E+01	8.6434E+03	1.4301E+01
4.0000E+01	6.2552E+02	2.7298E+01	9.5798E+01	1.7383E+01	8.6244E+03	1.5987E+01
4.5000E+01	7.6088E+02	2.8550E+01	1.1579E+02	1.9587E+01	8.3217E+03	1.7410E+01
5.0000E+01	8.9613E+02	2.9684E+01	1.3578E+02	2.1721E+01	7.7605E+03	1.8536E+01
5.5000E+01	1.0270E+03	3.0783E+01	1.5515E+02	2.3726E+01	6.9891E+03	1.9363E+01
6.0000E+01	1.1495E+03	3.1928E+01	1.7332E+02	2.5549E+01	6.0477E+03	1.9889E+01
6.5000E+01	1.2595E+03	3.3234E+01	1.8973E+02	2.7139E+01	4.9767E+03	2.0095E+01
7.0000E+01	1.3533E+03	3.4936E+01	2.0388E+02	2.8452E+01	3.7538E+03	1.9916E+01
7.5000E+01	1.4275E+03	3.7301E+01	2.1533E+02	2.9456E+01	2.5553E+03	1.9313E+01
8.0000E+01	1.4812E+03	3.9559E+01	2.2376E+02	3.0146E+01	1.5813E+03	1.8723E+01
8.5000E+01	1.5141E+03	4.0953E+01	2.2891E+02	3.0549E+01	8.3997E+02	1.8395E+01
9.0000E+01	1.5253E+03	4.1397E+01	2.3065E+02	3.0682E+01	4.3887E+02	1.8306E+01

TABLE XII.- Continued

(e) Velocity, 9.7536 km/sec; M_1 = 36.199

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.5830E+00	5.6349E-02	9.9997E-01	3.5909E+01	1.0000E+00	1.4013E+00	1.2296E-05
5.0000E+00	3.7552E+00	9.9643E-01	2.1481E+01	1.0000E+00	1.3851E+00	2.7234E-05
1.0000E+01	8.2816E+00	9.8525E-01	1.3071E+01	1.0000E+00	1.3064E+00	5.1487E-05
1.5000E+01	1.3160E+01	9.6642E-01	1.0796E+01	1.0376E+00	1.1240E+00	7.0603E-05
2.0000E+01	1.8201E+01	9.4016E-01	9.1891E+00	1.1412E+00	1.1300E+00	7.9297E-05
2.5000E+01	2.2732E+01	9.0702E-01	7.0369E+00	1.2174E+00	1.1936E+00	1.0367E-04
3.0000E+01	2.7515E+01	8.6684E-01	6.2304E+00	1.2917E+00	1.1117E+00	1.1850E-04
3.5000E+01	3.2370E+01	8.2002E-01	5.4907E+00	1.3887E+00	1.1048E+00	1.2603E-04
4.0000E+01	3.7167E+01	7.6698E-01	4.8142E+00	1.4954E+00	1.1060E+00	1.3208E-04
4.5000E+01	4.1877E+01	7.0816E-01	4.1837E+00	1.6067E+00	1.1101E+00	1.3802E-04
5.0000E+01	4.6473E+01	6.4401E-01	3.5912E+00	1.7175E+00	1.1170E+00	1.4382E-04
5.5000E+01	5.0906E+01	5.7504E-01	3.0273E+00	1.8227E+00	1.1291E+00	1.5018E-04
6.0000E+01	5.5065E+01	5.0186E-01	2.4723E+00	1.9155E+00	1.1597E+00	1.5989E-04
6.5000E+01	5.8656E+01	4.2522E-01	1.8996E+00	1.9802E+00	1.2408E+00	1.8063E-04
7.0000E+01	6.1439E+01	3.4587E-01	1.4645E+00	2.0133E+00	1.2196E+00	2.0759E-04
7.5000E+01	6.3197E+01	2.6441E-01	1.0959E+00	2.0409E+00	1.1802E+00	2.2456E-04
8.0000E+01	6.2281E+01	1.8230E-01	7.4408E-01	2.0636E+00	1.1641E+00	2.3055E-04
8.5000E+01	5.2187E+01	1.0370E-01	4.1941E-01	2.0782E+00	1.1573E+00	2.3370E-04
9.0000E+01	3.0474E-10	5.6421E-02	2.2749E-01	2.0833E+00	1.1554E+00	2.3470E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.5830E+00	1.0527E+00	1.0156E+00	1.0148E+00	2.7382E-04	8.1305E+03	1.0369E+00
5.0000E+00	1.1474E+01	2.8482E+00	2.8679E+00	1.2395E+00	1.4203E+04	4.0264E+00
1.0000E+01	4.6905E+01	7.9743E+00	8.6737E+00	3.8373E+00	1.0844E+04	5.8774E+00
1.5000E+01	1.0916E+02	1.2597E+01	1.8303E+01	6.1342E+00	1.1008E+04	8.3414E+00
2.0000E+01	1.9708E+02	1.4884E+01	3.1429E+01	8.8195E+00	1.3249E+04	1.1590E+01
2.5000E+01	3.0083E+02	2.0963E+01	4.7471E+01	1.1568E+01	9.9317E+03	1.1774E+01
3.0000E+01	4.2515E+02	2.4717E+01	6.6148E+01	1.3948E+01	9.3815E+03	1.3302E+01
3.5000E+01	5.6495E+02	2.6656E+01	8.6849E+01	1.6371E+01	9.5633E+03	1.5245E+01
4.0000E+01	7.1428E+02	2.8138E+01	1.0891E+02	1.8836E+01	9.4934E+03	1.6956E+01
4.5000E+01	8.6821E+02	2.9454E+01	1.3165E+02	2.1285E+01	9.0659E+03	1.8326E+01
5.0000E+01	1.0219E+03	3.0738E+01	1.5438E+02	2.3648E+01	8.3476E+03	1.9335E+01
5.5000E+01	1.1703E+03	3.2146E+01	1.7641E+02	2.5853E+01	7.3655E+03	1.9951E+01
6.0000E+01	1.3083E+03	3.4011E+01	1.9707E+02	2.7828E+01	6.0704E+03	2.0059E+01
6.5000E+01	1.4278E+03	3.7389E+01	2.1569E+02	2.9486E+01	4.3782E+03	1.9290E+01
7.0000E+01	1.5322E+03	4.1651E+01	2.3172E+02	3.0762E+01	2.9318E+03	1.8251E+01
7.5000E+01	1.6168E+03	4.4306E+01	2.4475E+02	3.1709E+01	2.0276E+03	1.7860E+01
8.0000E+01	1.6800E+03	4.5812E+01	2.5437E+02	3.2373E+01	1.3532E+03	1.7750E+01
8.5000E+01	1.7189E+03	4.6605E+01	2.6026E+02	3.2770E+01	7.5840E+02	1.7727E+01
9.0000E+01	1.7320E+03	4.6856E+01	2.6224E+02	3.2902E+01	4.1080E+02	1.7724E+01

TABLE XII.- Continued

(f) Velocity, 10.3632 km/sec; M_1 = 38.462

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.4899E+00	5.3036E-02	9.9998E-01	3.8153E+01	1.0000E+00	1.4013E+00	1.2296E-05
5.0000E+00	3.8062E+00	9.9641E-01	2.1943E+01	1.0000E+00	1.3807E+00	2.8776E-05
1.0000E+01	8.3291E+00	9.8523E-01	1.3320E+01	1.0002E+00	1.2901E+00	5.5264E-05
1.5000E+01	1.3298E+01	9.6635E-01	1.1200E+01	1.0545E+00	1.1184E+00	7.2382E-05
2.0000E+01	1.8285E+01	9.4011E-01	9.2899E+00	1.1714E+00	1.1548E+00	8.2289E-05
2.5000E+01	2.2793E+01	9.0698E-01	7.2926E+00	1.2378E+00	1.1394E+00	1.1067E-04
3.0000E+01	2.7660E+01	8.6675E-01	6.4196E+00	1.3305E+00	1.1070E+00	1.2199E-04
3.5000E+01	3.2518E+01	8.1992E-01	5.6422E+00	1.4422E+00	1.1044E+00	1.2909E-04
4.0000E+01	3.7307E+01	7.6689E-01	4.9253E+00	1.5636E+00	1.1083E+00	1.3578E-04
4.5000E+01	4.2004E+01	7.0807E-01	4.2579E+00	1.6890E+00	1.1148E+00	1.4229E-04
5.0000E+01	4.6574E+01	6.4394E-01	3.6239E+00	1.8122E+00	1.1274E+00	1.4946E-04
5.5000E+01	5.0922E+01	5.7503E-01	2.9857E+00	1.9236E+00	1.1654E+00	1.6136E-04
6.0000E+01	5.4743E+01	5.0211E-01	2.3158E+00	1.9951E+00	1.2462E+00	1.9154E-04
6.5000E+01	5.8164E+01	4.2564E-01	1.8789E+00	2.0375E+00	1.1838E+00	2.2291E-04
7.0000E+01	6.1189E+01	3.4610E-01	1.4846E+00	2.0812E+00	1.1562E+00	2.3429E-04
7.5000E+01	6.3132E+01	2.6447E-01	1.1096E+00	2.1196E+00	1.1459E+00	2.4091E-04
8.0000E+01	6.2354E+01	1.8222E-01	7.5272E-01	2.1489E+00	1.1414E+00	2.4505E-04
8.5000E+01	5.2414E+01	1.0344E-01	4.2338E-01	2.1672E+00	1.1394E+00	2.4708E-04
9.0000E+01	3.0798E-10	5.5860E-02	2.2794E-01	2.1734E+00	1.1388E+00	2.4759E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.4899E+00	1.0527E+00	1.0156E+00	1.0148E+00	2.7382E-04	8.6387E+03	1.0369E+00
5.0000E+00	1.2984E+01	3.0911E+00	3.1199E+00	1.4113E+00	1.4892E+04	4.1984E+00
1.0000E+01	5.3117E+01	8.7760E+00	9.6770E+00	4.1316E+00	1.1039E+04	6.0446E+00
1.5000E+01	1.2434E+02	1.3065E+01	2.0575E+01	6.6151E+00	1.2329E+04	9.0151E+00
2.0000E+01	2.2333E+02	1.5670E+01	3.5374E+01	9.5761E+00	1.4223E+04	1.2153E+01
2.5000E+01	3.4032E+02	2.2700E+01	5.3481E+01	1.2374E+01	1.0157E+04	1.2098E+01
3.0000E+01	4.8210E+02	2.5617E+01	7.4594E+01	1.4953E+01	1.0283E+04	1.4129E+01
3.5000E+01	6.4017E+02	2.7443E+01	9.7961E+01	1.7625E+01	1.0512E+04	1.6157E+01
4.0000E+01	8.0873E+02	2.8958E+01	1.2286E+02	2.0349E+01	1.0322E+04	1.7841E+01
4.5000E+01	9.8231E+02	3.0400E+01	1.4852E+02	2.3048E+01	9.7414E+03	1.9110E+01
5.0000E+01	1.1553E+03	3.1988E+01	1.7418E+02	2.5634E+01	8.7858E+03	1.9907E+01
5.5000E+01	1.3213E+03	3.4250E+01	1.9903E+02	2.8009E+01	7.3128E+03	2.0031E+01
6.0000E+01	1.4717E+03	3.9148E+01	2.2227E+02	3.0027E+01	5.0556E+03	1.8826E+01
6.5000E+01	1.6070E+03	4.4041E+01	2.4326E+02	3.1603E+01	3.4992E+03	1.7888E+01
7.0000E+01	1.7266E+03	4.6753E+01	2.6142E+02	3.2848E+01	2.6823E+03	1.7725E+01
7.5000E+01	1.8245E+03	4.8416E+01	2.7616E+02	3.3812E+01	1.5971E+03	1.7758E+01
8.0000E+01	1.8969E+03	4.9456E+01	2.8703E+02	3.4503E+01	1.3581E+03	1.7828E+01
8.5000E+01	1.9413E+03	5.0036E+01	2.9369E+02	3.4919E+01	7.6690E+02	1.7882E+01
9.0000E+01	1.9563E+03	5.0223E+01	2.9593E+02	3.5058E+01	4.1375E+02	1.7902E+01

TABLE XII.- Continued

(g) Velocity, 10.9728 km/sec; $M_1 = 40.724$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.4071E+00	5.0092E-02	9.9998E-01	4.0398E+01	1.0000E+00	1.4013E+00	1.2296E-05
5.0000E+00	3.8498E+00	9.9640E-01	2.2372E+01	1.0000E+00	1.3756E+00	3.0327E-05
1.0000E+01	8.3790E+00	9.8520E-01	1.3647E+01	1.0008E+00	1.2621E+00	5.8585E-05
1.5000E+01	1.3415E+01	9.6630E-01	1.1574E+01	1.0732E+00	1.1166E+00	7.4028E-05
2.0000E+01	1.8304E+01	9.4010E-01	9.0551E+00	1.1967E+00	1.2288E+00	8.7492E-05
2.5000E+01	2.2894E+01	9.0692E-01	7.5166E+00	1.2640E+00	1.1197E+00	1.1521E-04
3.0000E+01	2.7789E+01	8.6667E-01	6.5967E+00	1.3729E+00	1.1052E+00	1.2503E-04
3.5000E+01	3.2643E+01	8.1985E-01	5.7758E+00	1.4995E+00	1.1061E+00	1.3231E-04
4.0000E+01	3.7421E+01	7.6682E-01	5.0188E+00	1.6360E+00	1.1116E+00	1.3953E-04
4.5000E+01	4.2097E+01	7.0802E-01	4.3068E+00	1.7754E+00	1.1225E+00	1.4712E-04
5.0000E+01	4.6603E+01	6.4392E-01	3.5951E+00	1.9073E+00	1.1549E+00	1.5856E-04
5.5000E+01	5.0651E+01	5.7523E-01	2.8027E+00	1.9964E+00	1.2452E+00	1.9272E-04
6.0000E+01	5.4442E+01	5.0236E-01	2.3266E+00	2.0507E+00	1.1722E+00	2.2734E-04
6.5000E+01	5.8108E+01	4.2569E-01	1.9010E+00	2.1101E+00	1.1478E+00	2.3942E-04
7.0000E+01	6.1262E+01	3.4604E-01	1.5011E+00	2.1652E+00	1.1396E+00	2.4691E-04
7.5000E+01	6.3307E+01	2.6430E-01	1.1217E+00	2.2114E+00	1.1360E+00	2.5046E-04
8.0000E+01	6.2655E+01	1.8192E-01	7.6030E-01	2.2460E+00	1.1345E+00	2.5279E-04
8.5000E+01	5.2924E+01	1.0286E-01	4.2597E-01	2.2674E+00	1.1338E+00	2.5412E-04
9.0000E+01	3.1459E-10	5.4751E-02	2.2605E-01	2.2746E+00	1.1336E+00	2.5456E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.4071E+00	1.0527E+00	1.0156E+00	1.0148E+00	2.7382E-04	9.1468E+03	1.0369E+00
5.0000E+00	1.4589E+01	3.3462E+00	3.3868E+00	1.5837E+00	1.5529E+04	4.3576E+00
1.0000E+01	5.9775E+01	9.5754E+00	1.0744E+01	4.4185E+00	1.1365E+04	6.2307E+00
1.5000E+01	1.4047E+02	1.3498E+01	2.2982E+01	7.1168E+00	1.3714E+04	9.6860E+00
2.0000E+01	2.5051E+02	1.7008E+01	3.9543E+01	1.0334E+01	1.4328E+04	1.2293E+01
2.5000E+01	3.8299E+02	2.3869E+01	5.9873E+01	1.3182E+01	1.0827E+04	1.2680E+01
3.0000E+01	5.4264E+02	2.6398E+01	8.3551E+01	1.5993E+01	1.1245E+04	1.4956E+01
3.5000E+01	7.1996E+02	2.8189E+01	1.0975E+02	1.8928E+01	1.1435E+04	1.7014E+01
4.0000E+01	9.0882E+02	2.9789E+01	1.3765E+02	2.1918E+01	1.1104E+04	1.8627E+01
4.5000E+01	1.1030E+03	3.1470E+01	1.6642E+02	2.4864E+01	1.0294E+04	1.9720E+01
5.0000E+01	1.2956E+03	3.3795E+01	1.9516E+02	2.7650E+01	8.8437E+03	2.0078E+01
5.5000E+01	1.4760E+03	3.9333E+01	2.2294E+02	3.0081E+01	6.0798E+03	1.8779E+01
6.0000E+01	1.6445E+03	4.5006E+01	2.4898E+02	3.2004E+01	4.2658E+03	1.7798E+01
6.5000E+01	1.8006E+03	4.8043E+01	2.7258E+02	3.3580E+01	3.4217E+03	1.7742E+01
7.0000E+01	1.9365E+03	4.9975E+01	2.9297E+02	3.4874E+01	2.7173E+03	1.7876E+01
7.5000E+01	2.0471E+03	5.1280E+01	3.0952E+02	3.5892E+01	2.0640E+03	1.8032E+01
8.0000E+01	2.1288E+03	5.2139E+01	3.2171E+02	3.6626E+01	1.4174E+03	1.8158E+01
8.5000E+01	2.1788E+03	5.2631E+01	3.2918E+02	3.7071E+01	8.0068E+02	1.8238E+01
9.0000E+01	2.1957E+03	5.2791E+01	3.3169E+02	3.7220E+01	4.2610E+02	1.8265E+01

TABLE XII. - Concluded

(h) Velocity, 11.5824 km/sec; M_1 = 42.986

TH	DELTA	V2/V1	M2	Z2	GAM2	VTS
1.3330E+00	4.7457E-02	9.9998E-01	4.2642E+01	1.0000E+00	1.4013E+00	1.2296E-05
5.0000E+00	3.8876E+00	9.9638E-01	2.2772E+01	1.0000E+00	1.3699E+00	3.1882E-05
1.0000E+01	8.4373E+00	9.8517E-01	1.4089E+01	1.0027E+00	1.2222E+00	6.1667E-05
1.5000E+01	1.3515E+01	9.6625E-01	1.1913E+01	1.0936E+00	1.1175E+00	7.5626E-05
2.0000E+01	1.8246E+01	9.4013E-01	8.8177E+00	1.2090E+00	1.2573E+00	9.7016E-05
2.5000E+01	2.3000E+01	9.0686E-01	7.7260E+00	1.2939E+00	1.1113E+00	1.1873E-04
3.0000E+01	2.7902E+01	8.6661E-01	6.7627E+00	1.4184E+00	1.1043E+00	1.2778E-04
3.5000E+01	3.2748E+01	8.1979E-01	5.8946E+00	1.5604E+00	1.1082E+00	1.3561E-04
4.0000E+01	3.7510E+01	7.6677E-01	5.0915E+00	1.7122E+00	1.1165E+00	1.4353E-04
4.5000E+01	4.2148E+01	7.0798E-01	4.3128E+00	1.8639E+00	1.1382E+00	1.5332E-04
5.0000E+01	4.6445E+01	6.4403E-01	3.3874E+00	1.9843E+00	1.2463E+00	1.8309E-04
5.5000E+01	5.0415E+01	5.7542E-01	2.8165E+00	2.0489E+00	1.1735E+00	2.2685E-04
6.0000E+01	5.4431E+01	5.0237E-01	2.3518E+00	2.1226E+00	1.1453E+00	2.4136E-04
6.5000E+01	5.8196E+01	4.2562E-01	1.9214E+00	2.1949E+00	1.1371E+00	2.4925E-04
7.0000E+01	6.1419E+01	3.4589E-01	1.5172E+00	2.2593E+00	1.1341E+00	2.5362E-04
7.5000E+01	6.3538E+01	2.6409E-01	1.1333E+00	2.3124E+00	1.1329E+00	2.5673E-04
8.0000E+01	6.3001E+01	1.8158E-01	7.6727E-01	2.3519E+00	1.1325E+00	2.5883E-04
8.5000E+01	5.3482E+01	1.0224E-01	4.2804E-01	2.3762E+00	1.1324E+00	2.6006E-04
9.0000E+01	3.2195E-10	5.3567E-02	2.2358E-01	2.3844E+00	1.1324E+00	2.6046E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.3330E+00	1.0527E+00	1.0156E+00	1.0148E+00	2.7382E-04	9.6550E+03	1.0369E+00
5.0000E+00	1.6289E+01	3.6134E+00	3.6690E+00	1.7568E+00	1.6122E+04	4.5057E+00
1.0000E+01	6.6937E+01	1.0317E+01	1.1877E+01	4.7023E+00	1.1822E+04	6.4635E+00
1.5000E+01	1.5753E+02	1.3918E+01	2.5525E+01	7.6389E+00	1.5123E+04	1.0338E+01
2.0000E+01	2.7815E+02	1.9336E+01	4.3925E+01	1.1051E+01	1.3186E+04	1.1885E+01
2.5000E+01	4.2844E+02	2.4775E+01	6.6637E+01	1.4007E+01	1.1675E+04	1.3350E+01
3.0000E+01	6.0671E+02	2.7107E+01	9.3020E+01	1.7073E+01	1.2239E+04	1.5763E+01
3.5000E+01	8.0428E+02	2.8921E+01	1.2220E+02	2.0279E+01	1.2321E+04	1.7802E+01
4.0000E+01	1.0145E+03	3.0674E+01	1.5329E+02	2.3536E+01	1.1801E+04	1.9295E+01
4.5000E+01	1.2300E+03	3.2842E+01	1.8532E+02	2.6718E+01	1.0612E+04	2.0072E+01
5.0000E+01	1.4400E+03	3.7790E+01	2.1728E+02	2.9620E+01	7.7249E+03	1.9181E+01
5.5000E+01	1.6394E+03	4.4882E+01	2.4820E+02	3.1950E+01	5.1717E+03	1.7808E+01
6.0000E+01	1.8320E+03	4.8531E+01	2.7730E+02	3.3884E+01	4.2333E+03	1.7764E+01
6.5000E+01	2.0077E+03	5.0836E+01	3.0362E+02	3.5532E+01	3.5139E+03	1.7974E+01
7.0000E+01	2.1599E+03	5.2447E+01	3.2635E+02	3.6903E+01	2.8430E+03	1.8207E+01
7.5000E+01	2.2835E+03	5.3591E+01	3.4479E+02	3.7988E+01	2.1677E+03	1.8406E+01
8.0000E+01	2.3747E+03	5.4366E+01	3.5838E+02	3.8774E+01	1.4901E+03	1.8551E+01
8.5000E+01	2.4306E+03	5.4817E+01	3.6670E+02	3.9250E+01	8.3897E+02	1.8639E+01
9.0000E+01	2.4494E+03	5.4965E+01	3.6951E+02	3.9410E+01	4.3958E+02	1.8668E+01

TABLE XIII.- OBLIQUE- AND NORMAL-SHOCK FLOW PARAMETERS IN EQUILIBRIUM AIR FOR AN ALTITUDE OF 91.44 km

[p_1 = 0.12654 Pa; ρ_1 = 0.000 002 385 kg/m^3; T_1 = 184.944 K; S_1/R = 35.822; h_1 = 185.041]

(a) Velocity, 7.9248 km/sec; M_1 = 29.067

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.9716E+00	6.9509E-02	9.9996E-01	2.8836E+01	1.0000E+00	1.4013E+00	1.2548E-05
5.0000E+00	3.5182E+00	9.9653E-01	1.9715E+01	1.0000E+00	1.3949E+00	2.2864E-05
1.0000E+01	8.0999E+00	9.8535E-01	1.2365E+01	1.0000E+00	1.3329E+00	4.2607E-05
1.5000E+01	1.2698E+01	9.6671E-01	9.5569E+00	1.0062E+00	1.1813E+00	6.2091E-05
2.0000E+01	1.7807E+01	9.4038E-01	8.4733E+00	1.0658E+00	1.1101E+00	7.0617E-05
2.5000E+01	2.2801E+01	9.0698E-01	7.3380E+00	1.1536E+00	1.1271E+00	7.6782E-05
3.0000E+01	2.7258E+01	8.6702E-01	5.6543E+00	1.2124E+00	1.2325E+00	9.5828E-05
3.5000E+01	3.1902E+01	8.2035E-01	5.0684E+00	1.2614E+00	1.1142E+00	1.1013E-04
4.0000E+01	3.6692E+01	7.6732E-01	4.4895E+00	1.3282E+00	1.1008E+00	1.1643E-04
4.5000E+01	4.1427E+01	7.0848E-01	3.9488E+00	1.4006E+00	1.0985E+00	1.2086E-04
5.0000E+01	4.6061E+01	6.4431E-01	3.4373E+00	1.4743E+00	1.0991E+00	1.2444E-04
5.5000E+01	5.0558E+01	5.7530E-01	2.9510E+00	1.5464E+00	1.1005E+00	1.2749E-04
6.0000E+01	5.4857E+01	5.0202E-01	2.4861E+00	1.6140E+00	1.1031E+00	1.3021E-04
6.5000E+01	5.8848E+01	4.2507E-01	2.0403E+00	1.6751E+00	1.1065E+00	1.3301E-04
7.0000E+01	6.2317E+01	3.4512E-01	1.6130E+00	1.7276E+00	1.1101E+00	1.3549E-04
7.5000E+01	6.4772E+01	2.6300E-01	1.2026E+00	1.7698E+00	1.1139E+00	1.3762E-04
8.0000E+01	6.4802E+01	1.7994E-01	8.0928E-01	1.8007E+00	1.1175E+00	1.3931E-04
8.5000E+01	5.6413E+01	9.9256E-02	4.4177E-01	1.8194E+00	1.1202E+00	1.4040E-04
9.0000E+01	3.6452E-10	4.7608E-02	2.1114E-01	1.8257E+00	1.1212E+00	1.4078E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.9716E+00	1.0523E+00	1.0152E+00	1.0147E+00	5.9139E-04	1.5603E+03	1.0366E+00
5.0000E+00	7.3280E+00	2.1655E+00	2.1713E+00	7.1298E-01	2.7845E+03	3.3821E+00
1.0000E+01	2.9955E+01	5.6329E+00	5.9148E+00	2.8652E+00	2.3217E+03	5.3149E+00
1.5000E+01	6.8348E+01	1.0177E+01	1.2064E+01	4.7646E+00	1.9606E+03	6.6668E+00
2.0000E+01	1.2480E+02	1.2308E+01	2.0547E+01	6.7384E+00	2.3904E+03	9.5030E+00
2.5000E+01	1.9486E+02	1.3892E+01	3.0975E+01	9.0244E+00	2.7099E+03	1.2145E+01
3.0000E+01	2.7217E+02	1.8603E+01	4.2952E+01	1.1299E+01	2.0599E+03	1.2053E+01
3.5000E+01	3.6005E+02	2.2038E+01	5.6258E+01	1.3204E+01	1.8203E+03	1.2937E+01
4.0000E+01	4.5605E+02	2.3621E+01	7.0484E+01	1.5065E+01	1.8075E+03	1.4519E+01
4.5000E+01	5.5547E+02	2.4737E+01	8.5157E+01	1.6909E+01	1.7732E+03	1.6014E+01
5.0000E+01	6.5500E+02	2.5637E+01	9.9826E+01	1.8702E+01	1.6929E+03	1.7309E+01
5.5000E+01	7.5150E+02	2.6405E+01	1.1405E+02	2.0399E+01	1.5669E+03	1.8384E+01
6.0000E+01	8.4200E+02	2.7080E+01	1.2739E+02	2.1958E+01	1.4014E+03	1.9243E+01
6.5000E+01	9.2371E+02	2.7685E+01	1.3944E+02	2.3340E+01	1.2010E+03	1.9895E+01
7.0000E+01	9.9416E+02	2.8223E+01	1.4985E+02	2.4512E+01	9.7993E+02	2.0367E+01
7.5000E+01	1.0512E+03	2.8683E+01	1.5828E+02	2.5448E+01	7.4664E+02	2.0684E+01
8.0000E+01	1.0932E+03	2.9048E+01	1.6450E+02	2.6129E+01	5.0936E+02	2.0876E+01
8.5000E+01	1.1189E+03	2.9285E+01	1.6831E+02	2.6542E+01	2.8010E+02	2.0975E+01
9.0000E+01	1.1275E+03	2.9367E+01	1.6959E+02	2.6680E+01	1.3417E+02	2.1005E+01

TABLE XIII. - Continued

(b) Velocity, 8.5344 km/sec; M_1 = 31.302

TH	DELTA	V2/V1	M2	Z2	GAM2	VTS
1.8307E+00	6.4549E-02	9.9996E-01	3.1054E+01	1.0000E+00	1.4013E+00	1.2548E-05
5.0000E+00	3.6094E+00	9.9649E-01	2.0335E+01	1.0000E+00	1.3921E+00	2.4344E-05
1.0000E+01	8.1671E+00	9.8531E-01	1.2615E+01	1.0000E+00	1.3231E+00	4.5623E-05
1.5000E+01	1.2886E+01	9.6658E-01	1.0079E+01	1.0158E+00	1.1422E+00	6.5014E-05
2.0000E+01	1.8004E+01	9.4026E-01	8.8398E+00	1.0923E+00	1.1100E+00	7.2512E-05
2.5000E+01	2.2899E+01	9.0692E-01	7.3214E+00	1.1898E+00	1.1811E+00	8.0990E-05
3.0000E+01	2.7307E+01	8.6698E-01	5.9333E+00	1.2337E+00	1.1385E+00	1.0521E-04
3.5000E+01	3.2123E+01	8.2019E-01	5.2693E+00	1.3025E+00	1.1035E+00	1.1441E-04
4.0000E+01	3.6936E+01	7.6714E-01	4.6562E+00	1.3830E+00	1.0986E+00	1.1990E-04
4.5000E+01	4.1675E+01	7.0830E-01	4.0831E+00	1.4684E+00	1.0990E+00	1.2417E-04
5.0000E+01	4.6313E+01	6.4412E-01	3.5427E+00	1.5546E+00	1.1007E+00	1.2783E-04
5.5000E+01	5.0814E+01	5.7511E-01	3.0293E+00	1.6381E+00	1.1044E+00	1.3131E-04
6.0000E+01	5.5117E+01	5.0182E-01	2.5403E+00	1.7164E+00	1.1093E+00	1.3495E-04
6.5000E+01	5.9111E+01	4.2486E-01	2.0739E+00	1.7863E+00	1.1157E+00	1.3850E-04
7.0000E+01	6.2576E+01	3.4491E-01	1.6281E+00	1.8455E+00	1.1249E+00	1.4206E-04
7.5000E+01	6.5008E+01	2.6281E-01	1.2025E+00	1.8918E+00	1.1380E+00	1.4565E-04
8.0000E+01	6.4978E+01	1.7979E-01	8.0017E-01	1.9243E+00	1.1548E+00	1.4904E-04
8.5000E+01	5.6461E+01	9.9210E-02	4.3184E-01	1.9428E+00	1.1736E+00	1.5175E-04
9.0000E+01	3.6370E-10	4.7711E-02	2.0584E-01	1.9487E+00	1.1824E+00	1.5281E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.8307E+00	1.0523E+00	1.0152E+00	1.0147E+00	5.9139E-04	1.6804E+03	1.0366E+00
5.0000E+00	8.5289E+00	2.3651E+00	2.3740E+00	8.7380E-01	3.0011E+03	3.6041E+00
1.0000E+01	3.4857E+01	6.3224E+00	6.7145E+00	3.1816E+00	2.4207E+03	5.5101E+00
1.5000E+01	8.0232E+01	1.0869E+01	1.3878E+01	5.2022E+00	2.1953E+03	7.2588E+00
2.0000E+01	1.4610E+02	1.2795E+01	2.3714E+01	7.4480E+00	2.7543E+03	1.0442E+01
2.5000E+01	2.2673E+02	1.4973E+01	3.5785E+01	1.0014E+01	2.8959E+03	1.2713E+01
3.0000E+01	3.1601E+02	2.0843E+01	4.9667E+01	1.2296E+01	2.0577E+03	1.2275E+01
3.5000E+01	4.1990E+02	2.3115E+01	6.5139E+01	1.4376E+01	2.0315E+03	1.3931E+01
4.0000E+01	5.3162E+02	2.4496E+01	8.1640E+01	1.6472E+01	2.0400E+03	1.5674E+01
4.5000E+01	6.4704E+02	2.5570E+01	9.8653E+01	1.8560E+01	1.9973E+03	1.7213E+01
5.0000E+01	7.6247E+02	2.6488E+01	1.1566E+02	2.0590E+01	1.8959E+03	1.8495E+01
5.5000E+01	8.7431E+02	2.7318E+01	1.3215E+02	2.2507E+01	1.7387E+03	1.9515E+01
6.0000E+01	9.7908E+02	2.8106E+01	1.4762E+02	2.4263E+01	1.5335E+03	2.0273E+01
6.5000E+01	1.0736E+03	2.8874E+01	1.6159E+02	2.5812E+01	1.2974E+03	2.0791E+01
7.0000E+01	1.1549E+03	2.9644E+01	1.7365E+02	2.7116E+01	1.0414E+03	2.1085E+01
7.5000E+01	1.2205E+03	3.0421E+01	1.8343E+02	2.8148E+01	7.7747E+02	2.1182E+01
8.0000E+01	1.2685E+03	3.1154E+01	1.9063E+02	2.8891E+01	5.1860E+02	2.1133E+01
8.5000E+01	1.2976E+03	3.1740E+01	1.9504E+02	2.9336E+01	2.7952E+02	2.1018E+01
9.0000E+01	1.3073E+03	3.1968E+01	1.9652E+02	2.9484E+01	1.3312E+02	2.0960E+01

TABLE XIII.- Continued

(c) Velocity, 9.144 km/sec; $M_1 = 33.538$

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.7086E+00	6.0249E-02	9.9997E-01	3.3273E+01	1.0000E+00	1.4013E+00	1.2548E-05
5.0000E+00	3.6838E+00	9.9646E-01	2.0894E+01	1.0000E+00	1.3889E+00	2.5848E-05
1.0000E+01	8.2259E+00	9.8528E-01	1.2838E+01	1.0000E+00	1.3156E+00	4.8606E-05
1.5000E+01	1.3066E+01	9.6648E-01	1.0562E+01	1.0289E+00	1.1235E+00	6.7086E-05
2.0000E+01	1.8159E+01	9.4018E-01	9.1544E+00	1.1212E+00	1.1143E+00	7.4437E-05
2.5000E+01	2.2819E+01	9.0696E-01	6.9243E+00	1.2085E+00	1.2766E+00	9.1227E-05
3.0000E+01	2.7459E+01	8.6688E-01	6.1632E+00	1.2643E+00	1.1129E+00	1.1050E-04
3.5000E+01	3.2321E+01	8.2005E-01	5.4565E+00	1.3487E+00	1.0996E+00	1.1783E-04
4.0000E+01	3.7138E+01	7.6700E-01	4.8074E+00	1.4430E+00	1.0986E+00	1.2300E-04
4.5000E+01	4.1876E+01	7.0816E-01	4.2014E+00	1.5418E+00	1.1004E+00	1.2731E-04
5.0000E+01	4.6510E+01	6.4398E-01	3.6295E+00	1.6408E+00	1.1045E+00	1.3143E-04
5.5000E+01	5.1003E+01	5.7498E-01	3.0868E+00	1.7363E+00	1.1108E+00	1.3592E-04
6.0000E+01	5.5285E+01	5.0170E-01	2.5691E+00	1.8245E+00	1.1210E+00	1.4071E-04
6.5000E+01	5.9219E+01	4.2478E-01	2.0683E+00	1.9008E+00	1.1416E+00	1.4647E-04
7.0000E+01	6.2486E+01	3.4498E-01	1.5682E+00	1.9588E+00	1.1991E+00	1.5493E-04
7.5000E+01	6.4388E+01	2.6332E-01	1.1162E+00	1.9904E+00	1.2505E+00	1.7228E-04
8.0000E+01	6.3576E+01	1.8104E-01	7.4553E-01	2.0071E+00	1.2343E+00	1.8666E-04
8.5000E+01	5.3906E+01	1.0178E-01	4.1577E-01	2.0173E+00	1.2086E+00	1.9459E-04
9.0000E+01	3.2571E-10	5.2981E-02	2.1595E-01	2.0208E+00	1.1999E+00	1.9708E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.7086E+00	1.0523E+00	1.0152E+00	1.0147E+00	5.9139E-04	1.8004E+03	1.0366E+00
5.0000E+00	9.8205E+00	2.5776E+00	2.5910E+00	1.0394E+00	3.1994E+03	3.8079E+00
1.0000E+01	4.0143E+01	7.0477E+00	7.5741E+00	3.4889E+00	2.5151E+03	5.6928E+00
1.5000E+01	9.3193E+01	1.1401E+01	1.5830E+01	5.6599E+00	2.4916E+03	7.9352E+00
2.0000E+01	1.6894E+02	1.3289E+01	2.7111E+01	8.1950E+00	3.1178E+03	1.1326E+01
2.5000E+01	2.5928E+02	1.7505E+01	4.0912E+01	1.0965E+01	2.6528E+03	1.2243E+01
3.0000E+01	3.6442E+02	2.2131E+01	5.6908E+01	1.3291E+01	2.2242E+03	1.3009E+01
3.5000E+01	4.8446E+02	2.3974E+01	7.4680E+01	1.5598E+01	2.2702E+03	1.4966E+01
4.0000E+01	6.1288E+02	2.5274E+01	9.3620E+01	1.7949E+01	2.2813E+03	1.6785E+01
4.5000E+01	7.4539E+02	2.6358E+01	1.1315E+02	2.0293E+01	2.2211E+03	1.8321E+01
5.0000E+01	8.7781E+02	2.7344E+01	1.3267E+02	2.2566E+01	2.0871E+03	1.9543E+01
5.5000E+01	1.0060E+03	2.8316E+01	1.5159E+02	2.4707E+01	1.8843E+03	2.0437E+01
6.0000E+01	1.1258E+03	2.9351E+01	1.6934E+02	2.6653E+01	1.6319E+03	2.0999E+01
6.5000E+01	1.2334E+03	3.0598E+01	1.8537E+02	2.8350E+01	1.3389E+03	2.1142E+01
7.0000E+01	1.3248E+03	3.2428E+01	1.9919E+02	2.9747E+01	1.0109E+03	2.0831E+01
7.5000E+01	1.3965E+03	3.5190E+01	2.1036E+02	3.0799E+01	6.6359E+02	1.9919E+01
8.0000E+01	1.4489E+03	3.7478E+01	2.1859E+02	3.1515E+01	4.0670E+02	1.9240E+01
8.5000E+01	1.4813E+03	3.8702E+01	2.2363E+02	3.1932E+01	2.1605E+02	1.8952E+01
9.0000E+01	1.4923E+03	3.9080E+01	2.2533E+02	3.2069E+01	1.1059E+02	1.8875E+01

TABLE XIII.- Continued

(d) Velocity, 9.7536 km/sec; M_1 = 35.774

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.6018E+00	5.6486E-02	9.9997E-01	3.5491E+01	1.0000E+00	1.4013E+00	1.2548E-05
5.0000E+00	3.7456E+00	9.9643E-01	2.1403E+01	1.0000E+00	1.3850E+00	2.7371E-05
1.0000E+01	8.2778E+00	9.8525E-01	1.3070E+01	1.0000E+00	1.3038E+00	5.1548E-05
1.5000E+01	1.3226E+01	9.6639E-01	1.1013E+01	1.0446E+00	1.1145E+00	6.8813E-05
2.0000E+01	1.8277E+01	9.4012E-01	9.3880E+00	1.1516E+00	1.1259E+00	7.6624E-05
2.5000E+01	2.2785E+01	9.0699E-01	7.1892E+00	1.2219E+00	1.1684E+00	1.0154E-04
3.0000E+01	2.7618E+01	8.6677E-01	6.3756E+00	1.3002E+00	1.1038E+00	1.1421E-04
3.5000E+01	3.2492E+01	8.1994E-01	5.6295E+00	1.3992E+00	1.0985E+00	1.2079E-04
4.0000E+01	3.7305E+01	7.6689E-01	4.9429E+00	1.5077E+00	1.0997E+00	1.2589E-04
4.5000E+01	4.2036E+01	7.0805E-01	4.3015E+00	1.6203E+00	1.1034E+00	1.3049E-04
5.0000E+01	4.6658E+01	6.4388E-01	3.6943E+00	1.7326E+00	1.1105E+00	1.3573E-04
5.5000E+01	5.1121E+01	5.7489E-01	3.1131E+00	1.8392E+00	1.1236E+00	1.4165E-04
6.0000E+01	5.5306E+01	5.0168E-01	2.5295E+00	1.9325E+00	1.1613E+00	1.5014E-04
6.5000E+01	5.8845E+01	4.2507E-01	1.9186E+00	1.9912E+00	1.2510E+00	1.7291E-04
7.0000E+01	6.1699E+01	3.4564E-01	1.5008E+00	2.0230E+00	1.1947E+00	1.9855E-04
7.5000E+01	6.3630E+01	2.6400E-01	1.1234E+00	2.0534E+00	1.1611E+00	2.1284E-04
8.0000E+01	6.2568E+01	1.8161E-01	7.6140E-01	2.0779E+00	1.1482E+00	2.2090E-04
8.5000E+01	5.3321E+01	1.0242E-01	4.2553E-01	2.0935E+00	1.1430E+00	2.2490E-04
9.0000E+01	3.1941E-10	5.3969E-02	2.2357E-01	2.0988E+00	1.1415E+00	2.2574E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.6018E+00	1.0523E+00	1.0152E+00	1.0147E+00	5.9139E-04	1.9204E+03	1.0366E+00
5.0000E+00	1.1203E+01	2.8026E+00	2.8225E+00	1.2074E+00	3.3815E+03	3.9954E+00
1.0000E+01	4.5814E+01	7.8054E+00	8.4936E+00	3.7889E+00	2.6058E+03	5.8644E+00
1.5000E+01	1.0714E+02	1.1845E+01	1.7917E+01	6.1402E+00	2.8240E+03	8.6495E+00
2.0000E+01	1.9327E+02	1.3851E+01	3.0737E+01	8.9740E+00	3.4519E+03	1.2102E+01
2.5000E+01	2.9447E+02	1.9966E+01	4.6401E+01	1.1826E+01	2.5035E+03	1.2056E+01
3.0000E+01	4.1665E+02	2.3065E+01	6.4657E+01	1.4314E+01	2.4484E+03	1.3877E+01
3.5000E+01	5.5358E+02	2.4719E+01	8.4878E+01	1.6875E+01	2.5230E+03	1.5988E+01
4.0000E+01	6.9977E+02	2.6002E+01	1.0642E+02	1.9494E+01	2.5249E+03	1.7829E+01
4.5000E+01	8.5047E+02	2.7142E+01	1.2864E+02	2.2102E+01	2.4366E+03	1.9310E+01
5.0000E+01	1.0009E+03	2.8276E+01	1.5084E+02	2.4623E+01	2.2506E+03	2.0407E+01
5.5000E+01	1.1462E+03	2.9554E+01	1.7236E+02	2.6978E+01	1.9874E+03	2.1062E+01
6.0000E+01	1.2811E+03	3.1391E+01	1.9254E+02	2.9084E+01	1.6386E+03	2.1093E+01
6.5000E+01	1.3987E+03	3.5291E+01	2.1071E+02	3.0830E+01	1.1365E+03	1.9886E+01
7.0000E+01	1.4991E+03	3.9305E+01	2.2638E+02	3.2153E+01	7.6212E+02	1.8831E+01
7.5000E+01	1.5826E+03	4.1482E+01	2.3912E+02	3.3140E+01	5.3515E+02	1.8559E+01
8.0000E+01	1.6448E+03	4.2710E+01	2.4852E+02	3.3839E+01	3.5384E+02	1.8513E+01
8.5000E+01	1.6831E+03	4.3357E+01	2.5427E+02	3.4257E+01	1.9609E+02	1.8522E+01
9.0000E+01	1.6960E+03	4.3562E+01	2.5621E+02	3.4396E+01	1.0299E+02	1.8529E+01

TABLE XIII.- Continued

(e) Velocity, 10.3632 km/sec; M_1 = 38.010

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.5076E+00	5.3166E-02	9.9998E-01	3.7709E+01	1.0000E+00	1.4013E+00	1.2548E-05
5.0000E+00	3.7977E+00	9.9641E-01	2.1873E+01	1.0000E+00	1.3803E+00	2.8906E-05
1.0000E+01	8.3283E+00	9.8523E-01	1.3363E+01	1.0003E+00	1.2810E+00	5.5283E-05
1.5000E+01	1.3363E+01	9.6632E-01	1.1434E+01	1.0624E+00	1.1105E+00	7.0353E-05
2.0000E+01	1.8351E+01	9.4008E-01	9.4405E+00	1.1817E+00	1.1593E+00	7.9672E-05
2.5000E+01	2.2867E+01	9.0694E-01	7.4524E+00	1.2442E+00	1.1255E+00	1.0747E-04
3.0000E+01	2.7763E+01	8.6669E-01	6.5754E+00	1.3400E+00	1.1000E+00	1.1725E-04
3.5000E+01	3.2637E+01	8.1985E-01	5.7877E+00	1.4537E+00	1.0987E+00	1.2350E-04
4.0000E+01	3.7443E+01	7.6681E-01	5.0620E+00	1.5768E+00	1.1015E+00	1.2871E-04
4.5000E+01	4.2161E+01	7.0798E-01	4.3797E+00	1.7038E+00	1.1084E+00	1.3435E-04
5.0000E+01	4.6755E+01	6.4382E-01	3.7276E+00	1.8286E+00	1.1217E+00	1.4096E-04
5.5000E+01	5.1116E+01	5.7490E-01	3.0489E+00	1.9404E+00	1.1703E+00	1.5135E-04
6.0000E+01	5.4882E+01	5.0200E-01	2.3502E+00	2.0042E+00	1.2410E+00	1.8428E-04
6.5000E+01	5.8414E+01	4.2543E-01	1.9280E+00	2.0497E+00	1.1638E+00	2.1144E-04
7.0000E+01	6.1564E+01	3.4576E-01	1.5237E+00	2.0966E+00	1.1421E+00	2.2539E-04
7.5000E+01	6.3668E+01	2.6396E-01	1.1386E+00	2.1371E+00	1.1339E+00	2.3095E-04
8.0000E+01	6.3156E+01	1.8143E-01	7.7094E-01	2.1678E+00	1.1303E+00	2.3445E-04
8.5000E+01	5.3711E+01	1.0199E-01	4.2954E-01	2.1868E+00	1.1286E+00	2.3640E-04
9.0000E+01	3.2496E-10	5.3097E-02	2.2297E-01	2.1933E+00	1.1282E+00	2.3703E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.5076E+00	1.0523E+00	1.0152E+00	1.0147E+00	5.9139E-04	2.0405E+03	1.0366E+00
5.0000E+00	1.2679E+01	3.0398E+00	3.0686E+00	1.3771E+00	3.5495E+03	4.1687E+00
1.0000E+01	5.1896E+01	8.5767E+00	9.4743E+00	4.0822E+00	2.6596E+03	6.0417E+00
1.5000E+01	1.2204E+02	1.2240E+01	2.0136E+01	6.6454E+00	3.1803E+03	9.3737E+00
2.0000E+01	2.1889E+02	1.4634E+01	3.4590E+01	9.7741E+00	3.6850E+03	1.2643E+01
2.5000E+01	3.3340E+02	2.1382E+01	5.2279E+01	1.2661E+01	2.6093E+03	1.2517E+01
3.0000E+01	4.7245E+02	2.3829E+01	7.2907E+01	1.5374E+01	2.6984E+03	1.4779E+01
3.5000E+01	6.2722E+02	2.5400E+01	9.5732E+01	1.8206E+01	2.7824E+03	1.6968E+01
4.0000E+01	7.9224E+02	2.6712E+01	1.2005E+02	2.1104E+01	2.7648E+03	1.8788E+01
4.5000E+01	9.6218E+02	2.7976E+01	1.4512E+02	2.3982E+01	2.6246E+03	2.0163E+01
5.0000E+01	1.1315E+03	2.9406E+01	1.7018E+02	2.6744E+01	2.3712E+03	2.1018E+01
5.5000E+01	1.2937E+03	3.1654E+01	1.9445E+02	2.9277E+01	1.9738E+03	2.1038E+01
6.0000E+01	1.4396E+03	3.7100E+01	2.1714E+02	3.1392E+01	1.3013E+03	1.9339E+01
6.5000E+01	1.5730E+03	4.1268E+01	2.3766E+02	3.3030E+01	9.2313E+02	1.8574E+01
7.0000E+01	1.6907E+03	4.3477E+01	2.5541E+02	3.4339E+01	7.0199E+02	1.8526E+01
7.5000E+01	1.7868E+03	4.4844E+01	2.6982E+02	3.5359E+01	5.2578E+02	1.8624E+01
8.0000E+01	1.8580E+03	4.5702E+01	2.8044E+02	3.6092E+01	3.5808E+02	1.8732E+01
8.5000E+01	1.9016E+03	4.6182E+01	2.8695E+02	3.6535E+01	2.0042E+02	1.8807E+01
9.0000E+01	1.9163E+03	4.6337E+01	2.8914E+02	3.6684E+01	1.0421E+02	1.8834E+01

TABLE XIII. - Continued

(f) Velocity, 10.9728 km/sec; M_1 = 40.246

TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.4238E+00	5.0214E-02	9.9998E-01	3.9928E+01	1.0000E+00	1.4013E+00	1.2548E-05
5.0000E+00	3.8423E+00	9.9640E-01	2.2305E+01	1.0000E+00	1.3753E+00	3.0450E-05
1.0000E+01	8.3854E+00	9.8520E-01	1.3780E+01	1.0015E+00	1.2415E+00	5.8438E-05
1.5000E+01	1.3479E+01	9.6627E-01	1.1823E+01	1.0819E+00	1.1096E+00	7.1800E-05
2.0000E+01	1.8341E+01	9.4009E-01	9.0157E+00	1.2035E+00	1.2646E+00	8.5742E-05
2.5000E+01	2.2975E+01	9.0687E-01	7.6860E+00	1.2717E+00	1.1102E+00	1.1138E-04
3.0000E+01	2.7891E+01	8.6661E-01	6.7624E+00	1.3831E+00	1.0986E+00	1.1991E-04
3.5000E+01	3.2759E+01	8.1978E-01	5.9308E+00	1.5119E+00	1.0997E+00	1.2607E-04
4.0000E+01	3.7554E+01	7.6674E-01	5.1611E+00	1.6501E+00	1.1051E+00	1.3185E-04
4.5000E+01	4.2250E+01	7.0792E-01	4.4311E+00	1.7913E+00	1.1163E+00	1.3878E-04
5.0000E+01	4.6772E+01	6.4381E-01	3.6833E+00	1.9245E+00	1.1549E+00	1.4906E-04
5.5000E+01	5.0767E+01	5.7515E-01	2.8469E+00	2.0055E+00	1.2381E+00	1.8536E-04
6.0000E+01	5.4659E+01	5.0218E-01	2.3883E+00	2.0640E+00	1.1545E+00	2.1659E-04
6.5000E+01	5.8421E+01	4.2542E-01	1.9529E+00	2.1271E+00	1.1354E+00	2.2970E-04
7.0000E+01	6.1685E+01	3.4565E-01	1.5429E+00	2.1847E+00	1.1288E+00	2.3620E-04
7.5000E+01	6.3888E+01	2.6376E-01	1.1526E+00	2.2327E+00	1.1260E+00	2.4061E-04
8.0000E+01	6.3510E+01	1.8110E-01	7.7963E-01	2.2684E+00	1.1248E+00	2.4352E-04
8.5000E+01	5.4306E+01	1.0135E-01	4.3248E-01	2.2905E+00	1.1243E+00	2.4519E-04
9.0000E+01	3.3324E-10	5.1846E-02	2.2058E-01	2.2979E+00	1.1241E+00	2.4574E-04

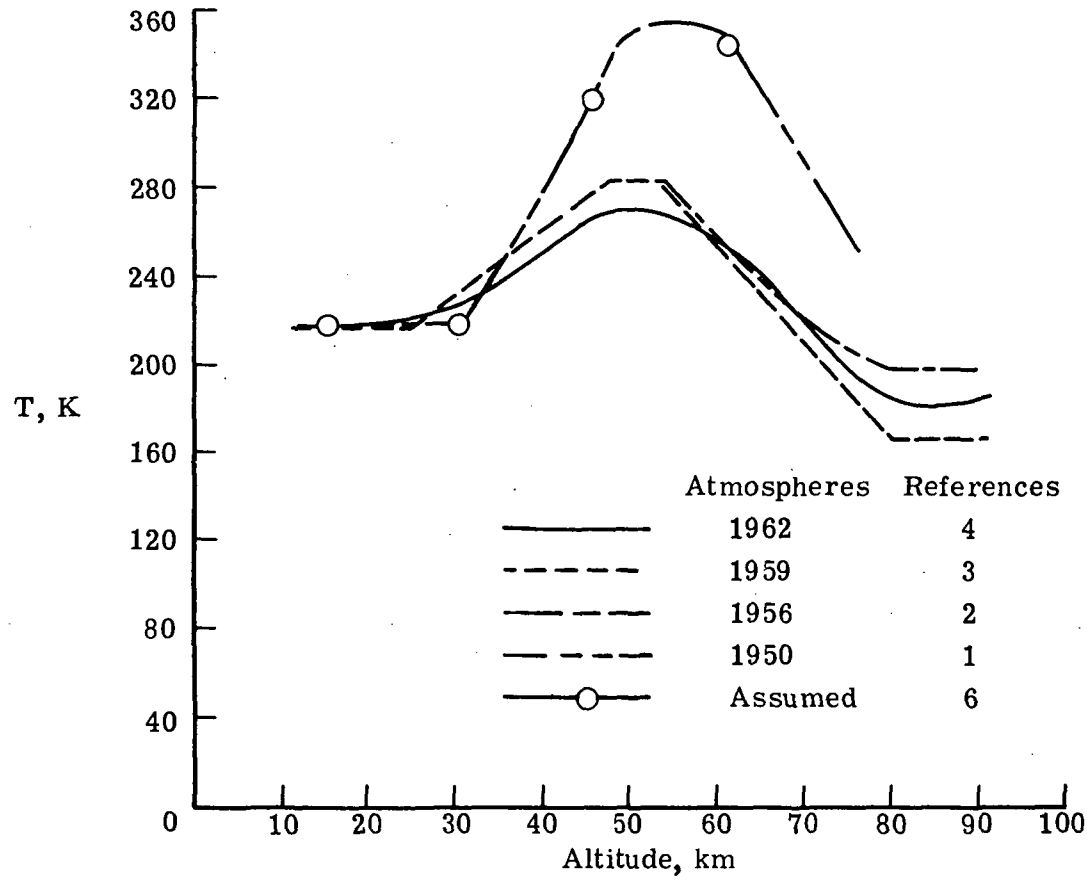
TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.4238E+00	1.0523E+00	1.0152E+00	1.0147E+00	5.9139E-04	2.1605E+03	1.0366E+00
5.0000E+00	1.4246E+01	3.2889E+00	3.3294E+00	1.5481E+00	3.7051E+03	4.3293E+00
1.0000E+01	5.8446E+01	9.3184E+00	1.0519E+01	4.3696E+00	2.7582E+03	6.2554E+00
1.5000E+01	1.3785E+02	1.2612E+01	2.2487E+01	7.1746E+00	3.5516E+03	1.0090E+01
2.0000E+01	2.4515E+02	1.6193E+01	3.8655E+01	1.0565E+01	3.6030E+03	1.2565E+01
2.5000E+01	3.7530E+02	2.2352E+01	5.8526E+01	1.3507E+01	2.8085E+03	1.3188E+01
3.0000E+01	5.3174E+02	2.4497E+01	8.1657E+01	1.6474E+01	2.9631E+03	1.5676E+01
3.5000E+01	7.0533E+02	2.6046E+01	1.0724E+02	1.9592E+01	3.0428E+03	1.7891E+01
4.0000E+01	8.9023E+02	2.7436E+01	1.3450E+02	2.2776E+01	2.9873E+03	1.9642E+01
4.5000E+01	1.0804E+03	2.8933E+01	1.6260E+02	2.5922E+01	2.7779E+03	2.0821E+01
5.0000E+01	1.2687E+03	3.1159E+01	1.9067E+02	2.8895E+01	2.3872E+03	2.1133E+01
5.5000E+01	1.4437E+03	3.7270E+01	2.1779E+02	3.1448E+01	1.5658E+03	1.9293E+01
6.0000E+01	1.6099E+03	4.2052E+01	2.4325E+02	3.3450E+01	1.1235E+03	1.8527E+01
6.5000E+01	1.7634E+03	4.4536E+01	2.6632E+02	3.5114E+01	9.0065E+02	1.8593E+01
7.0000E+01	1.8969E+03	4.6132E+01	2.8624E+02	3.6488E+01	7.1952E+02	1.8799E+01
7.5000E+01	2.0054E+03	4.7216E+01	3.0241E+02	3.7572E+01	5.4479E+02	1.9001E+01
8.0000E+01	2.0855E+03	4.7932E+01	3.1432E+02	3.8357E+01	3.7263E+02	1.9158E+01
8.5000E+01	2.1345E+03	4.8342E+01	3.2162E+02	3.8832E+01	2.0817E+02	1.9255E+01
9.0000E+01	2.1511E+03	4.8476E+01	3.2408E+02	3.8991E+01	1.0643E+02	1.9288E+01

TABLE XIII.- Concluded

(g) Velocity, 11.5824 km/sec; M_1 = 42.482

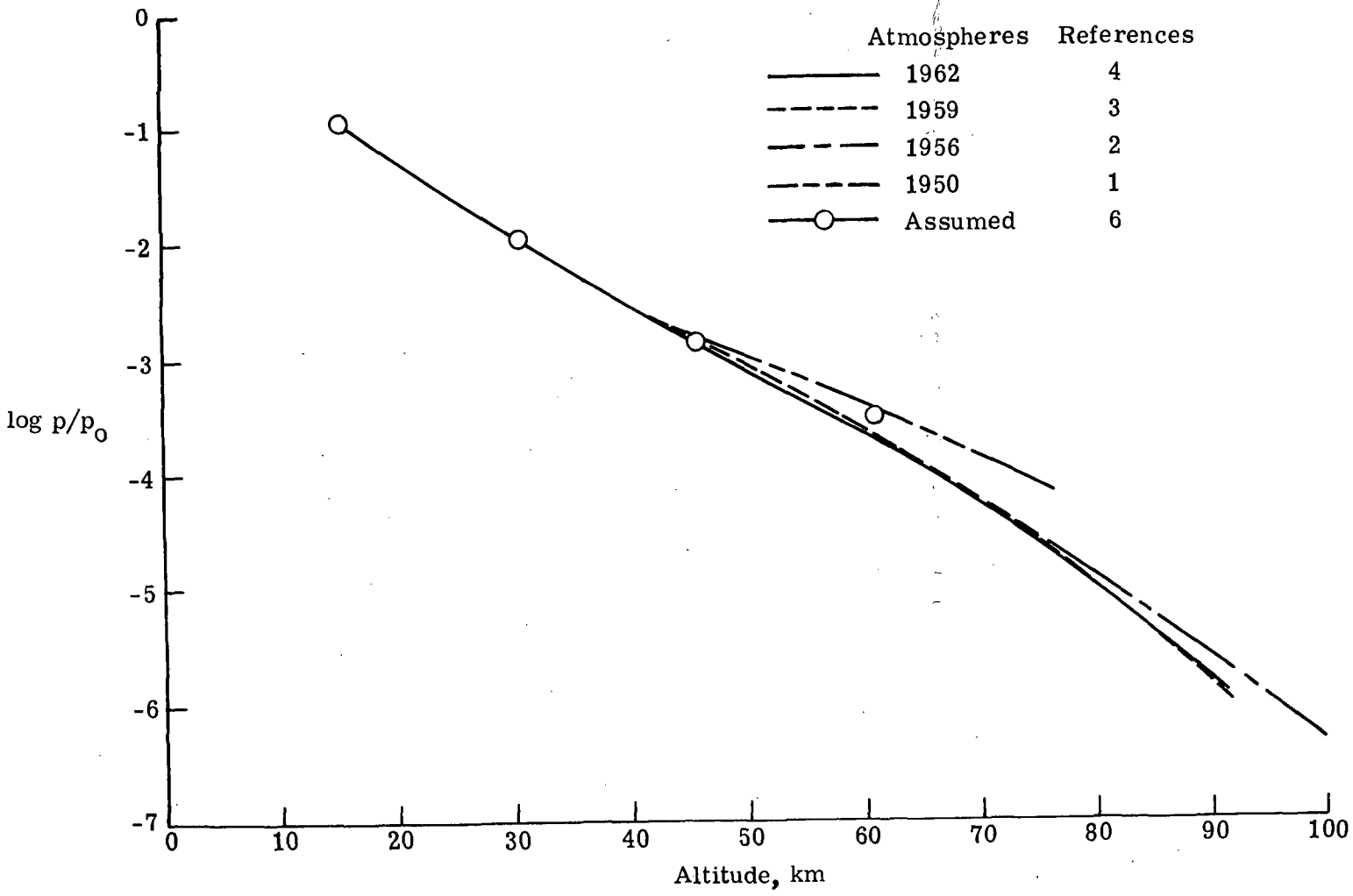
TH	DELTA	V2/V1	M2	Z2	GAM2	VIS
1.3488E+00	4.7573E-02	9.9998E-01	4.2146E+01	1.0000E+00	1.4013E+00	1.2548E-05
5.0000E+00	3.8809E+00	9.9638E-01	2.2707E+01	1.0000E+00	1.3700E+00	3.2000E-05
1.0000E+01	8.4554E+00	9.8517E-01	1.4309E+01	1.0045E+00	1.1960E+00	6.1191E-05
1.5000E+01	1.3577E+01	9.6622E-01	1.2175E+01	1.1029E+00	1.1114E+00	7.3227E-05
2.0000E+01	1.8270E+01	9.4012E-01	8.9615E+00	1.2124E+00	1.2330E+00	9.5786E-05
2.5000E+01	2.3083E+01	9.0682E-01	7.9067E+00	1.3025E+00	1.1035E+00	1.1441E-04
3.0000E+01	2.8001E+01	8.6655E-01	6.9356E+00	1.4294E+00	1.0985E+00	1.2234E-04
3.5000E+01	3.2861E+01	8.1972E-01	6.0583E+00	1.5735E+00	1.1014E+00	1.2858E-04
4.0000E+01	3.7640E+01	7.6669E-01	5.2381E+00	1.7272E+00	1.1101E+00	1.3547E-04
4.5000E+01	4.2296E+01	7.0789E-01	4.4317E+00	1.8808E+00	1.1340E+00	1.4469E-04
5.0000E+01	4.6545E+01	6.4396E-01	3.4254E+00	1.9944E+00	1.2520E+00	1.7575E-04
5.5000E+01	5.0593E+01	5.7528E-01	2.8915E+00	2.0620E+00	1.1556E+00	2.1592E-04
6.0000E+01	5.4689E+01	5.0216E-01	2.4170E+00	2.1402E+00	1.1334E+00	2.3134E-04
6.5000E+01	5.8536E+01	4.2532E-01	1.9765E+00	2.2155E+00	1.1268E+00	2.3910E-04
7.0000E+01	6.1864E+01	3.4550E-01	1.5614E+00	2.2821E+00	1.1245E+00	2.4457E-04
7.5000E+01	6.4142E+01	2.6354E-01	1.1659E+00	2.3369E+00	1.1236E+00	2.4784E-04
8.0000E+01	6.3886E+01	1.8075E-01	7.8767E-01	2.3775E+00	1.1233E+00	2.4964E-04
8.5000E+01	5.4920E+01	1.0072E-01	4.3499E-01	2.4024E+00	1.1233E+00	2.5069E-04
9.0000E+01	3.4198E-10	5.0588E-02	2.1783E-01	2.4109E+00	1.1233E+00	2.5103E-04

TH	P2/P1	T2/T1	H2/H1	DEL S/R	RE2/M	RHO2/RO1
1.3488E+00	1.0523E+00	1.0152E+00	1.0147E+00	5.9139E-04	2.2806E+03	1.0366E+00
5.0000E+00	1.5907E+01	3.5497E+00	3.6051E+00	1.7195E+00	3.8500E+03	4.4788E+00
1.0000E+01	6.5535E+01	9.9655E+00	1.1629E+01	4.6563E+00	2.9065E+03	6.5392E+00
1.5000E+01	1.5455E+02	1.2979E+01	2.4971E+01	7.7263E+00	3.9285E+03	1.0784E+01
2.0000E+01	2.7203E+02	1.8593E+01	4.2931E+01	1.1296E+01	3.2662E+03	1.2054E+01
2.5000E+01	4.1987E+02	2.3114E+01	6.5134E+01	1.4375E+01	3.0482E+03	1.3930E+01
3.0000E+01	5.9447E+02	2.5108E+01	9.0906E+01	1.7617E+01	3.2354E+03	1.6545E+01
3.5000E+01	7.8788E+02	2.6679E+01	1.1941E+02	2.1029E+01	3.2992E+03	1.8746E+01
4.0000E+01	9.9366E+02	2.8219E+01	1.4977E+02	2.4504E+01	3.1816E+03	2.0364E+01
4.5000E+01	1.2046E+03	3.0213E+01	1.8107E+02	2.7901E+01	2.8600E+03	2.1174E+01
5.0000E+01	1.4086E+03	3.5743E+01	2.1227E+02	3.0969E+01	1.9968E+03	1.9740E+01
5.5000E+01	1.6049E+03	4.1951E+01	2.4249E+02	3.3393E+01	1.3630E+03	1.8531E+01
6.0000E+01	1.7942E+03	4.4938E+01	2.7093E+02	3.5436E+01	1.1166E+03	1.8634E+01
6.5000E+01	1.9667E+03	4.6846E+01	2.9665E+02	3.7188E+01	9.2949E+02	1.8927E+01
7.0000E+01	2.1159E+03	4.8189E+01	3.1886E+02	3.8652E+01	7.4953E+02	1.9218E+01
7.5000E+01	2.2372E+03	4.9145E+01	3.3687E+02	3.9814E+01	5.7119E+02	1.9457E+01
8.0000E+01	2.3266E+03	4.9794E+01	3.5015E+02	4.0657E+01	3.9238E+02	1.9630E+01
8.5000E+01	2.3813E+03	5.0173E+01	3.5828E+02	4.1168E+01	2.1888E+02	1.9733E+01
9.0000E+01	2.3998E+03	5.0297E+01	3.6102E+02	4.1340E+01	1.0997E+02	1.9768E+01



(a) Temperature.

Figure 1.- Profiles for various model atmospheres.



(b) Pressure.

Figure 1.- Concluded.

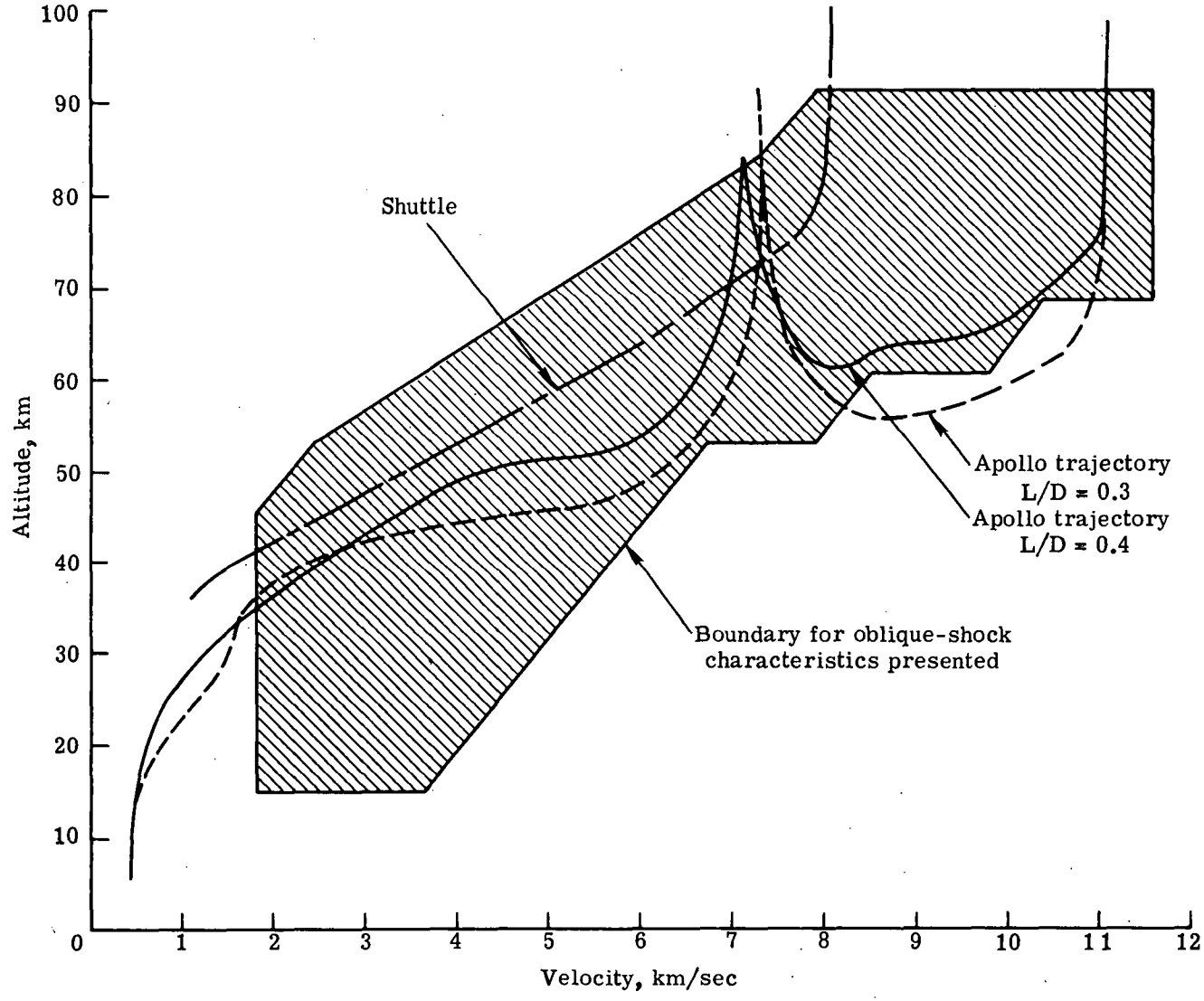
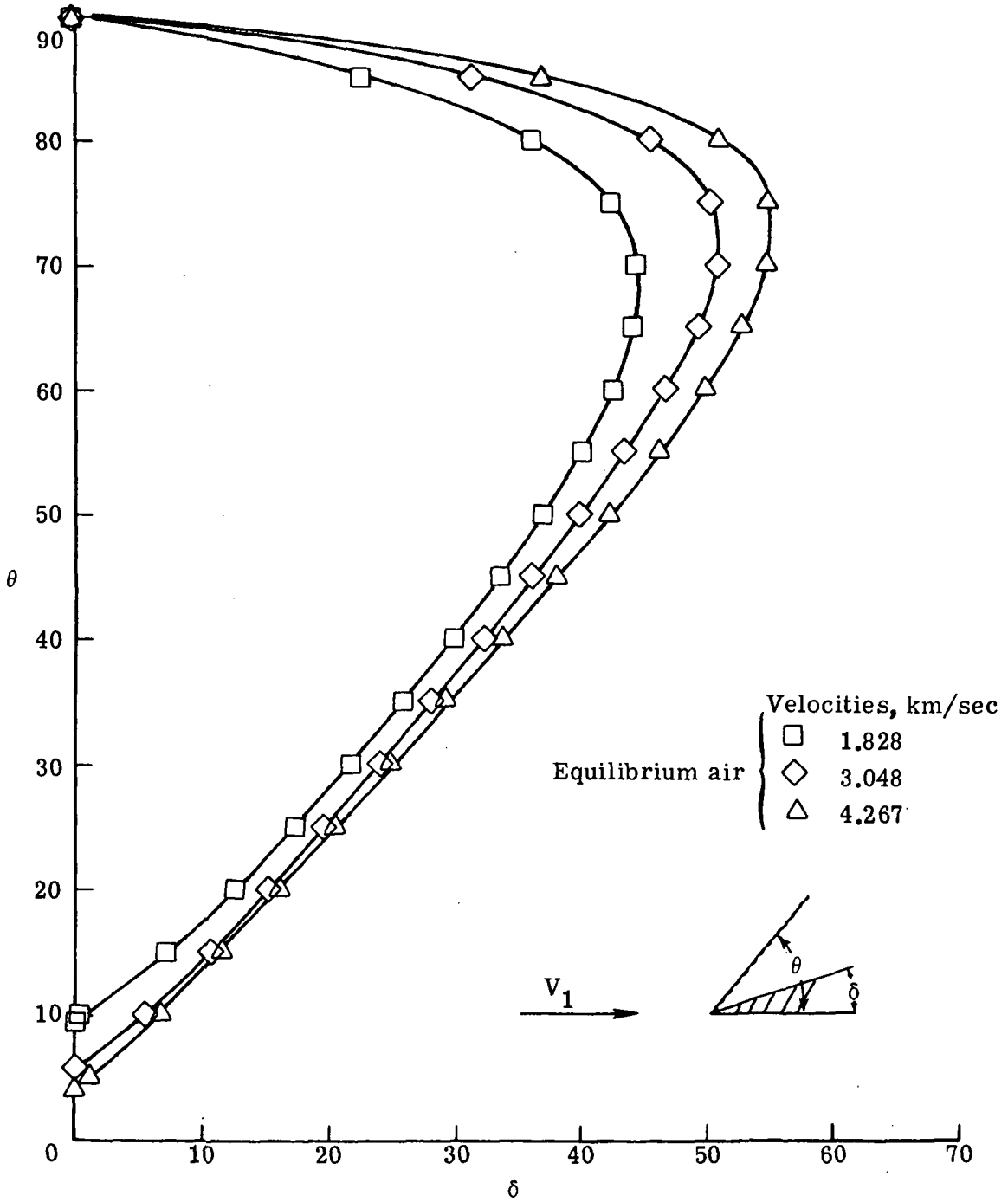
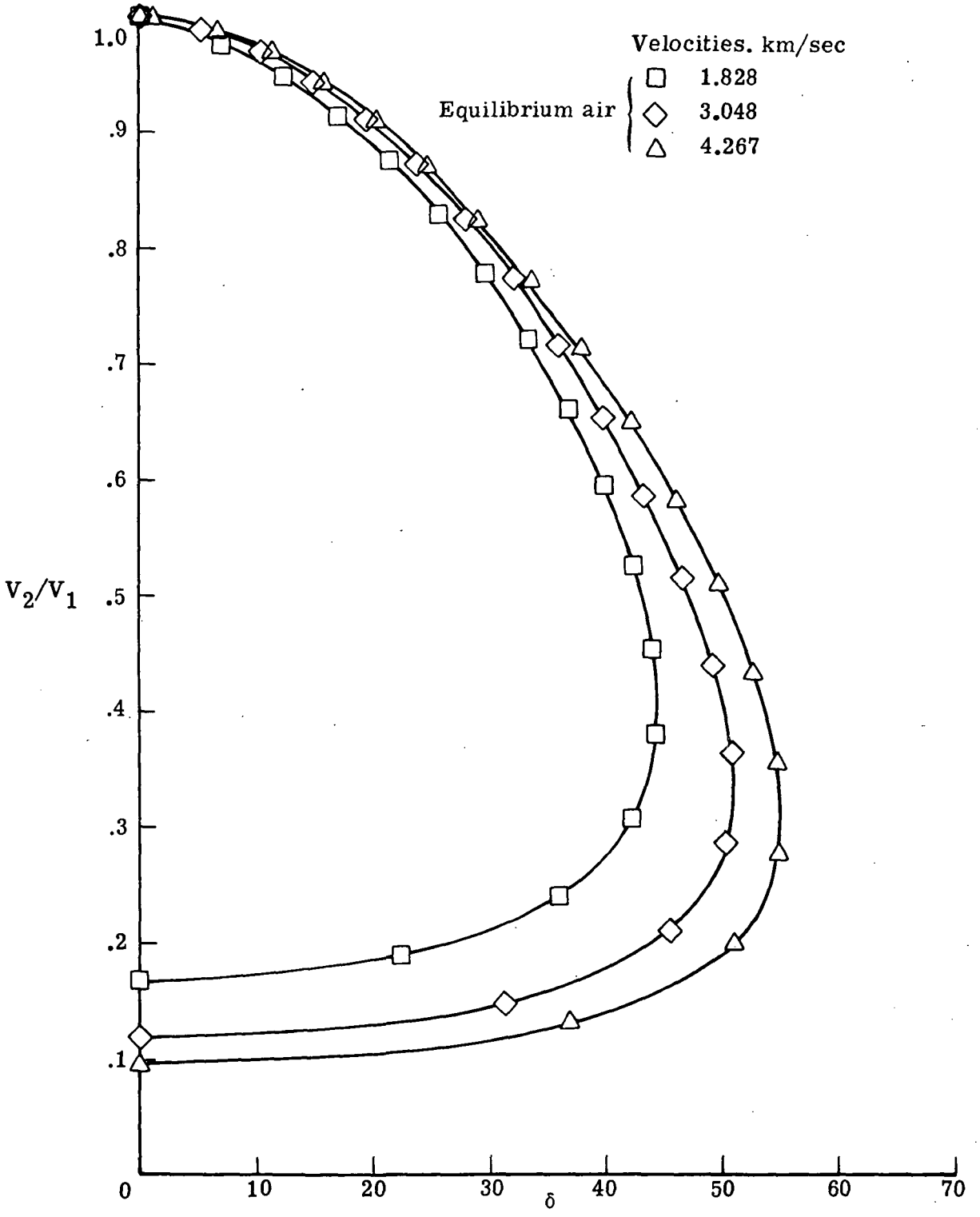


Figure 2.- Altitude-velocity range encompassed by the normal- and oblique-shock tabulations.



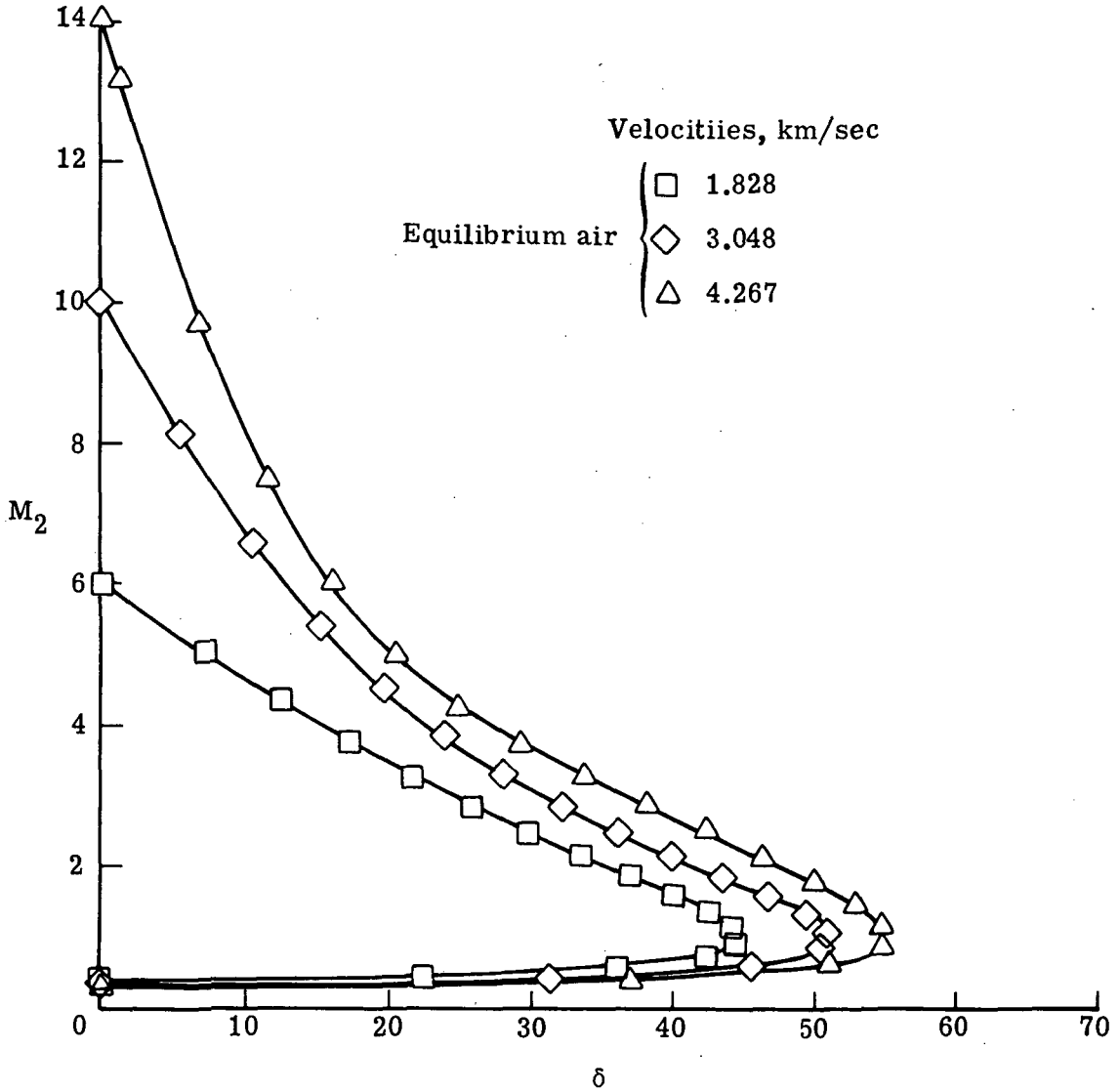
(a) θ.

Figure 3.- Oblique-shock parameters for an altitude of 30.48 km.



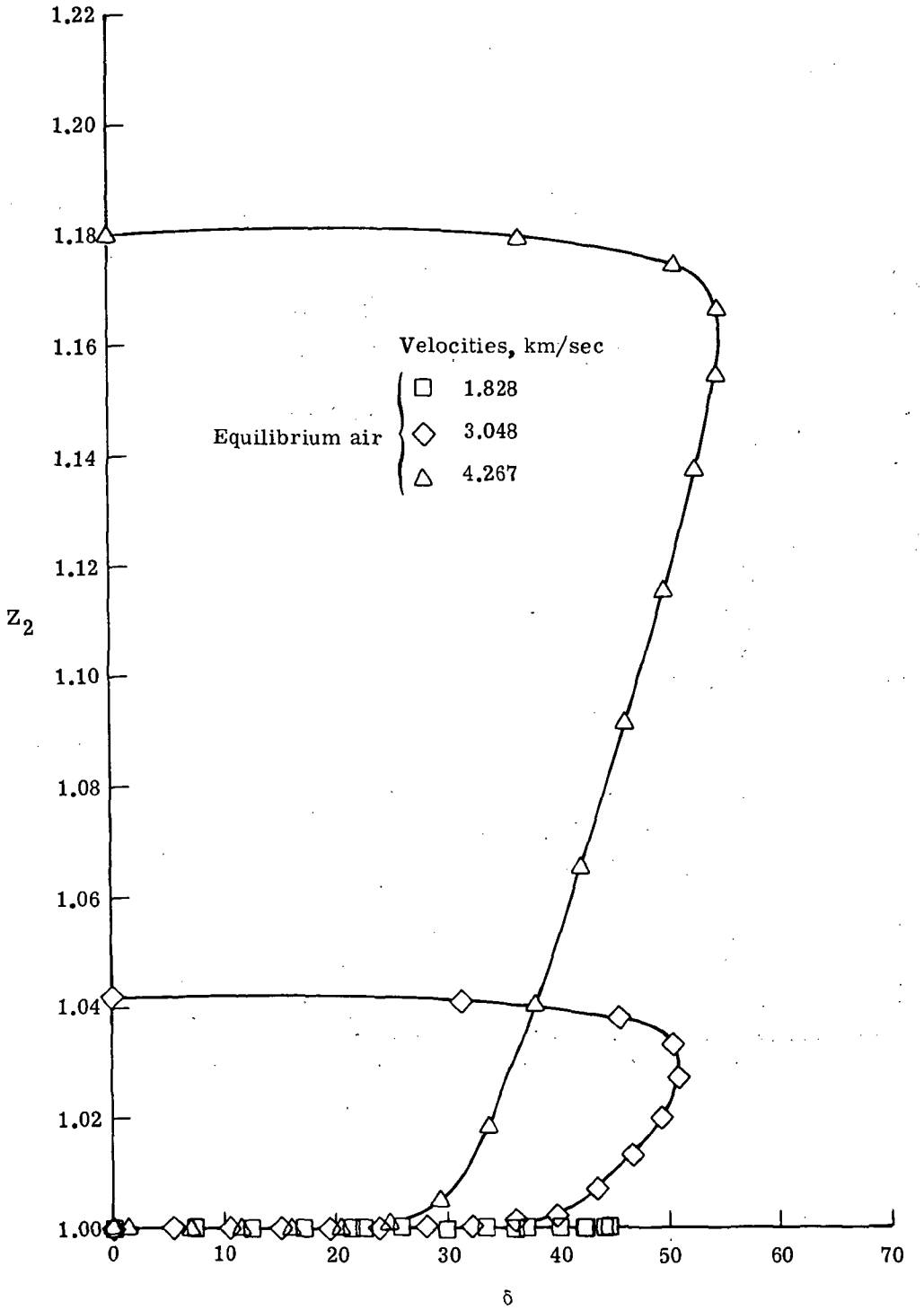
(b) V_2/V_1.

Figure 3.- Continued.



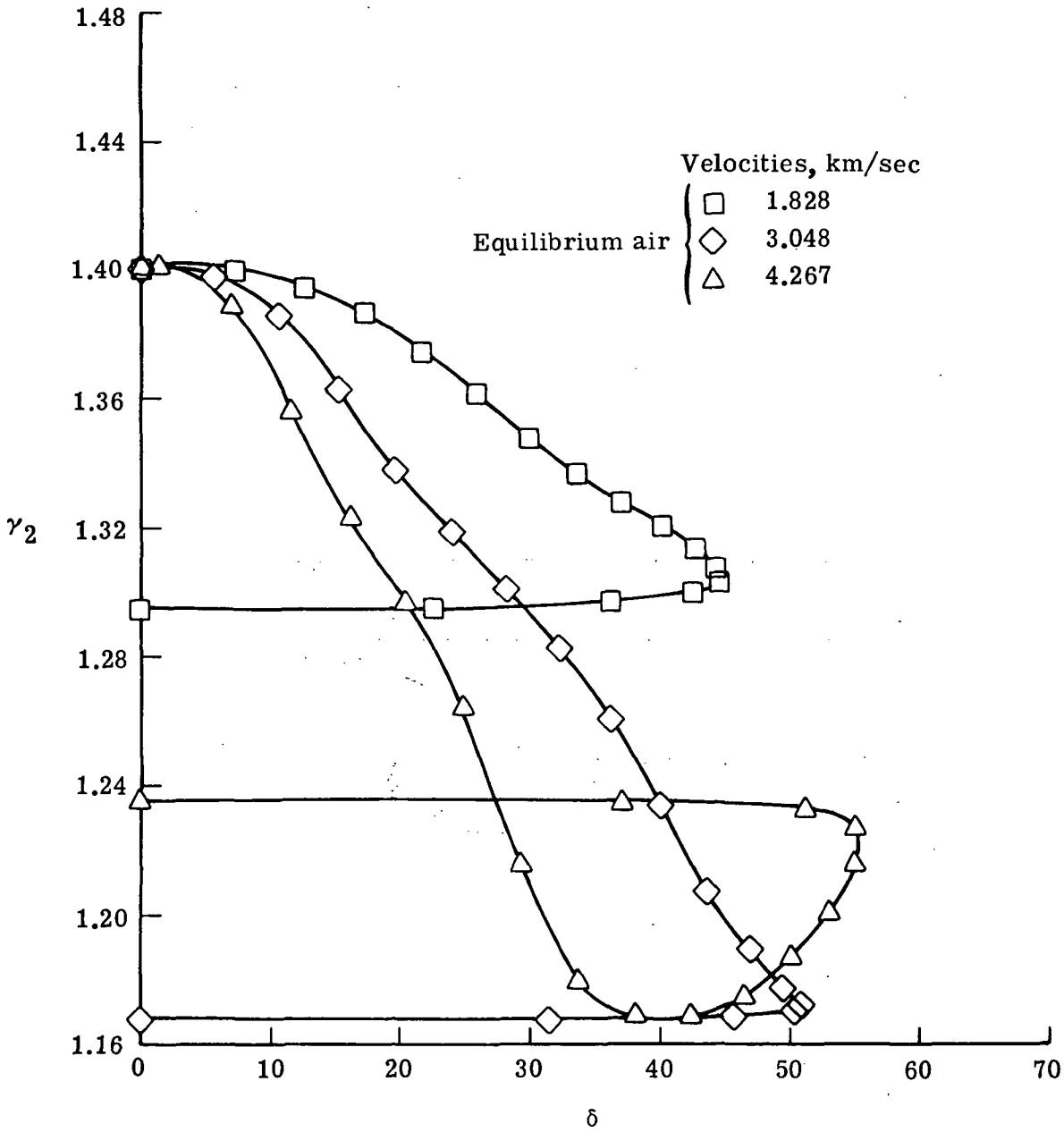
(c) M_2.

Figure 3.- Continued.



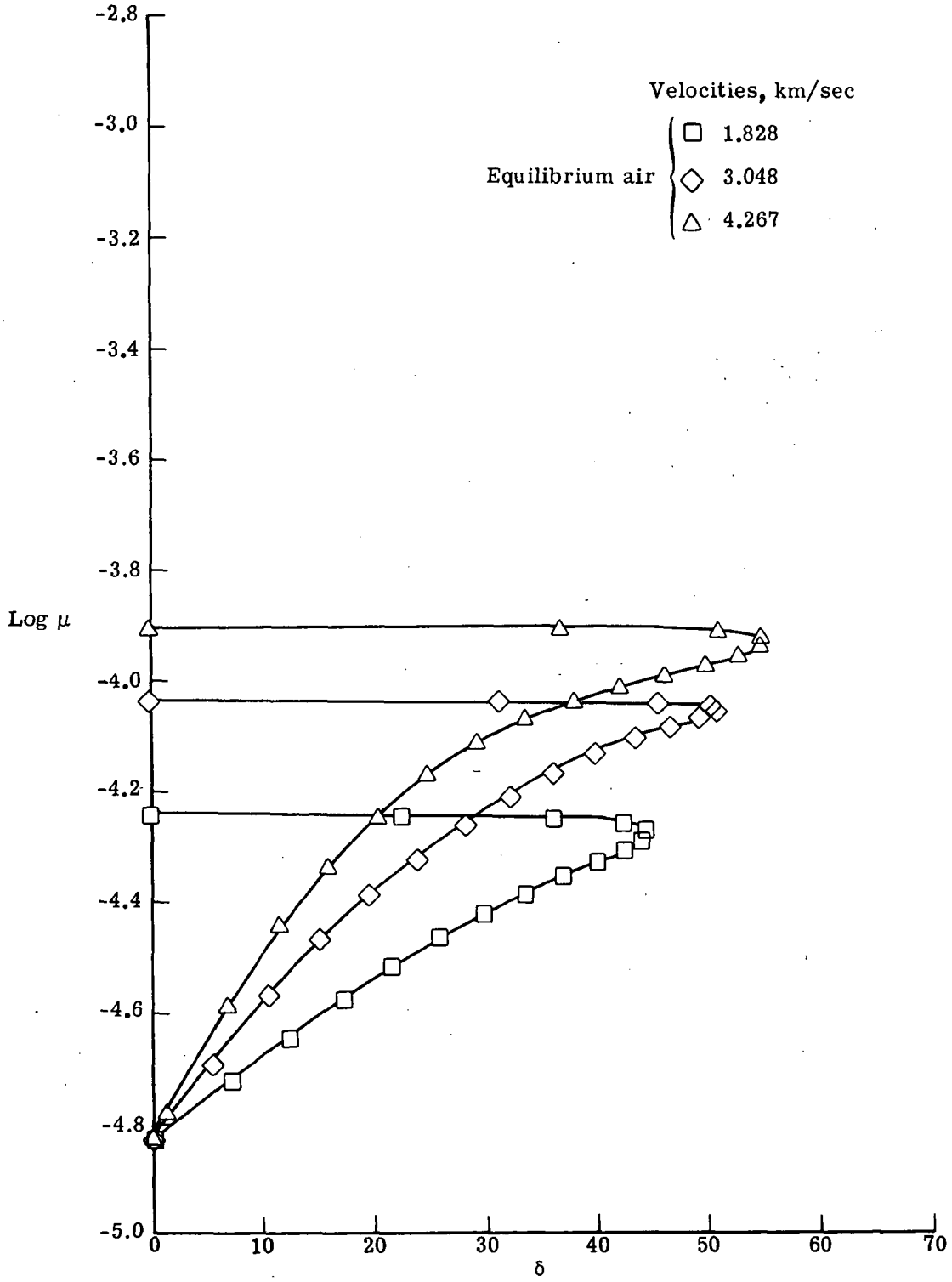
(d) Z_2.

Figure 3.- Continued.



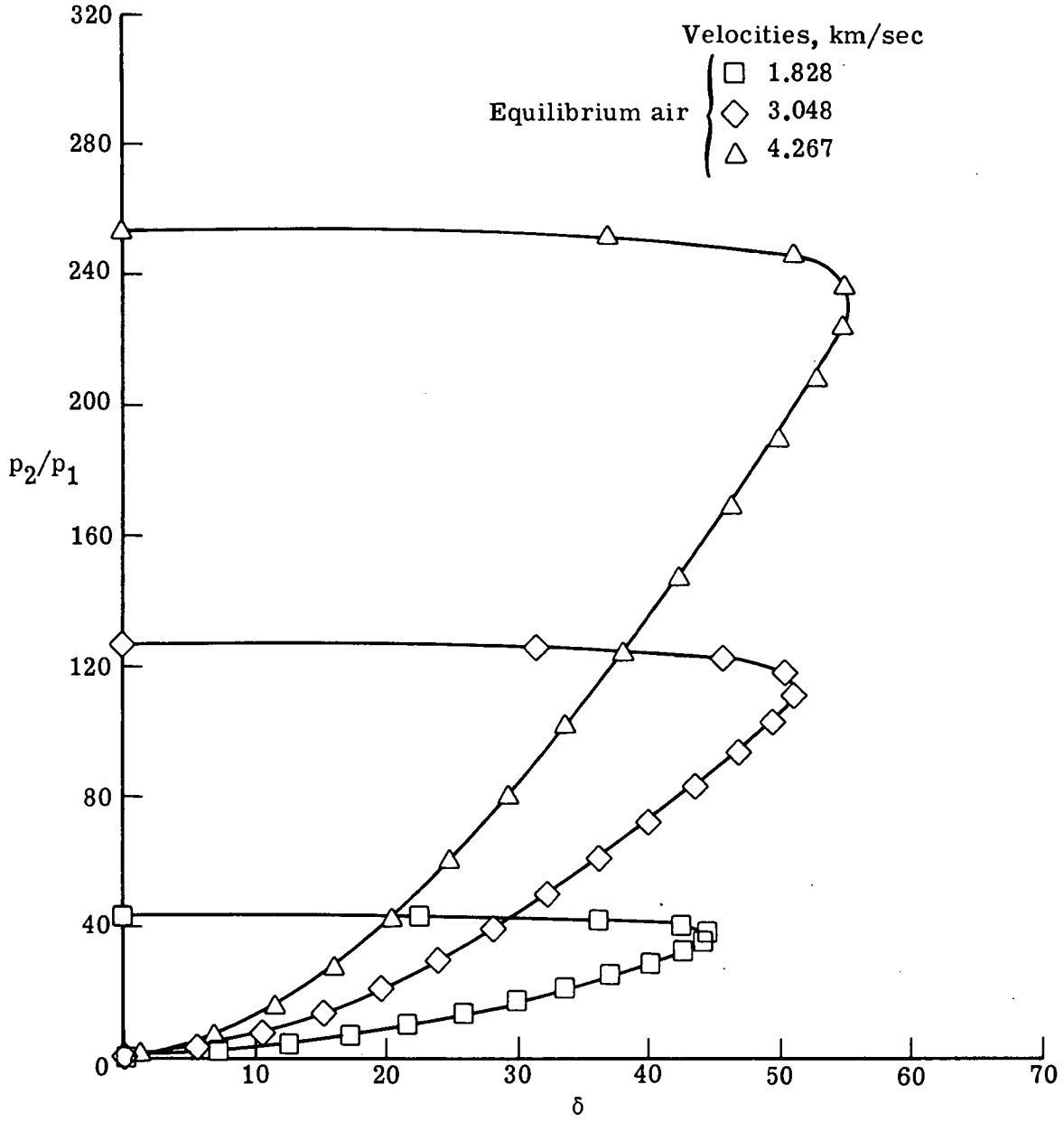
(e) γ_2.

Figure 3.- Continued.



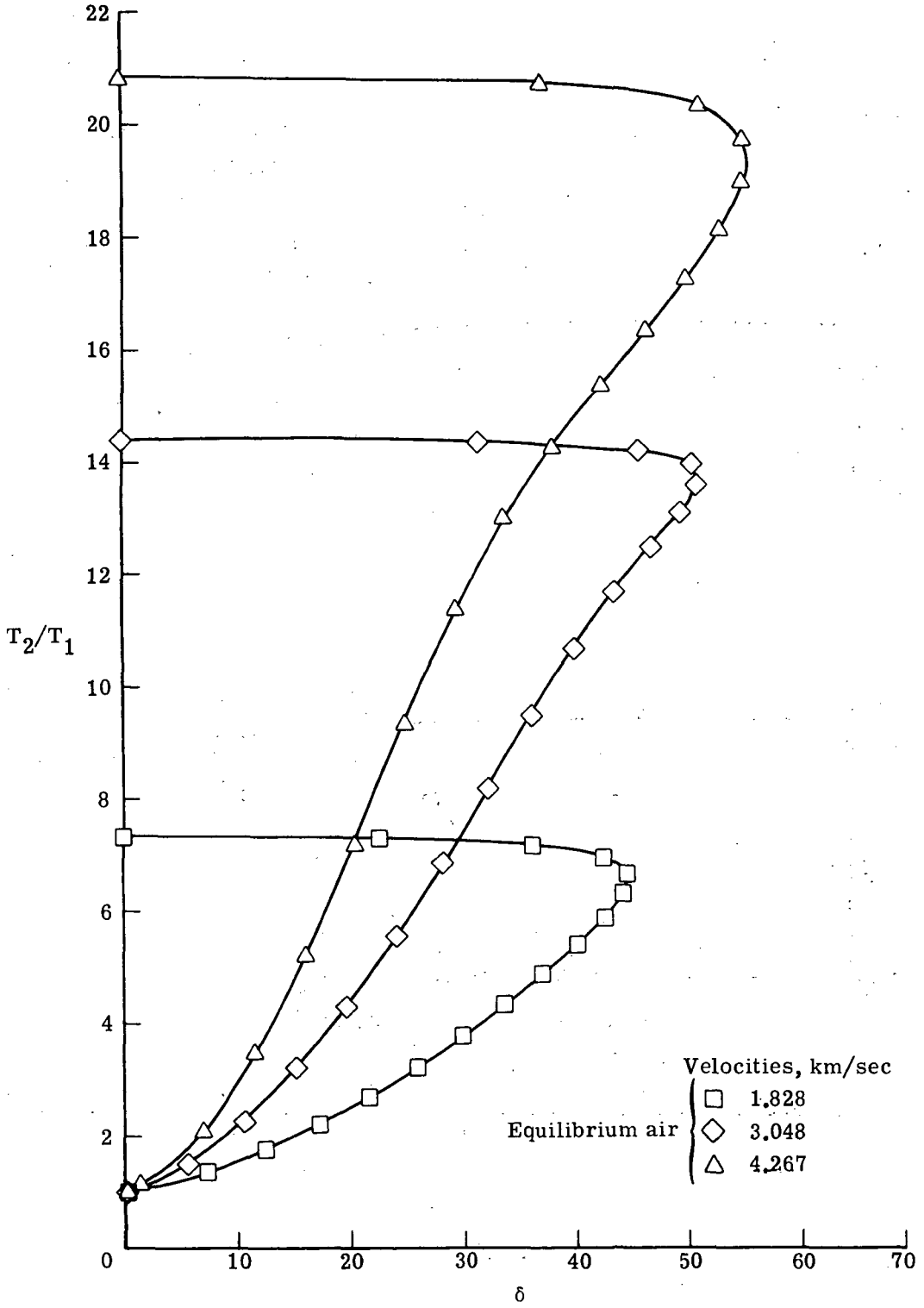
(f) Log μ.

Figure 3.- Continued.



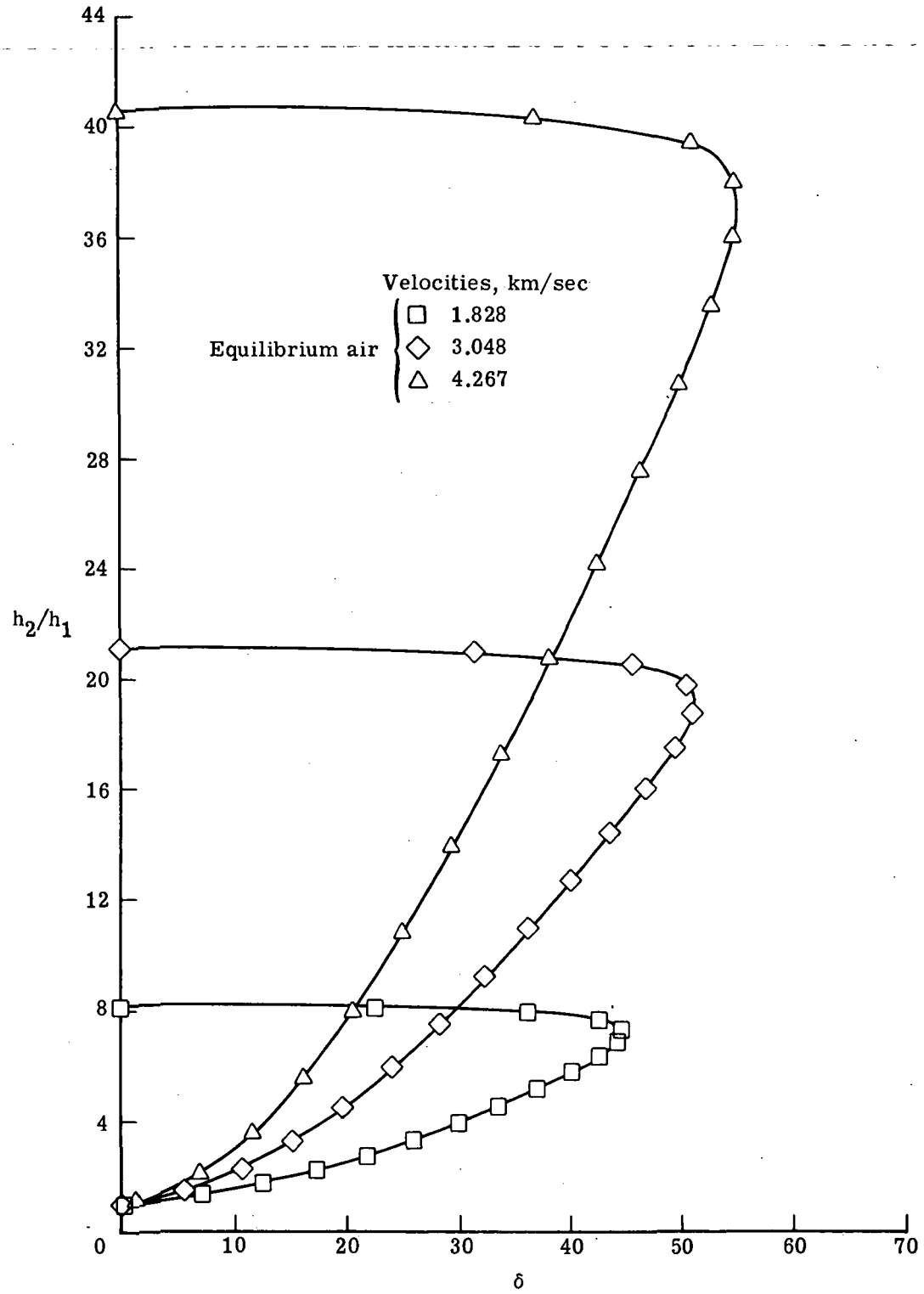
(g) p_2/p_1.

Figure 3.- Continued.



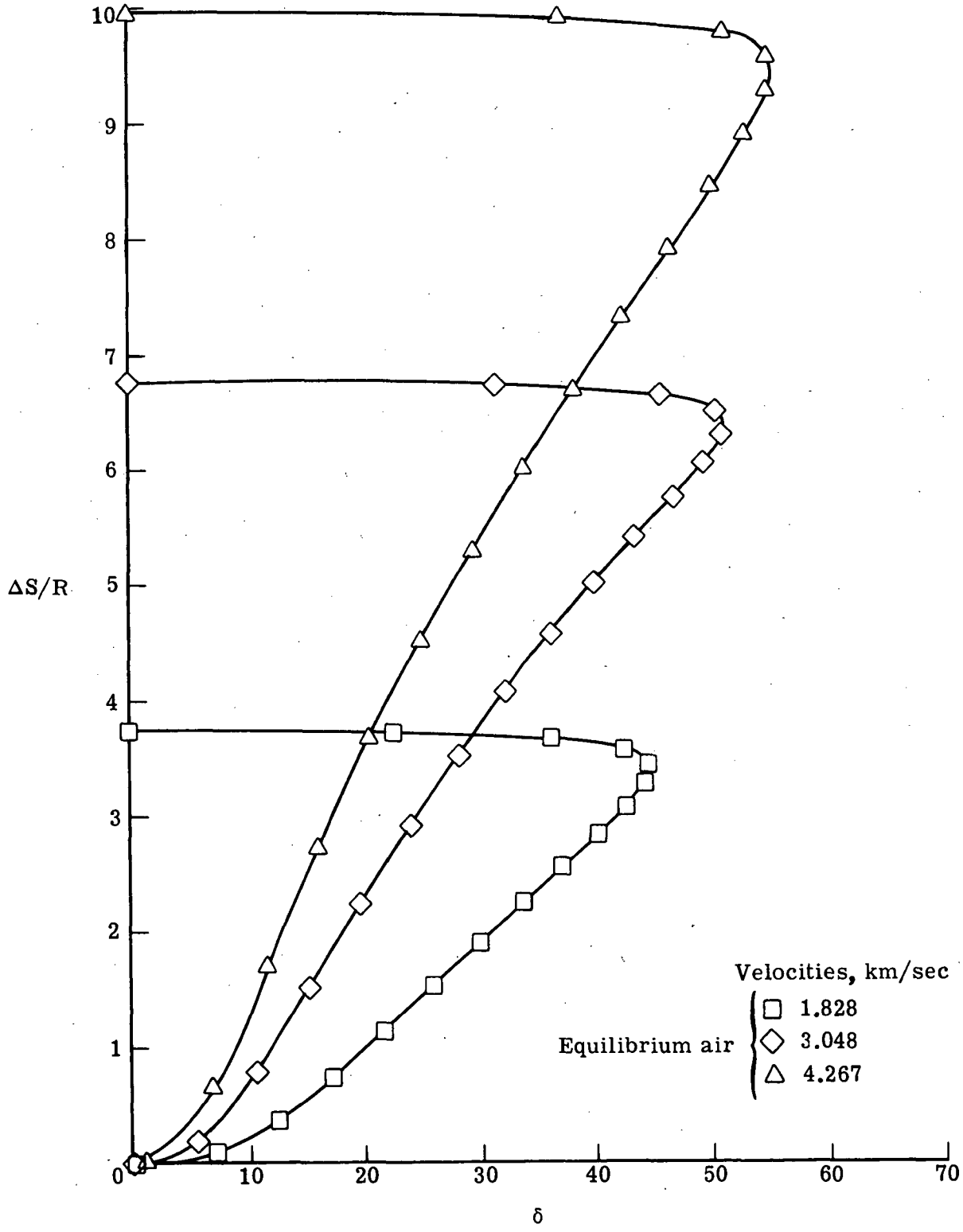
(h) T_2/T_1.

Figure 3.- Continued.



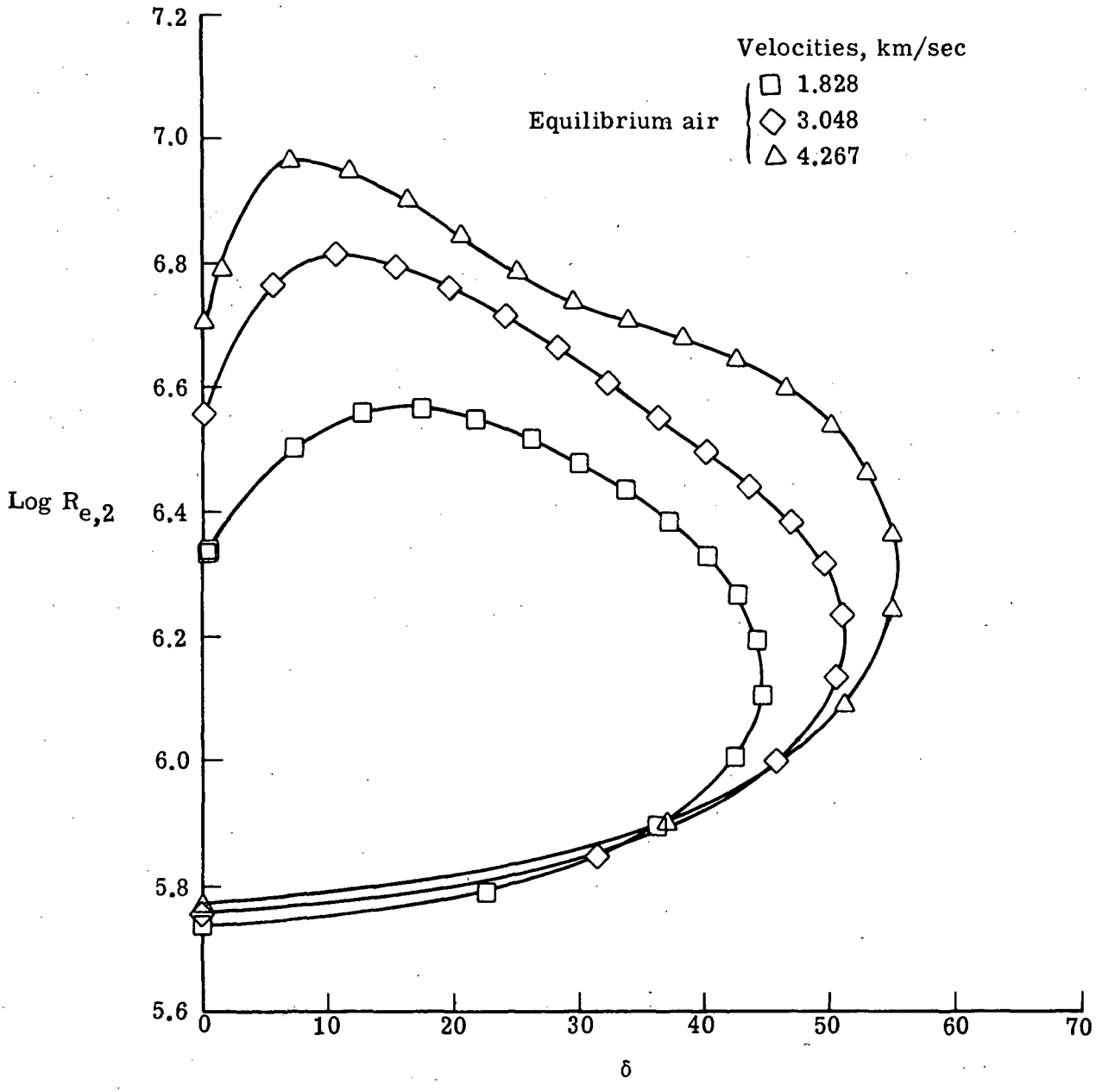
(i) h_2/h_1.

Figure 3.- Continued.



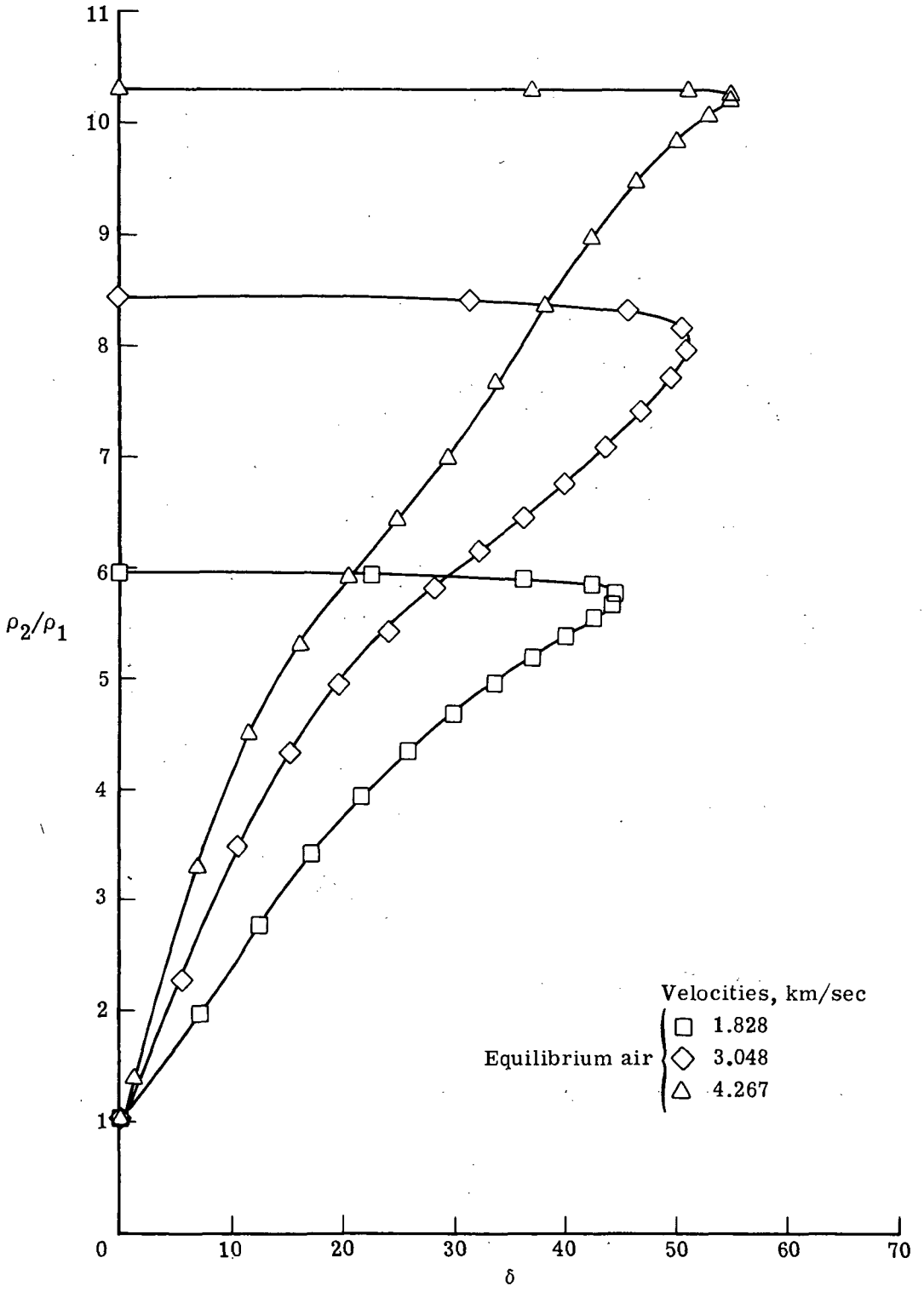
(j) ΔS/R.

Figure 3.- Continued.



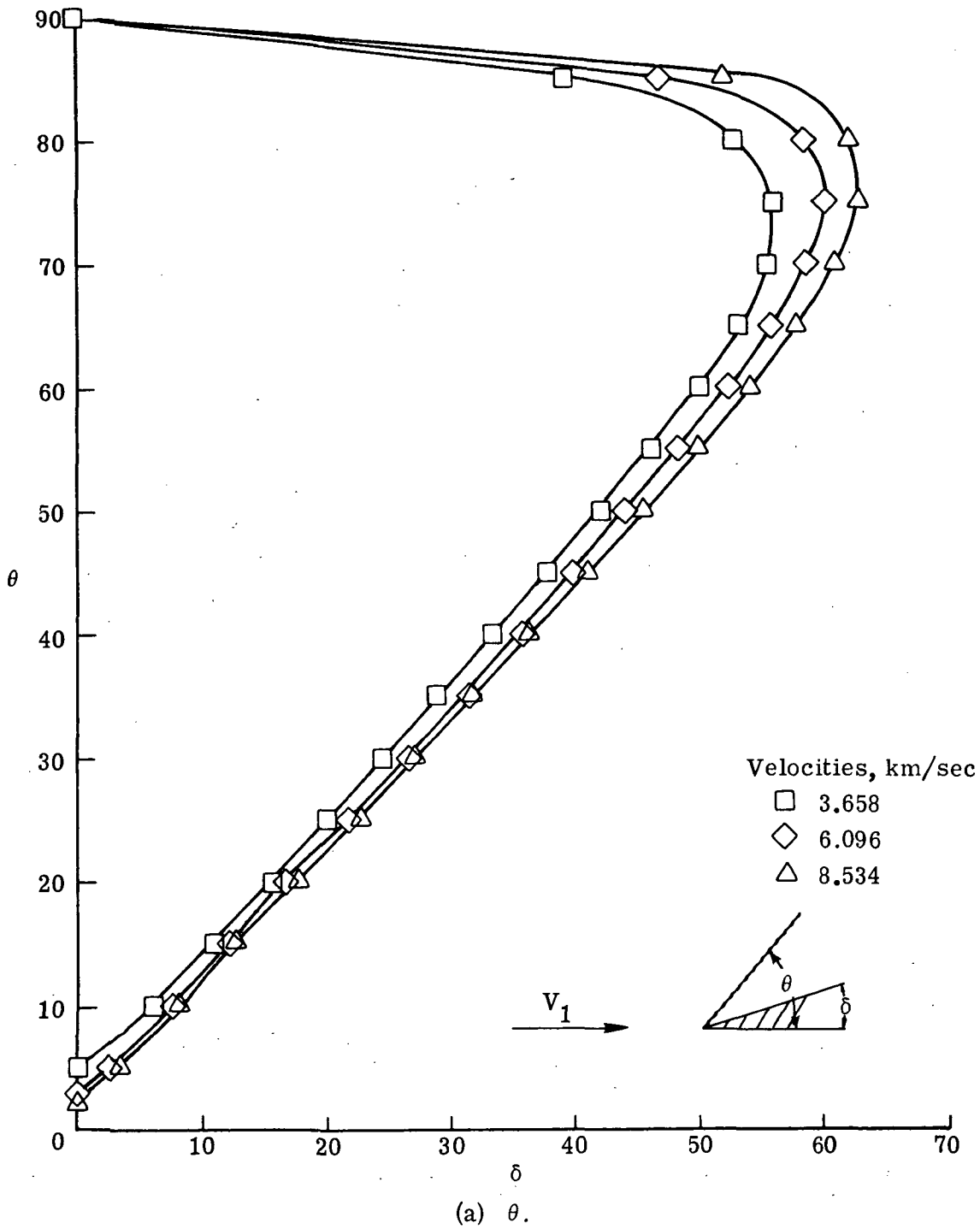
(k) Log $R_{e,2}$.

Figure 3.- Continued.



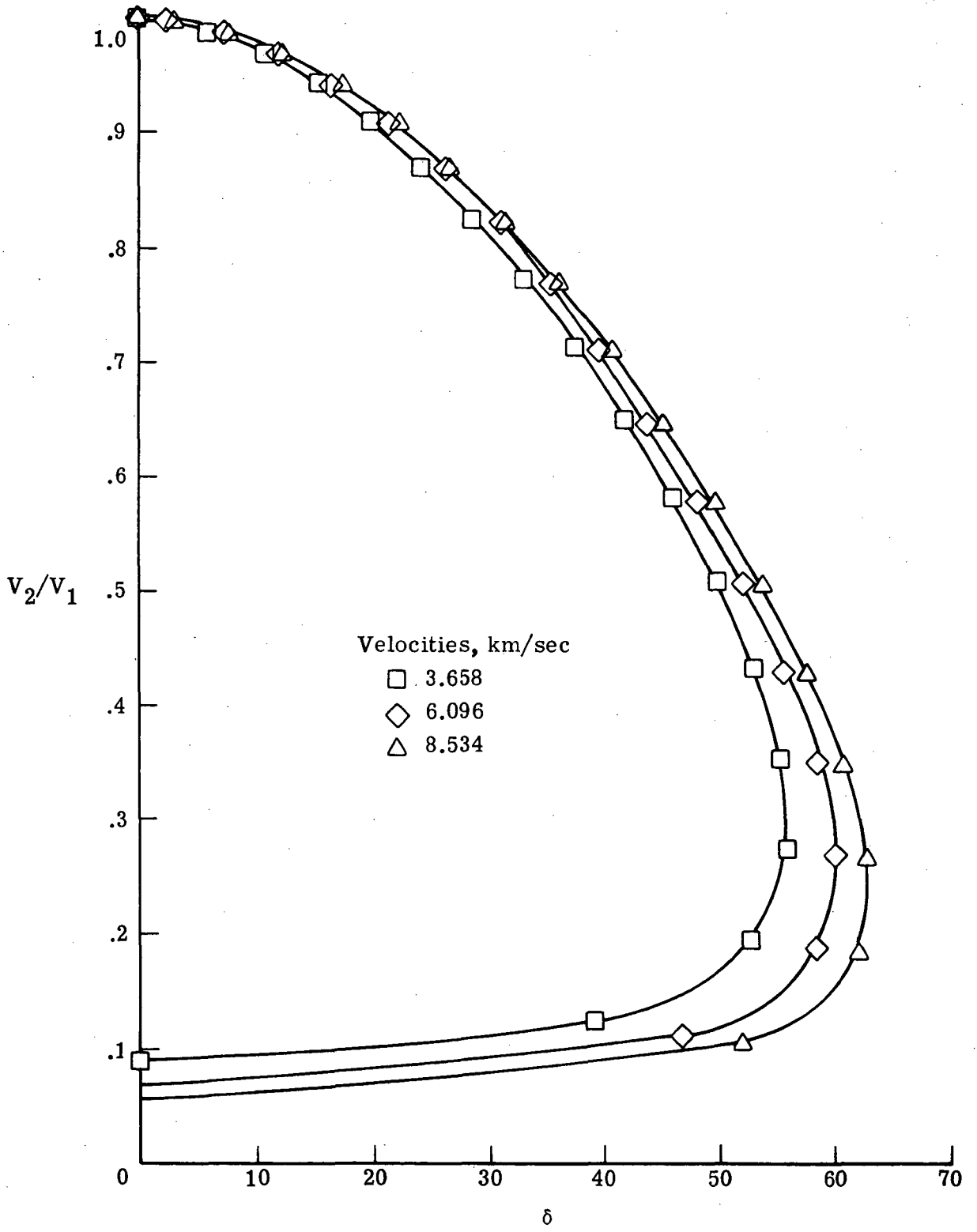
(l) ρ_2/ρ_1.

Figure 3.- Concluded.



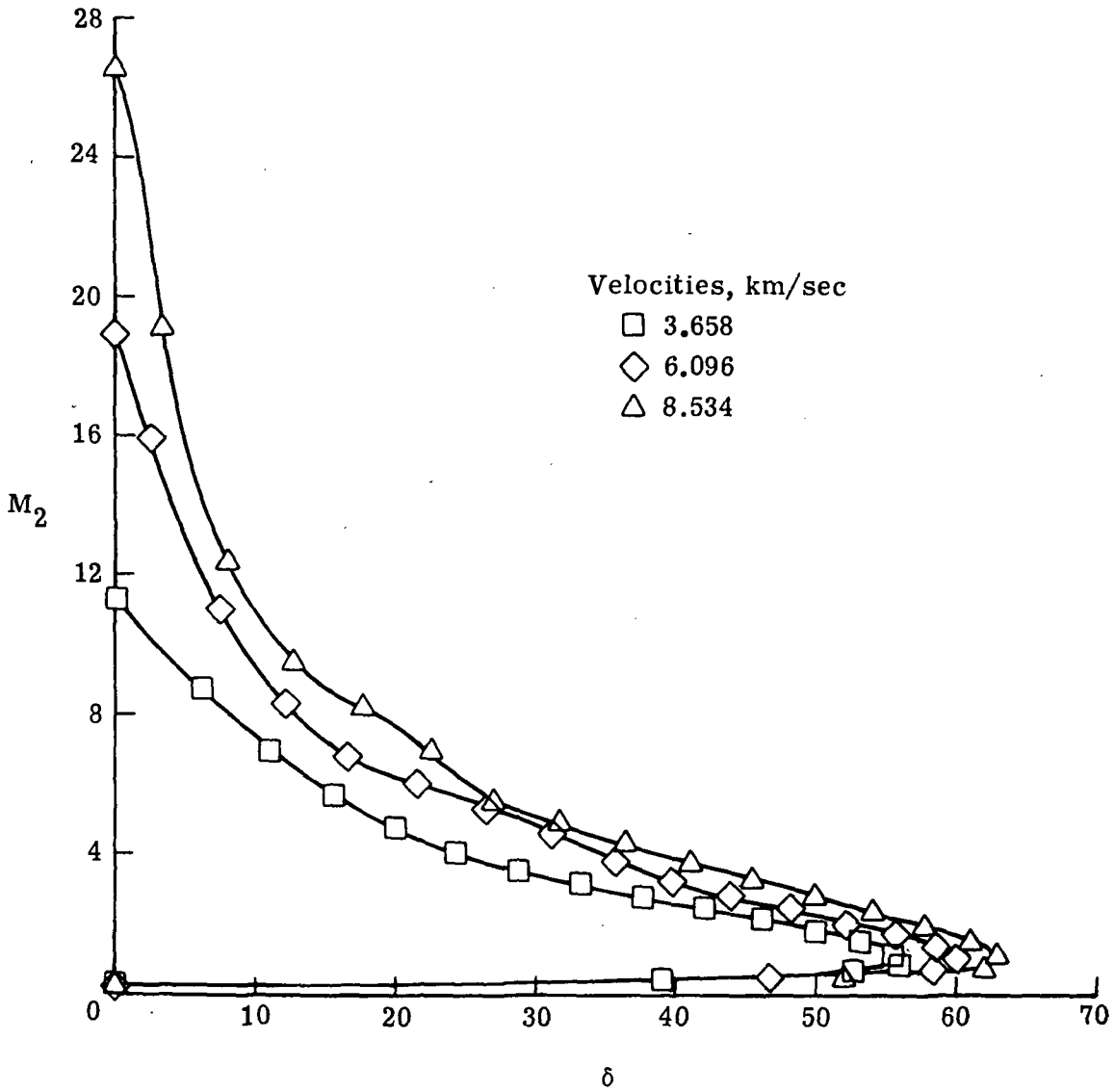
(a) θ.

Figure 4.- Oblique-shock parameters for an altitude of 60.96 km.



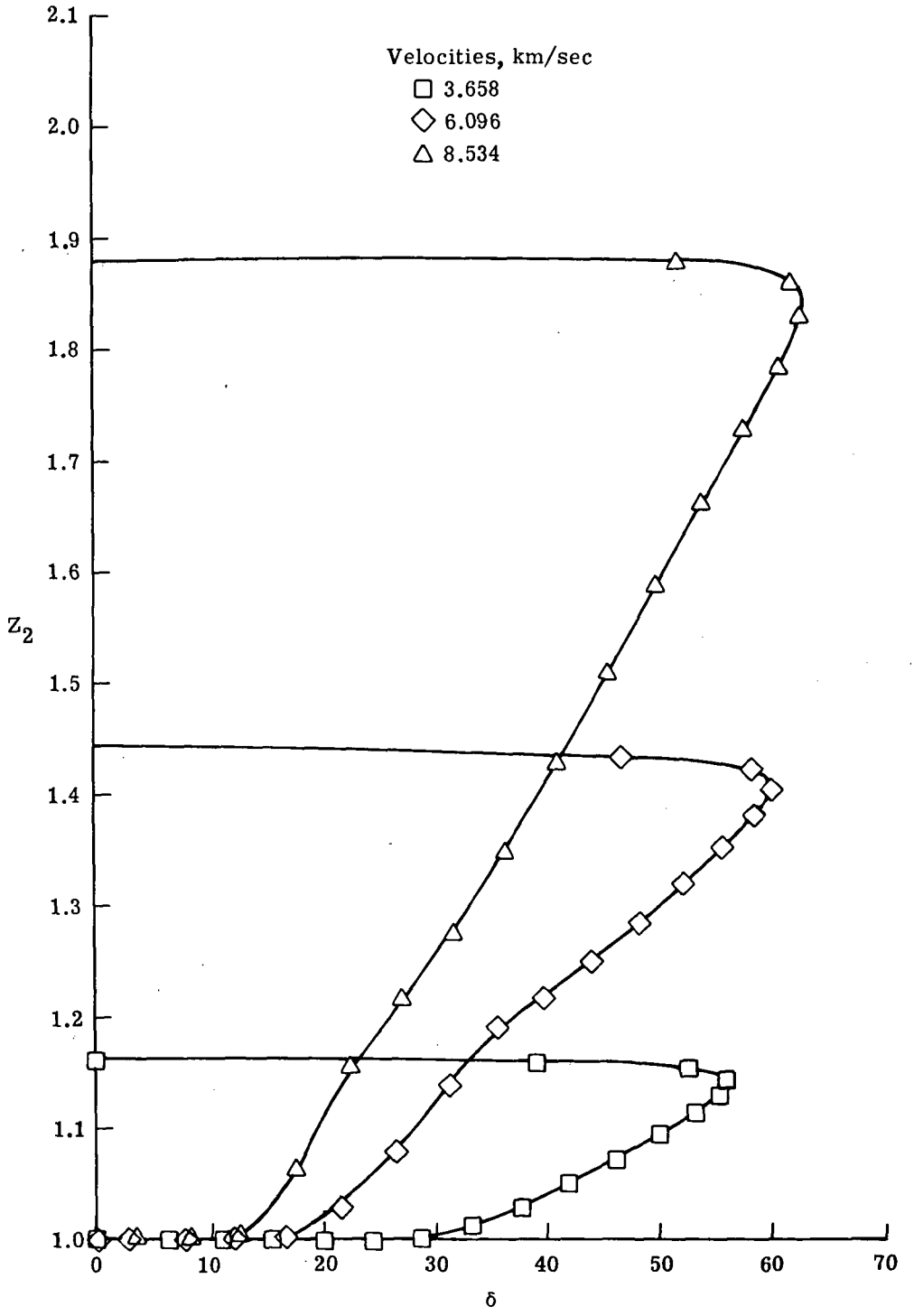
(b) V_2/V_1.

Figure 4.- Continued.



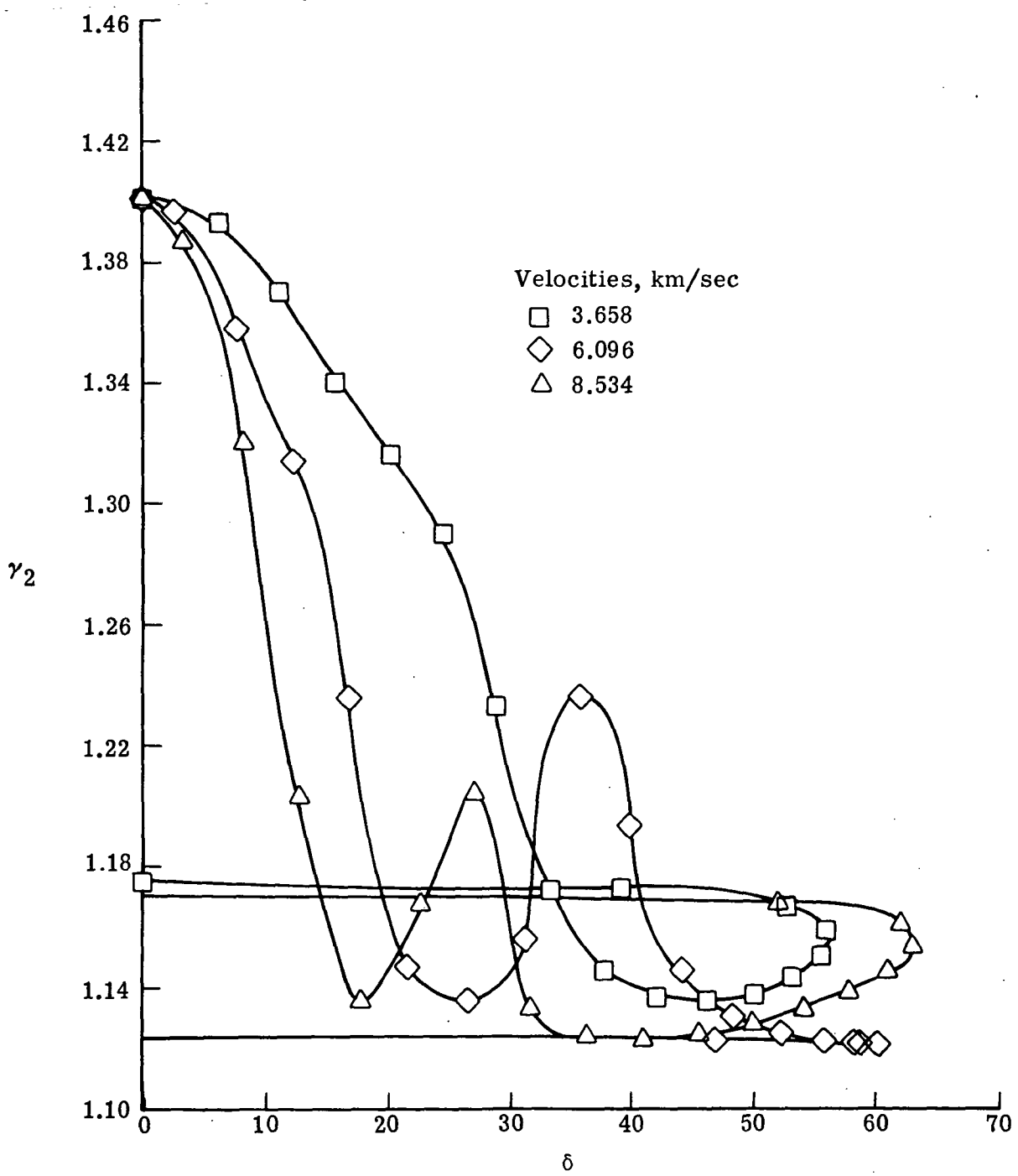
(c) M_2.

Figure 4.- Continued.



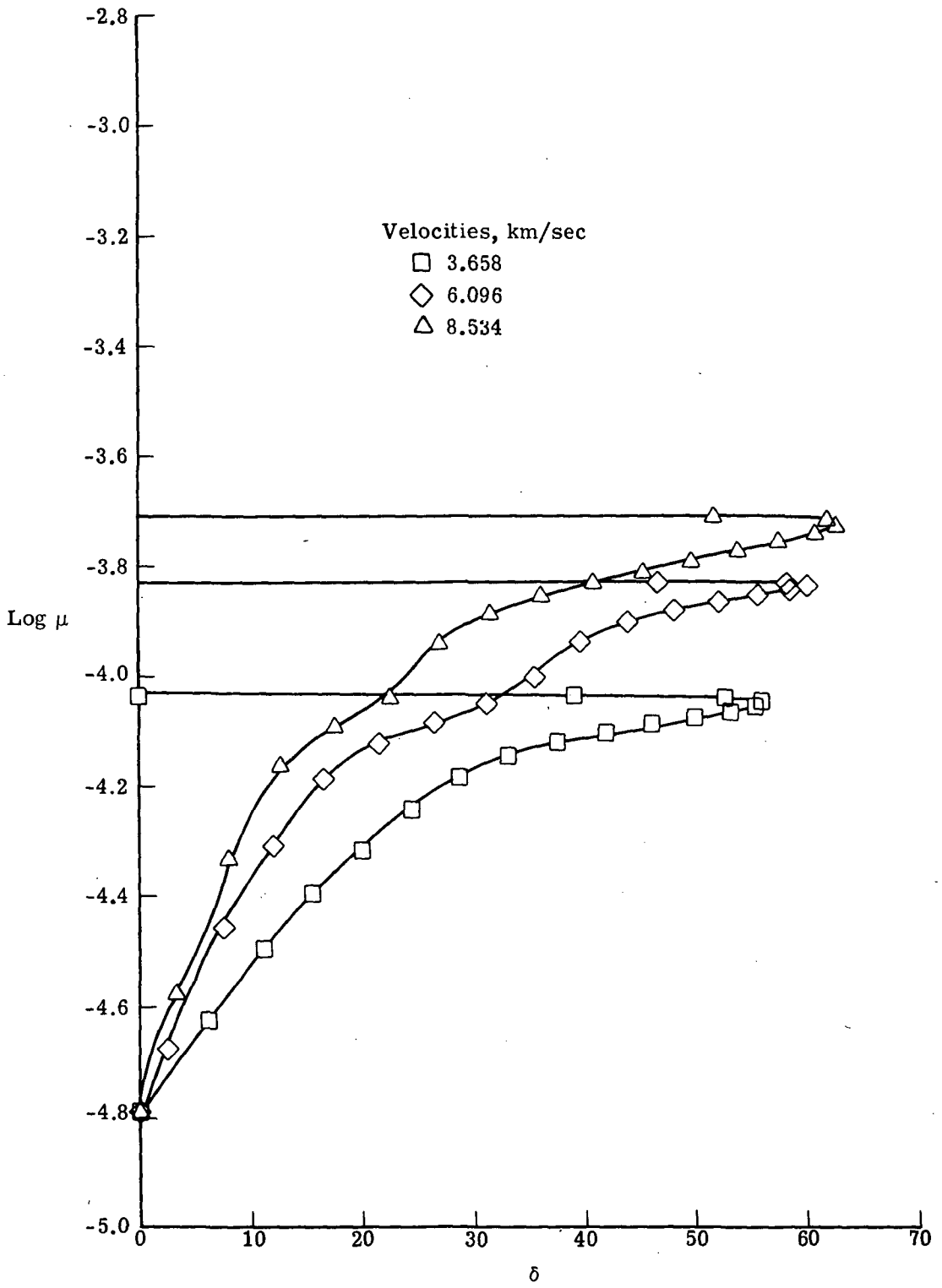
(d) Z_2.

Figure 4.- Continued.



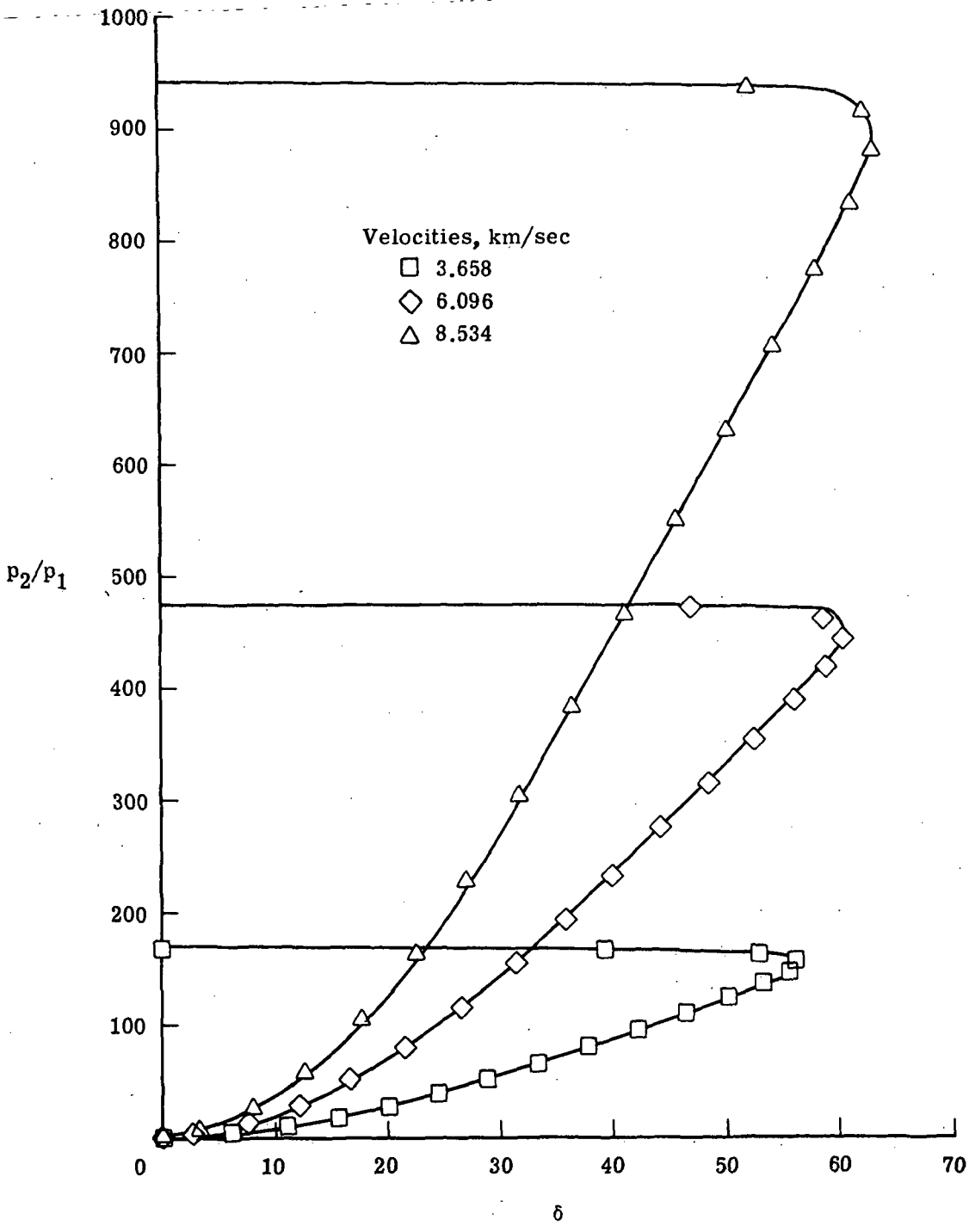
(e) γ_2.

Figure 4.- Continued.



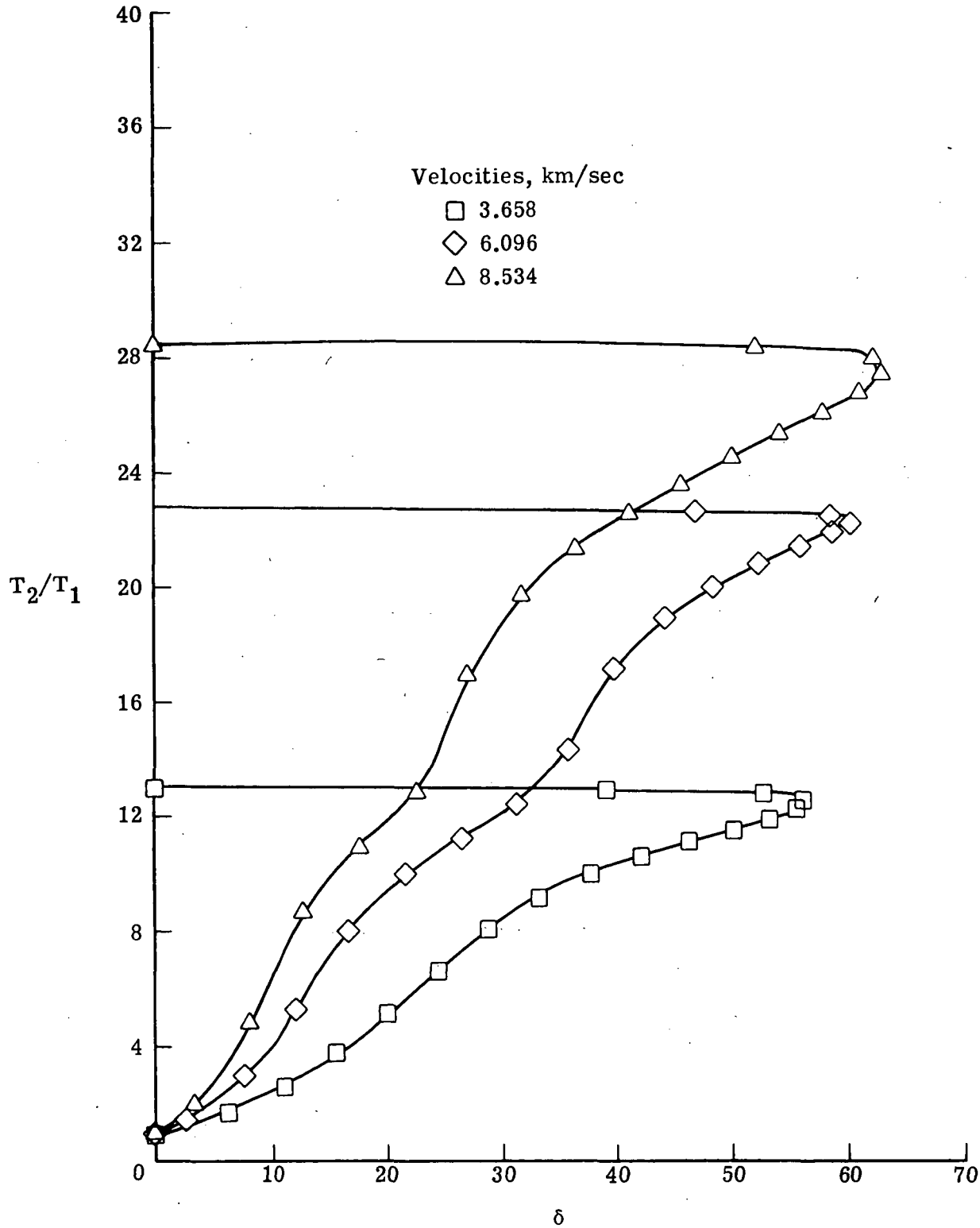
(f) Log μ.

Figure 4.- Continued.



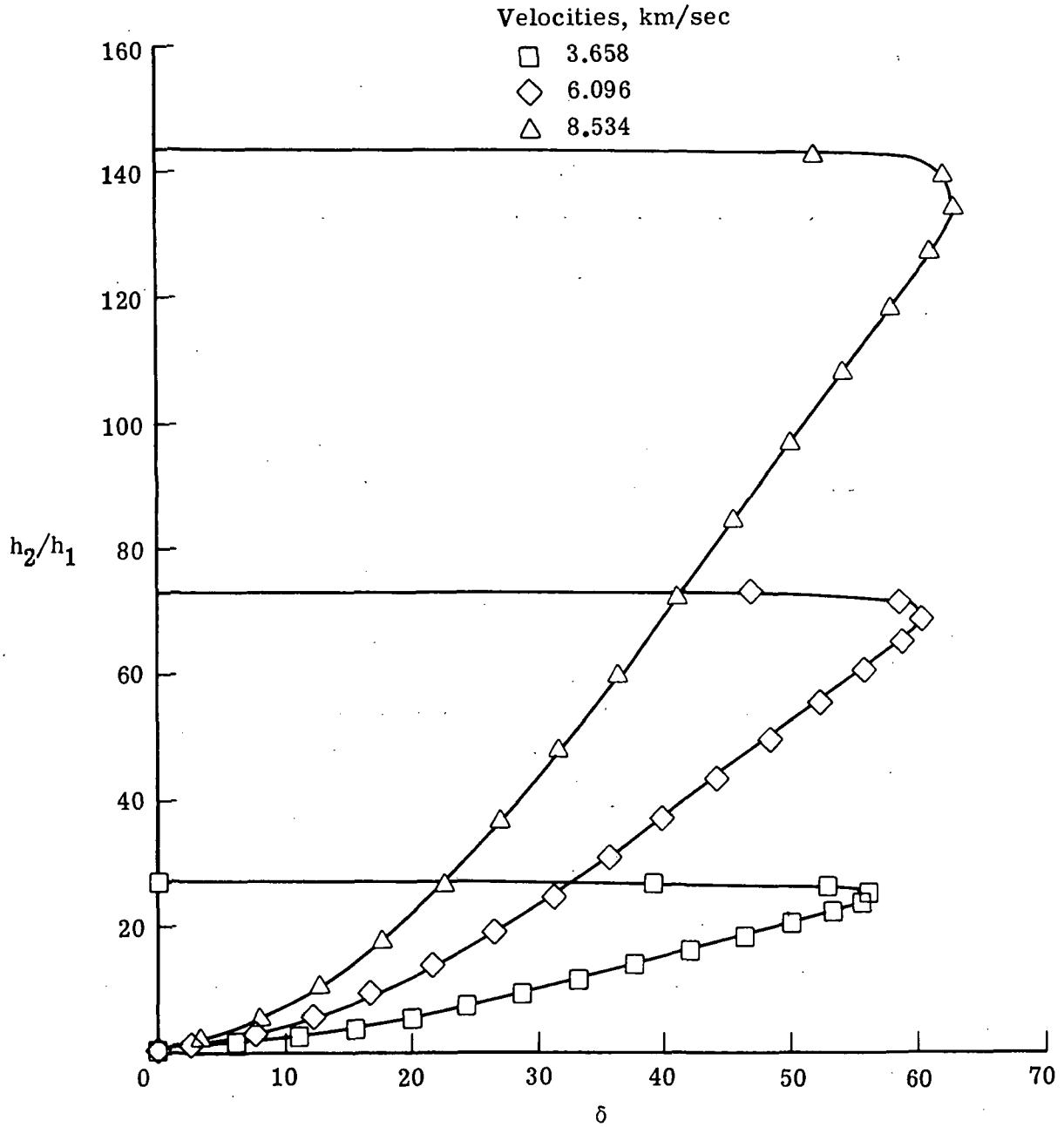
(g) p_2/p_1.

Figure 4.- Continued.



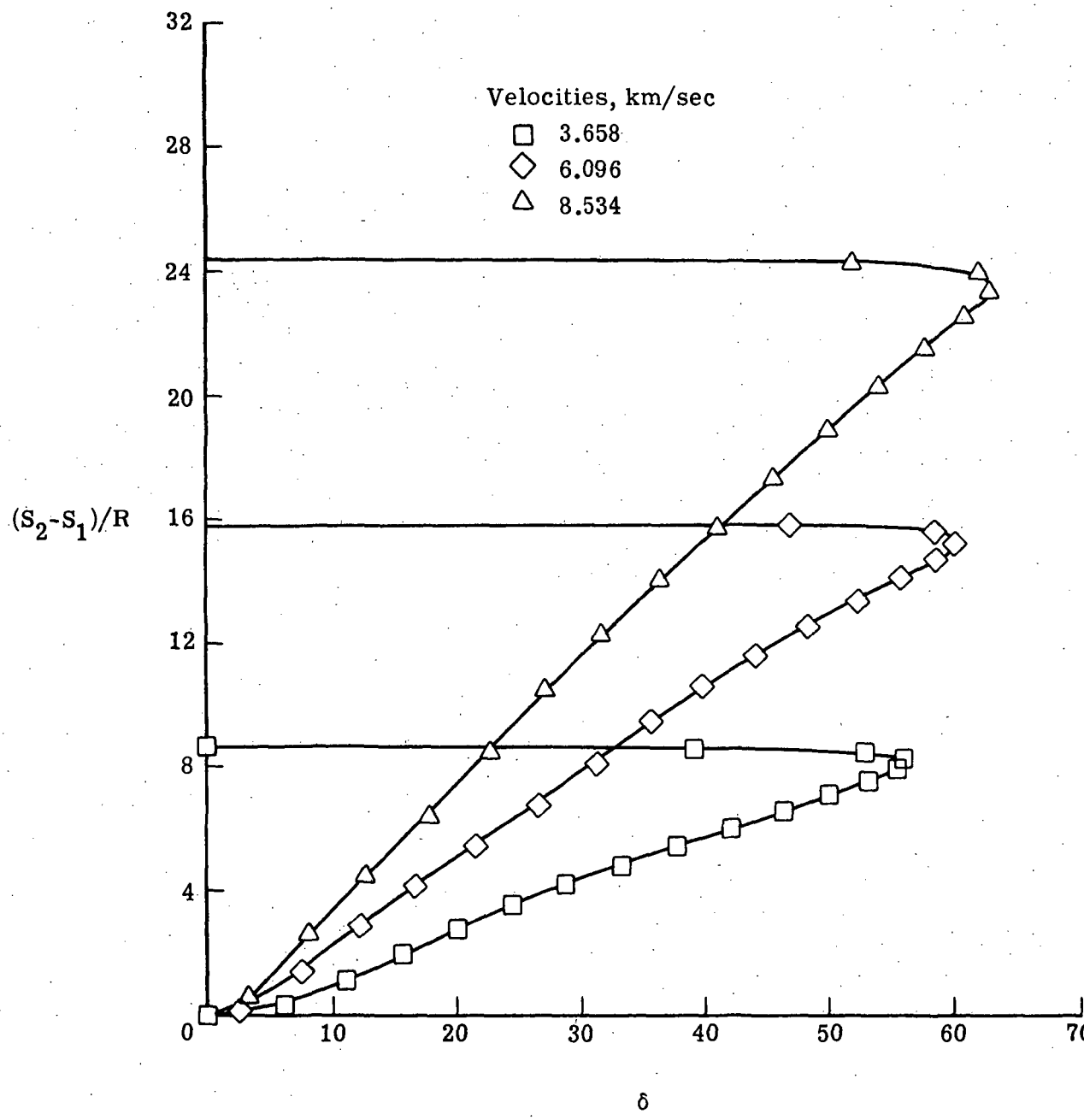
(h) T_2/T_1.

Figure 4.- Continued.



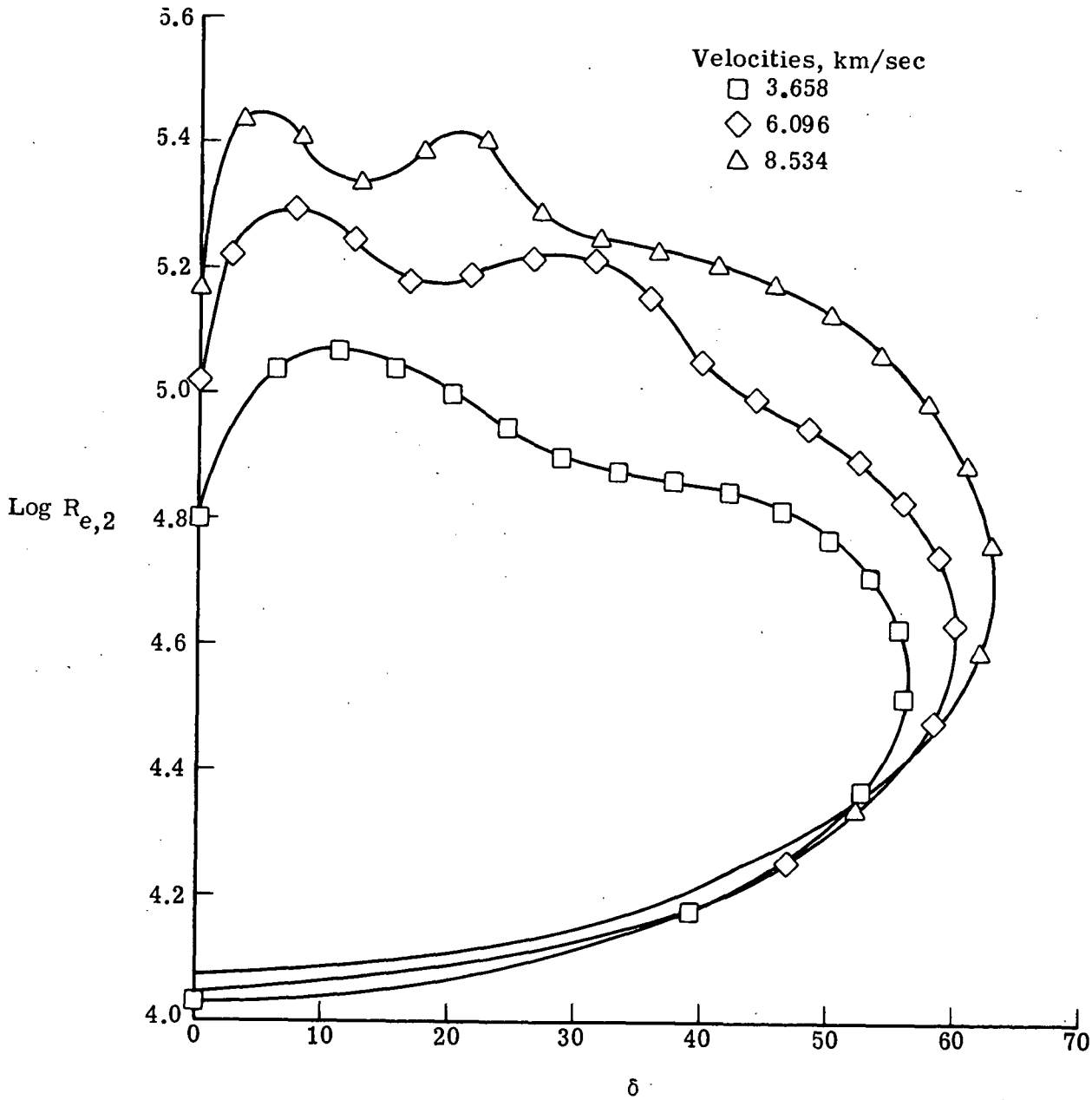
(i) h_2/h_1.

Figure 4.- Continued.



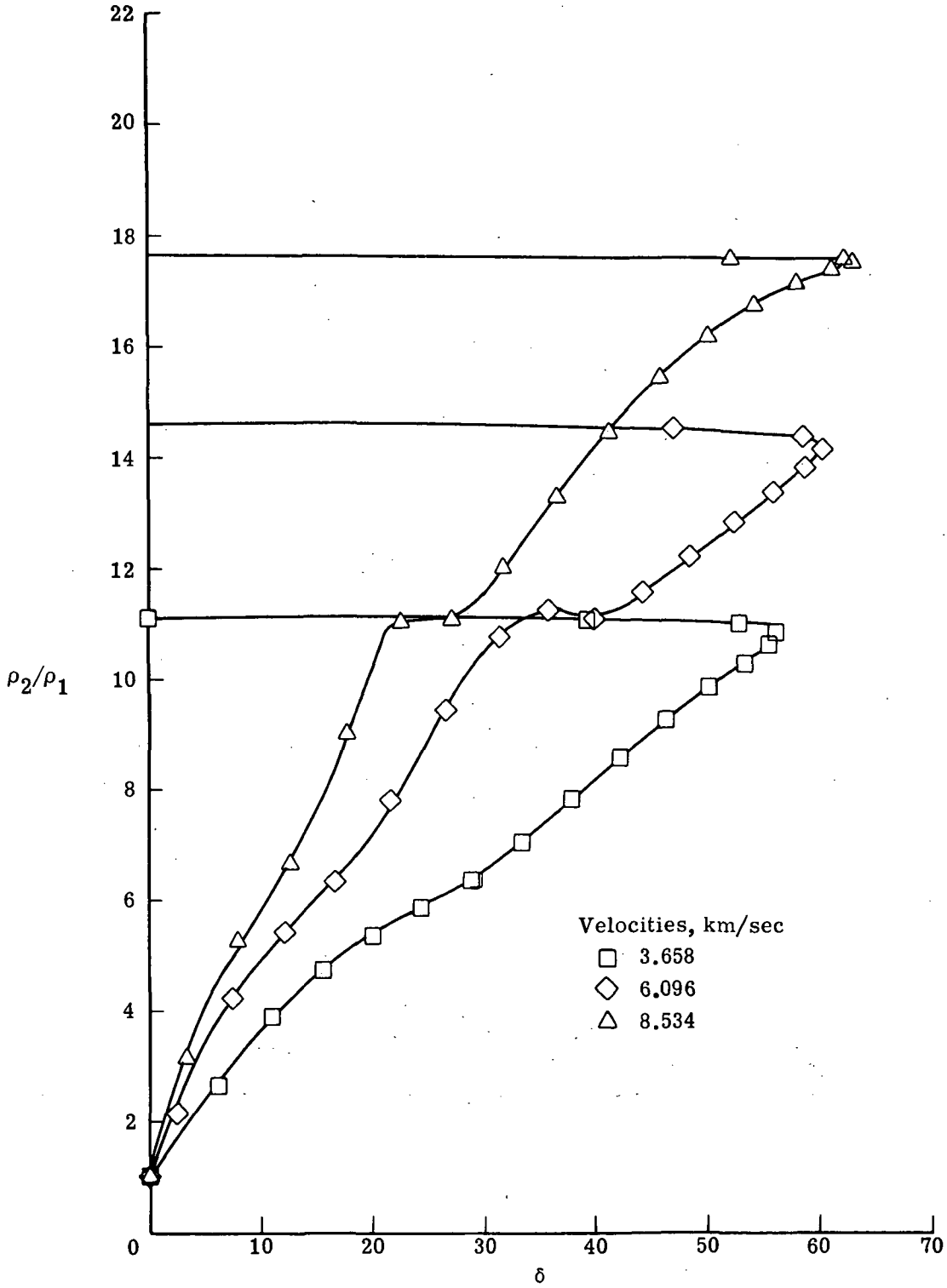
(j) $\frac{S_2 - S_1}{R}$.

Figure 4.- Continued.



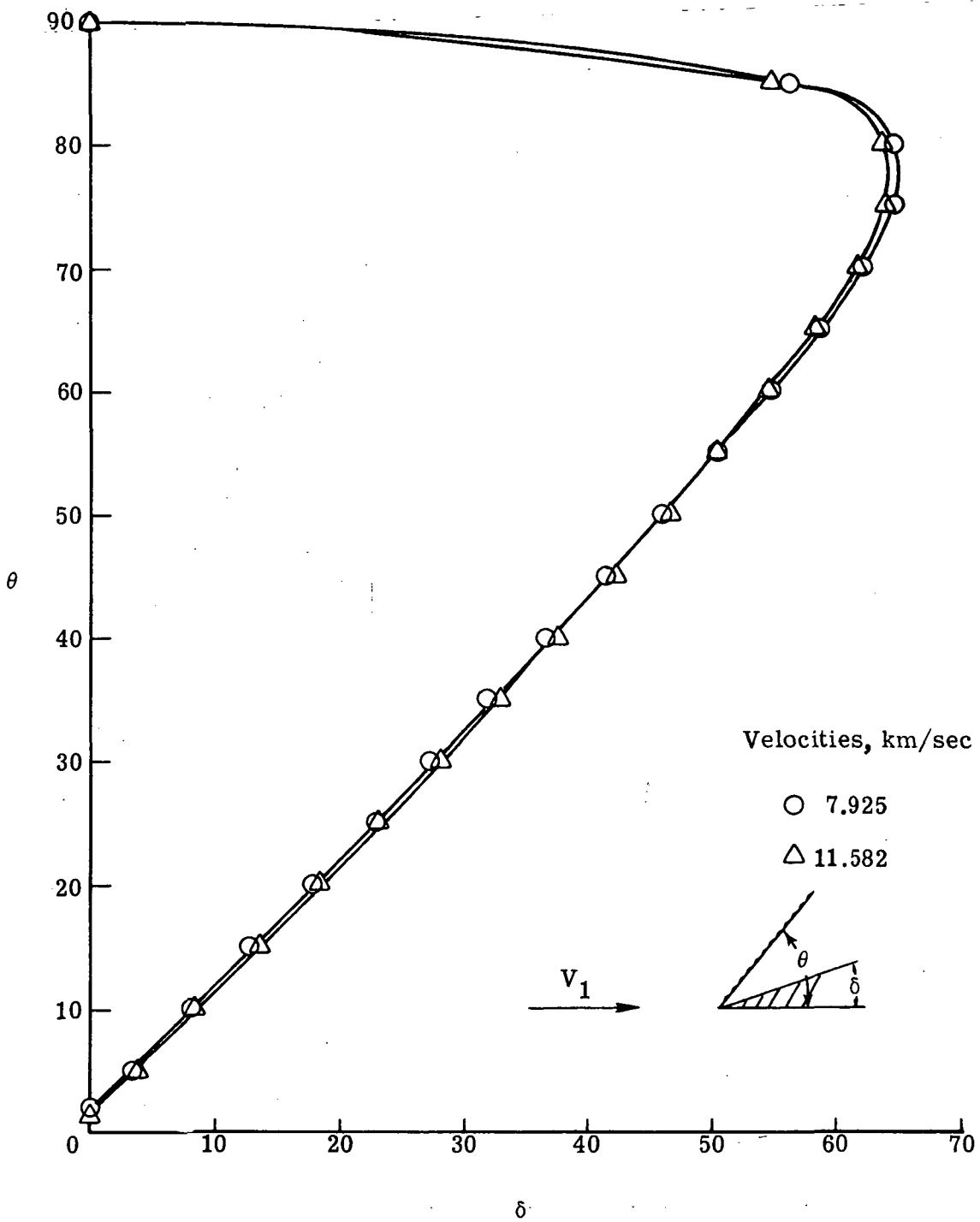
(k) Log $R_{e,2}$.

Figure 4.- Continued.



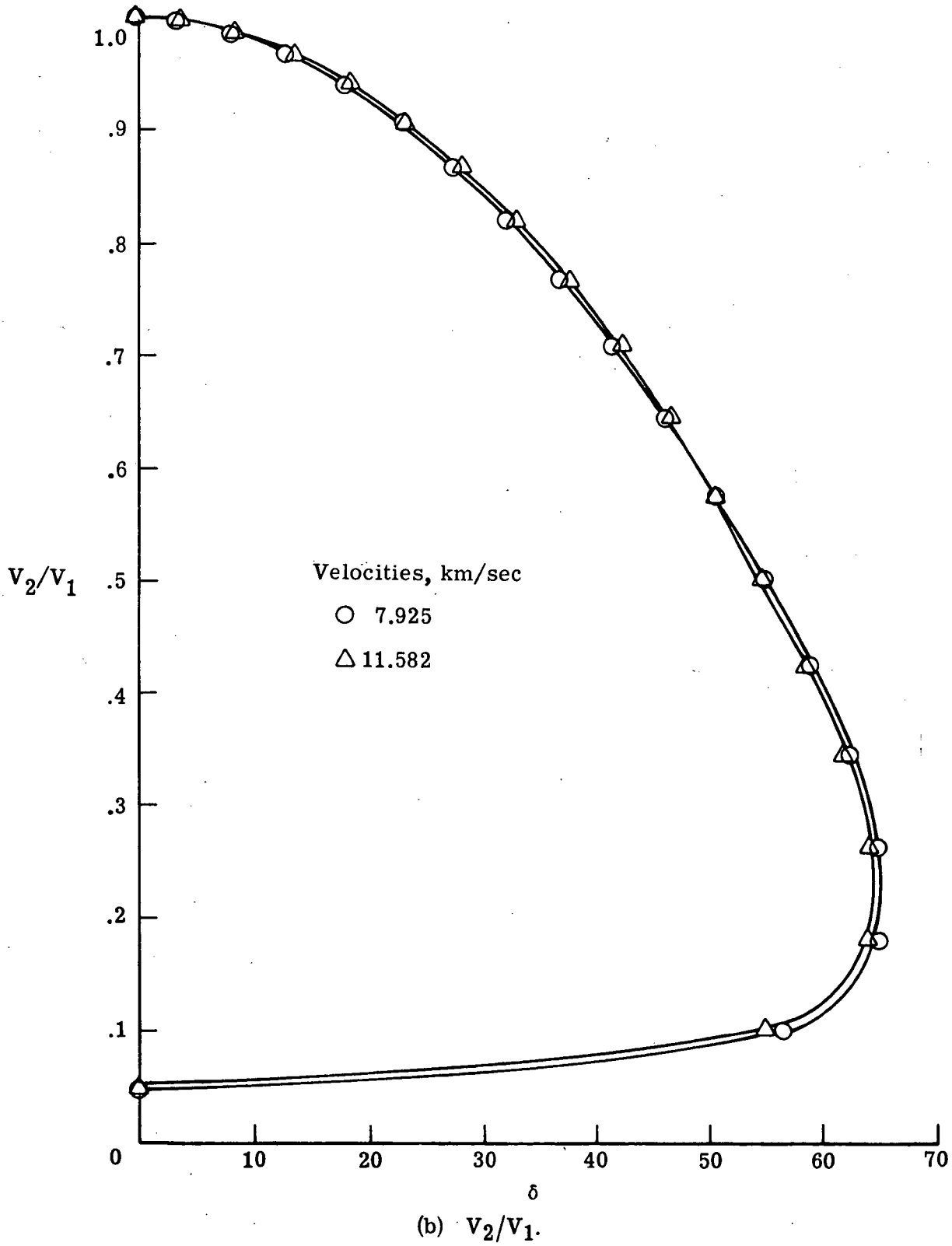
(l) ρ_2/ρ_1.

Figure 4.- Concluded.



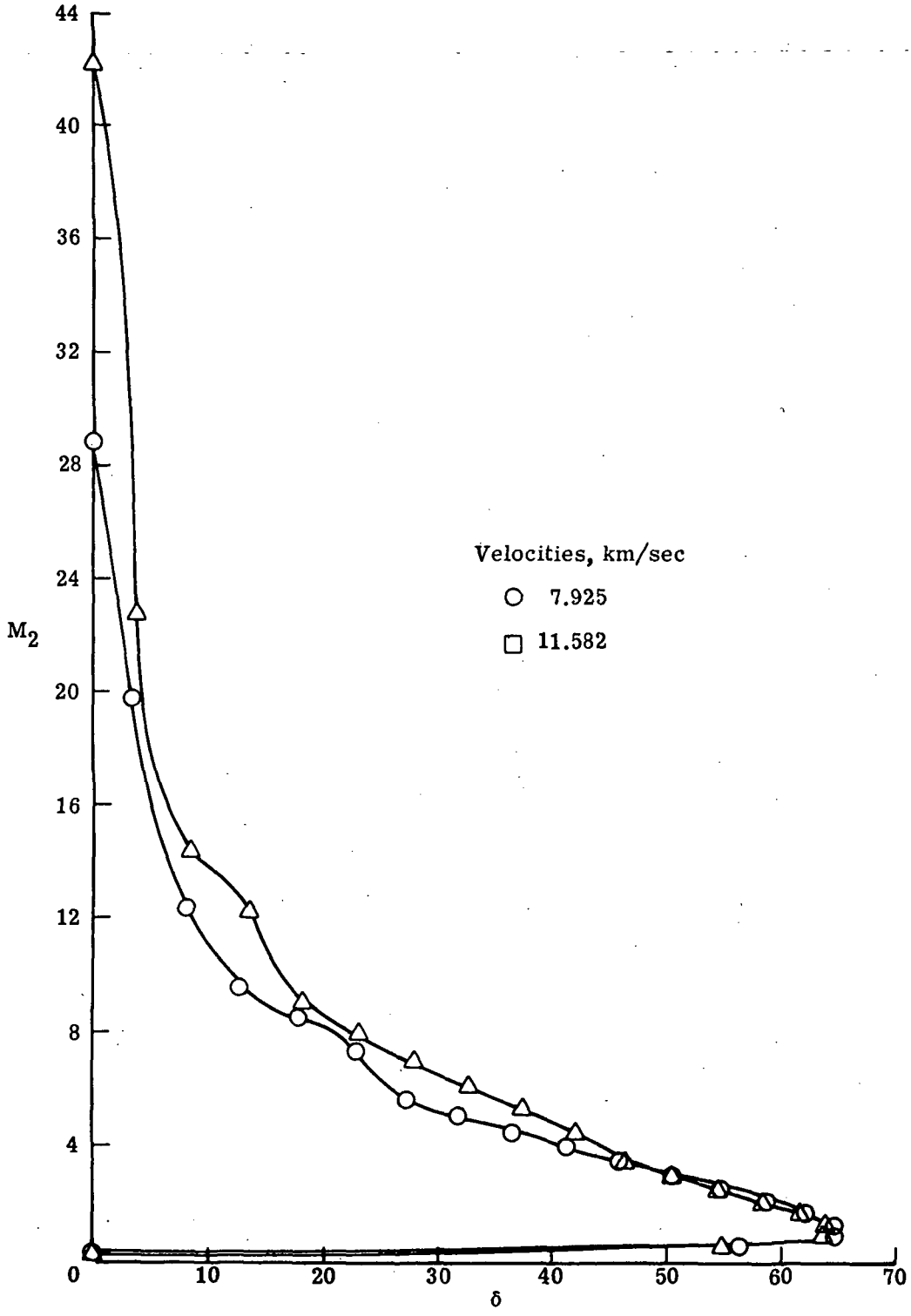
(a) θ.

Figure 5. - Oblique-shock parameters for an altitude of 91.44 km.



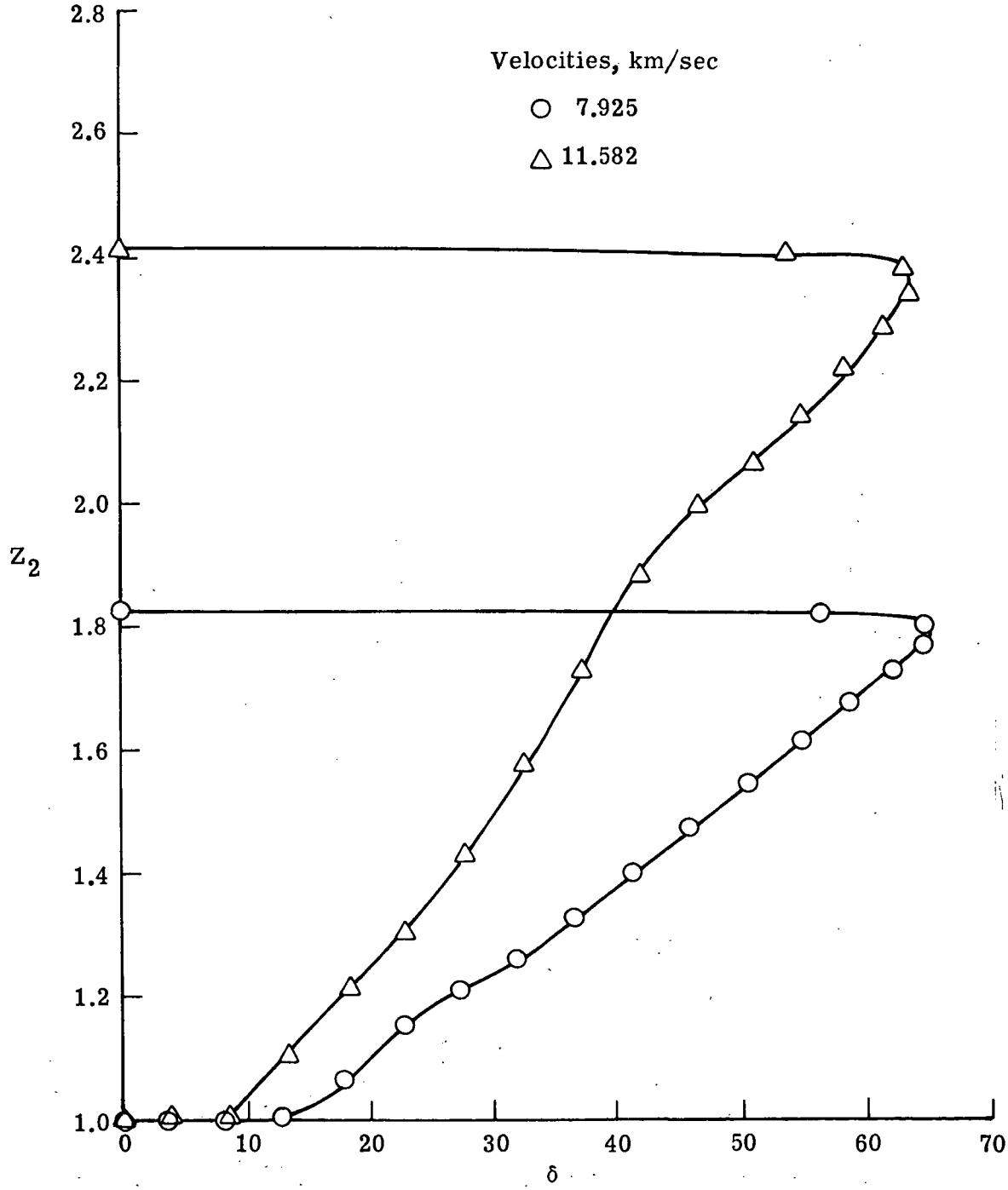
(b) V_2/V_1.

Figure 5.- Continued.



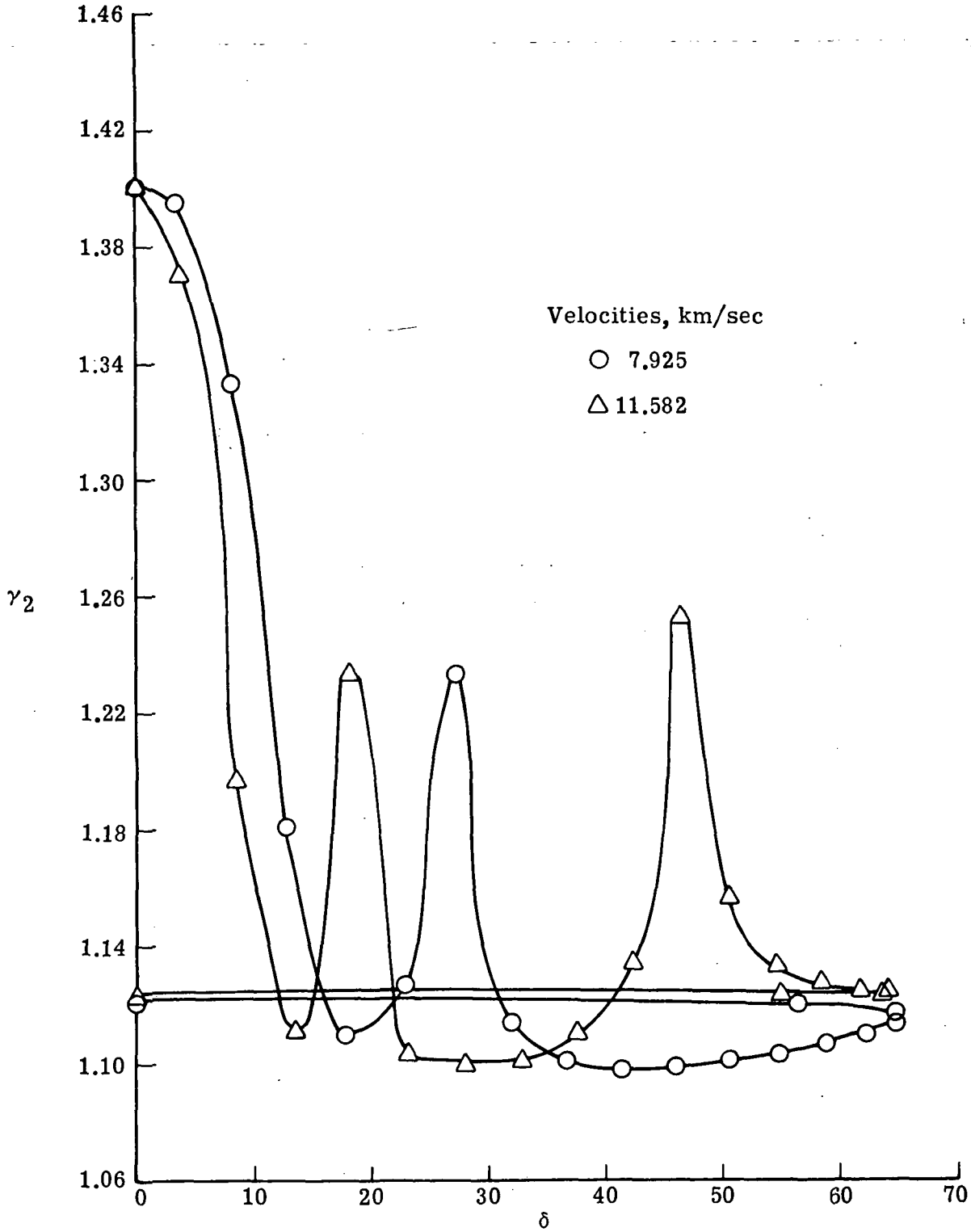
(c) M_2.

Figure 5.- Continued.



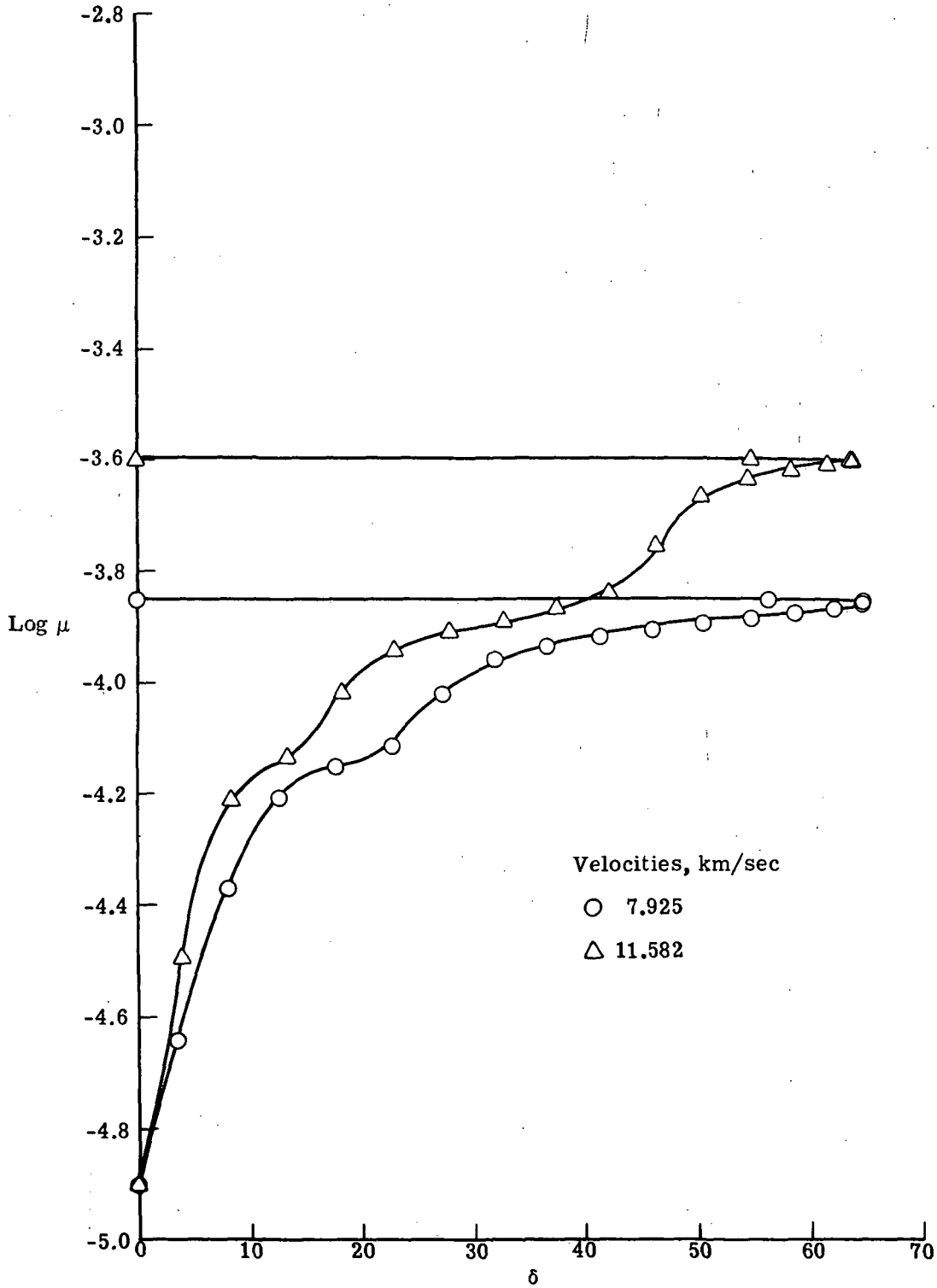
(d) Z_2.

Figure 5.- Continued.



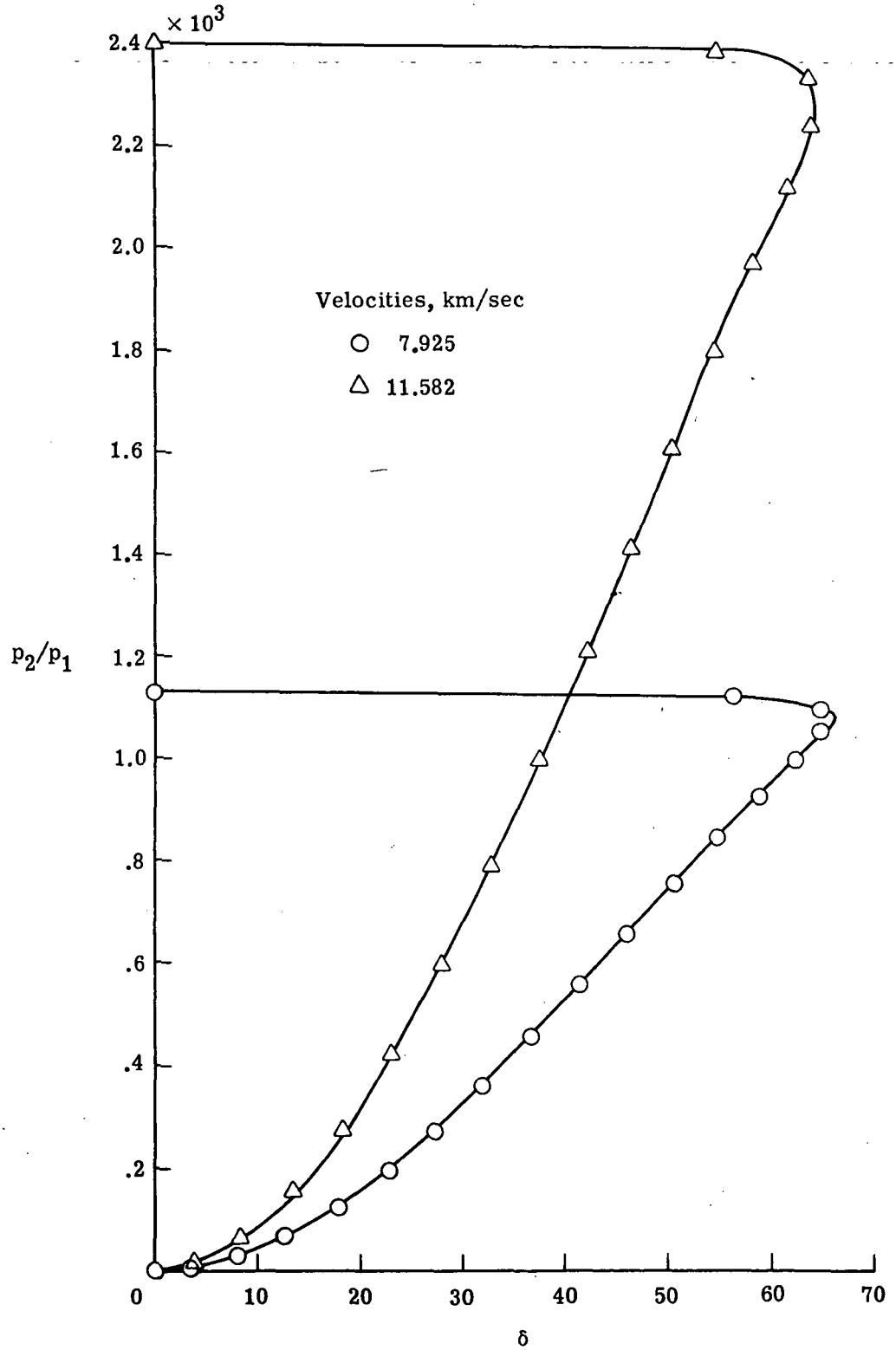
(e) γ_2.

Figure 5.- Continued.



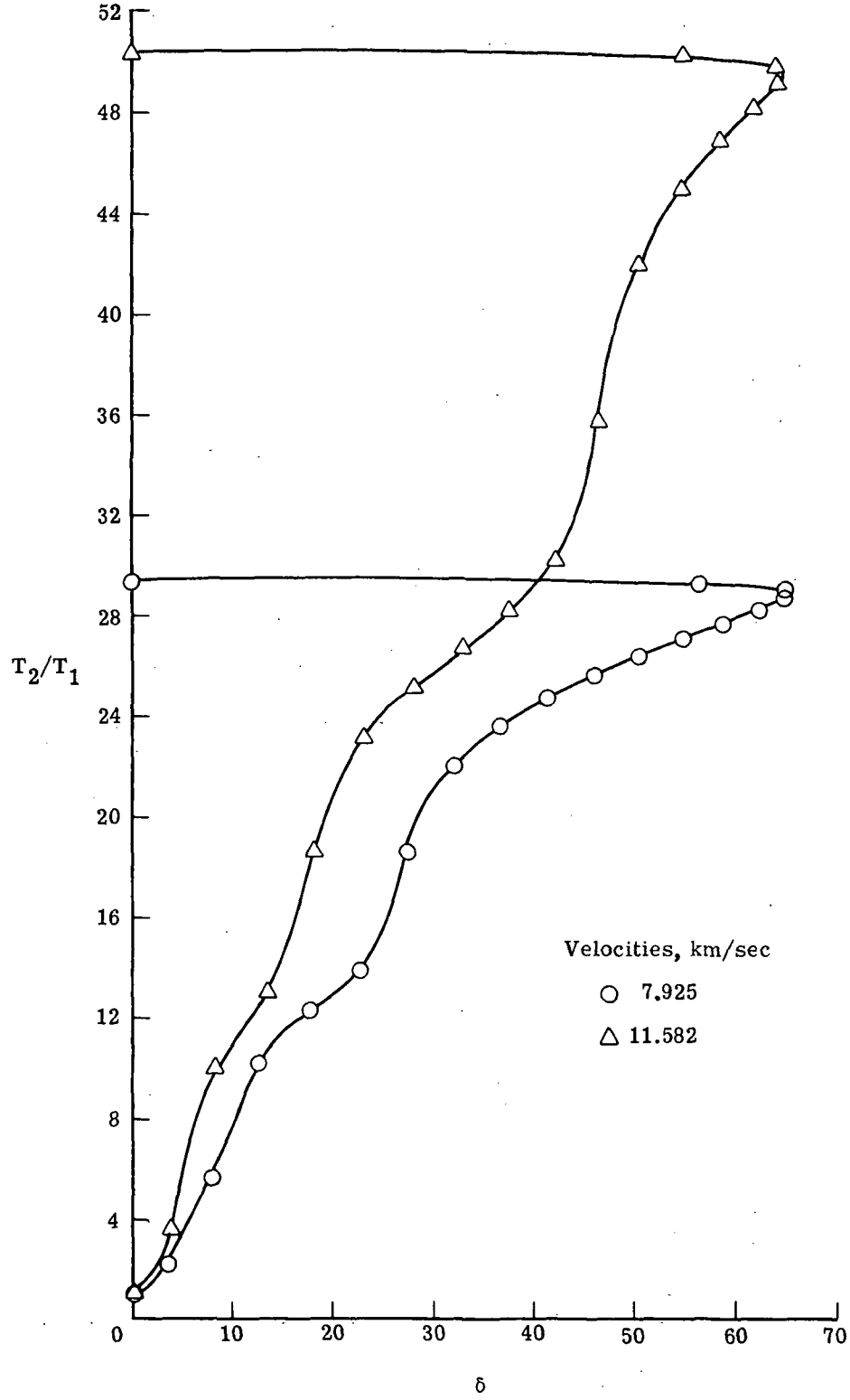
(f) Log μ.

Figure 5.- Continued.



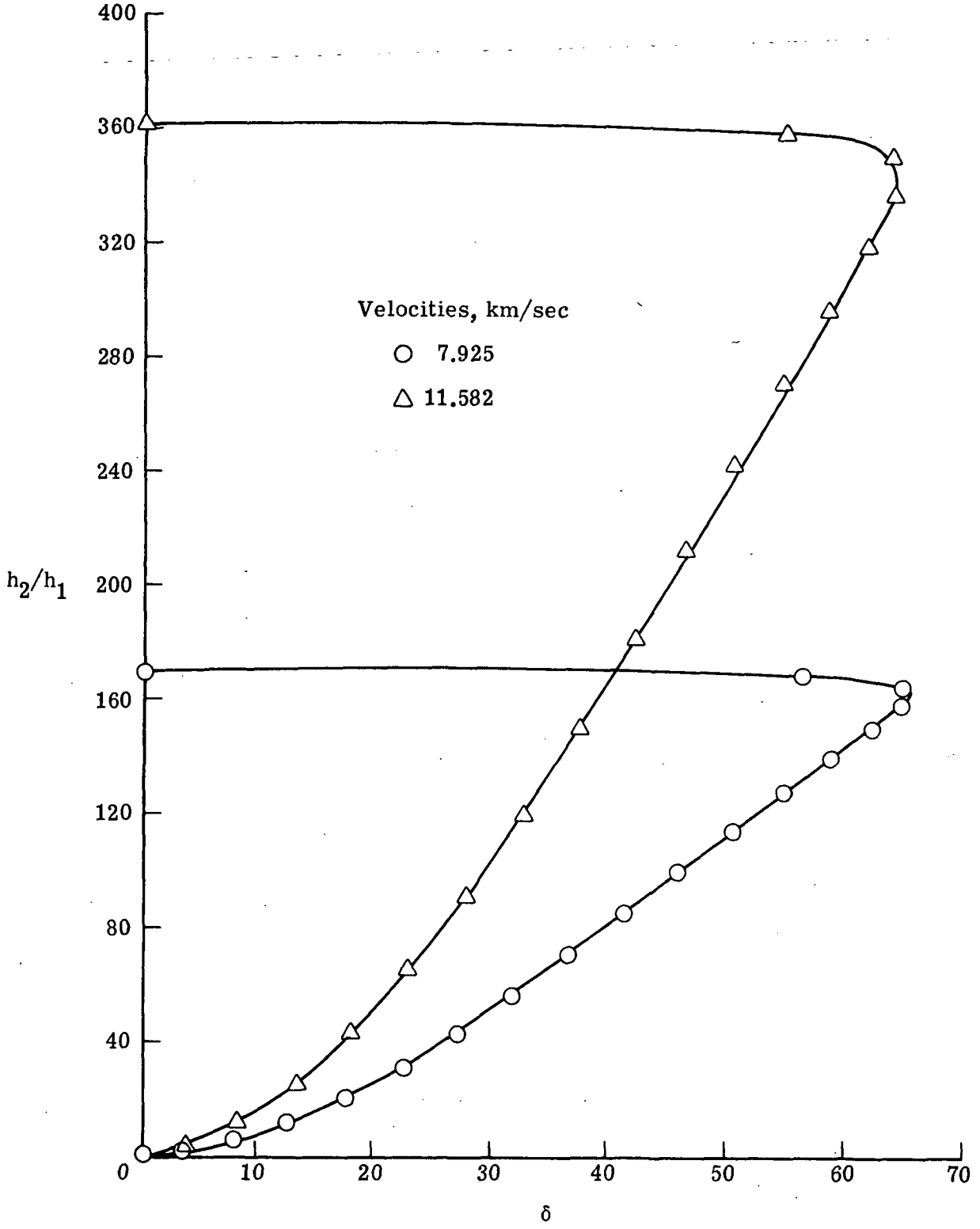
(g) p_2/p_1.

Figure 5. - Continued.



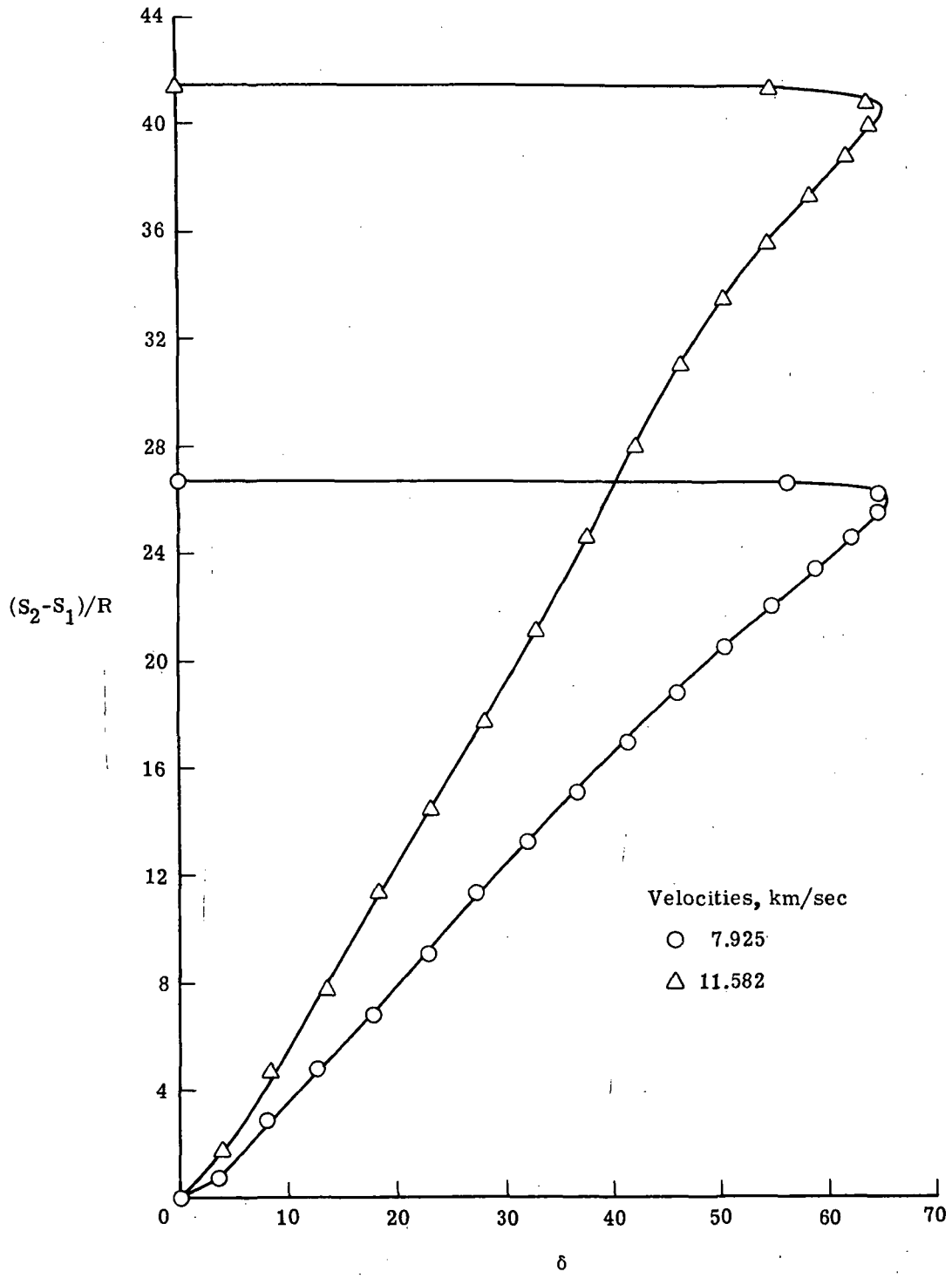
(h) T_2/T_1.

Figure 5. - Continued.



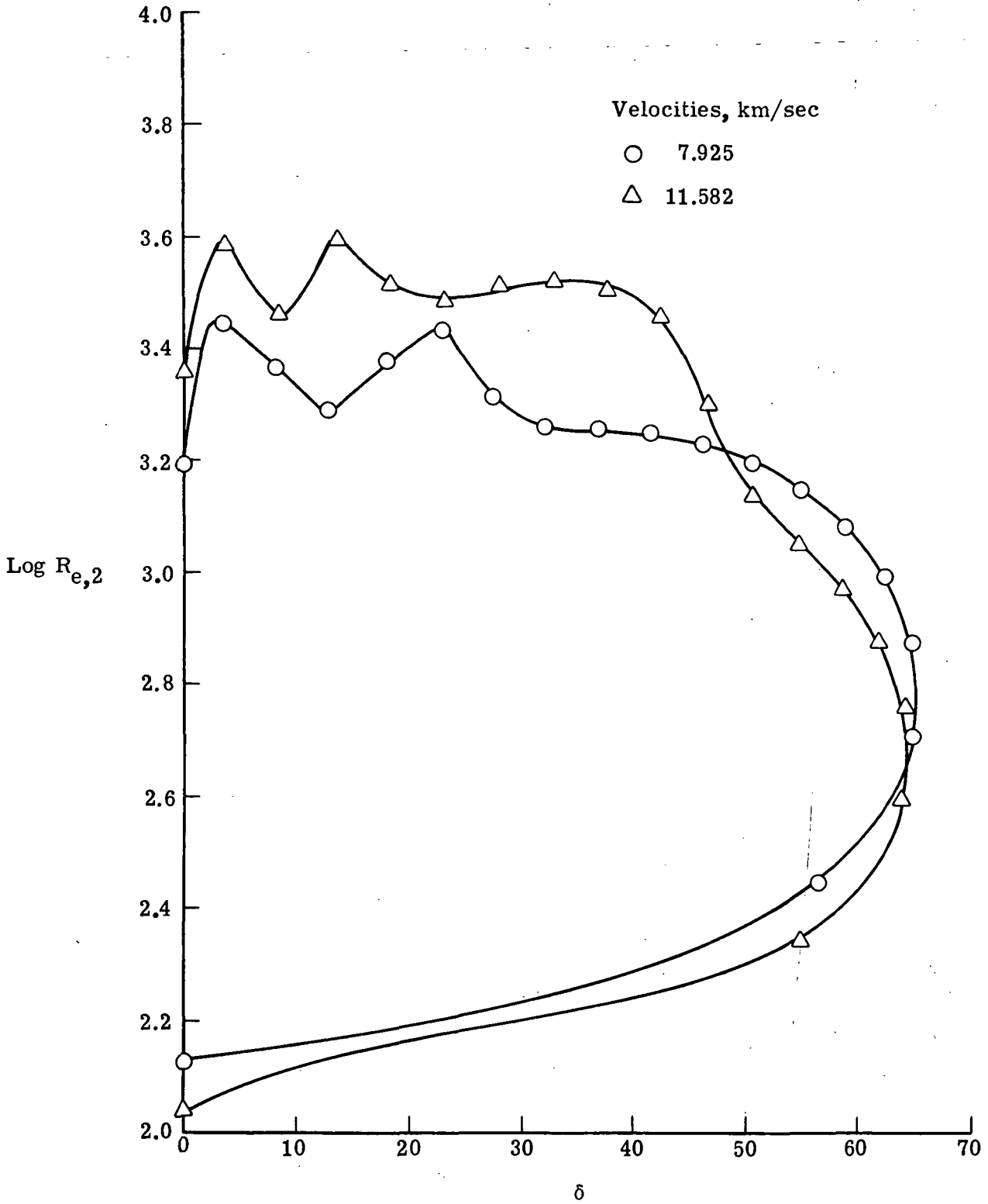
(i) h_2/h_1.

Figure 5.- Continued.



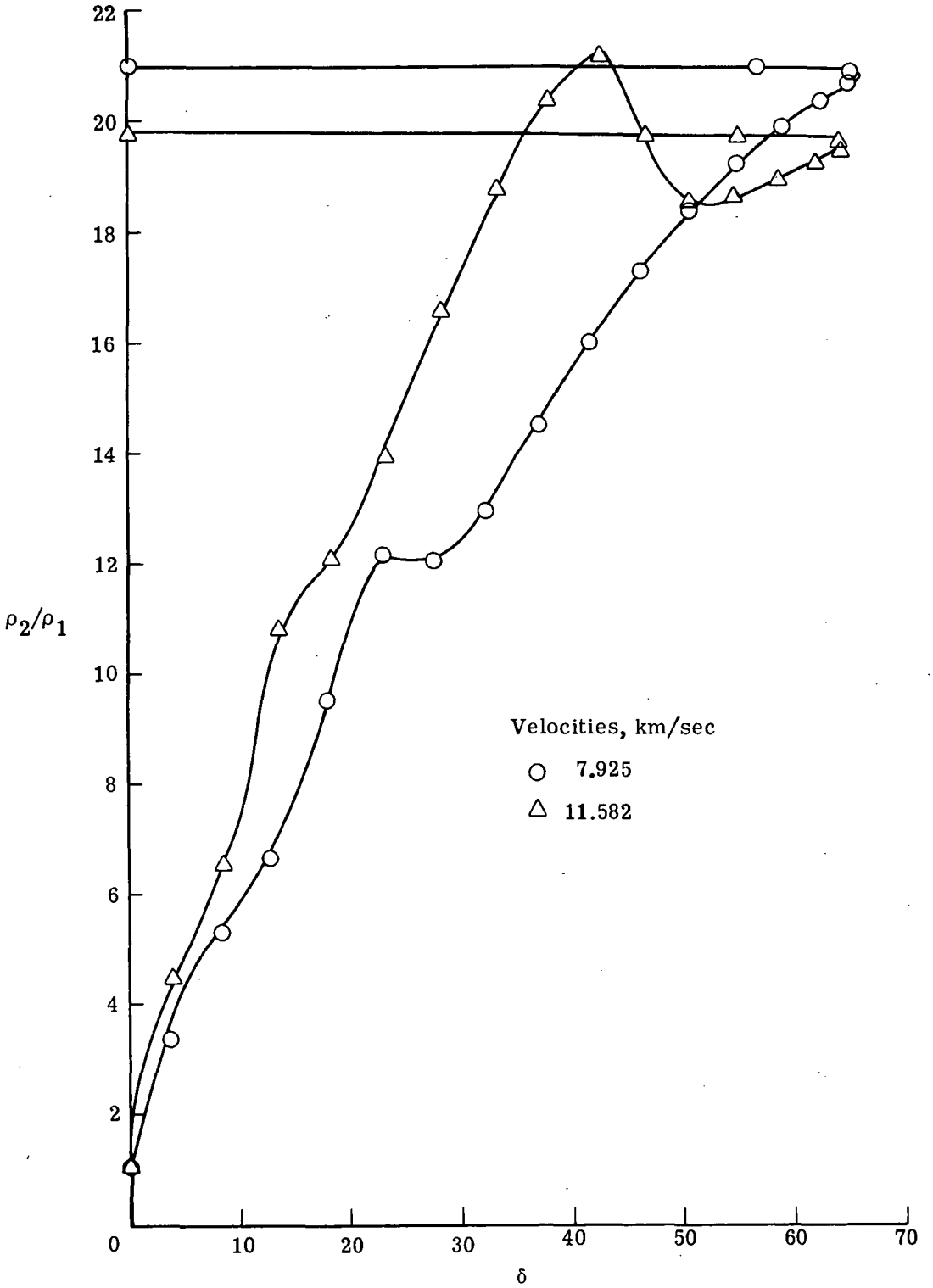
(j) $\frac{S_2 - S_1}{R}$.

Figure 5.- Continued.



(k) Log $R_{e,2}$.

Figure 5.- Continued.



(*l*) ρ_2/ρ_1.

Figure 5.- Concluded.

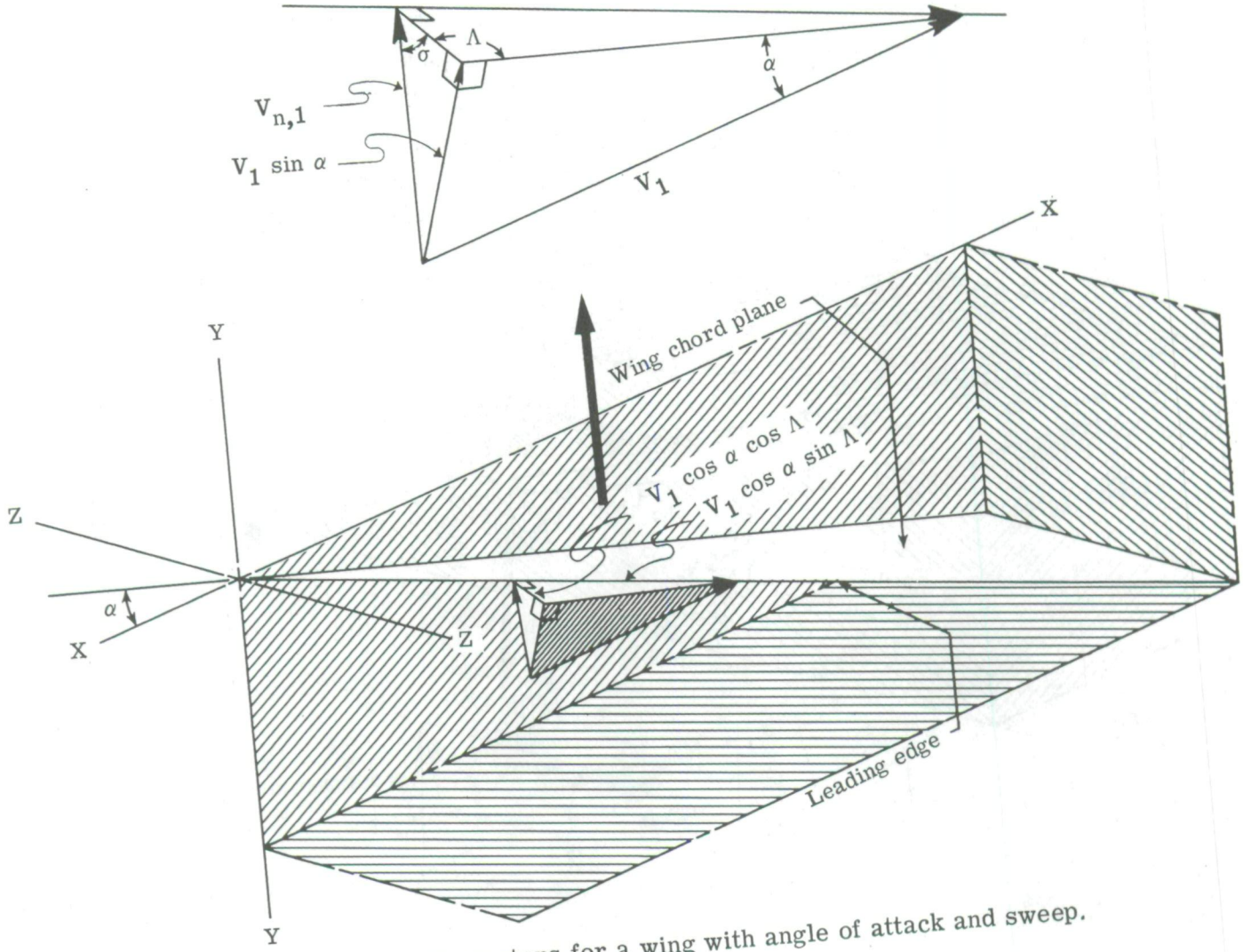


Figure 6.- Velocity vectors for a wing with angle of attack and sweep.

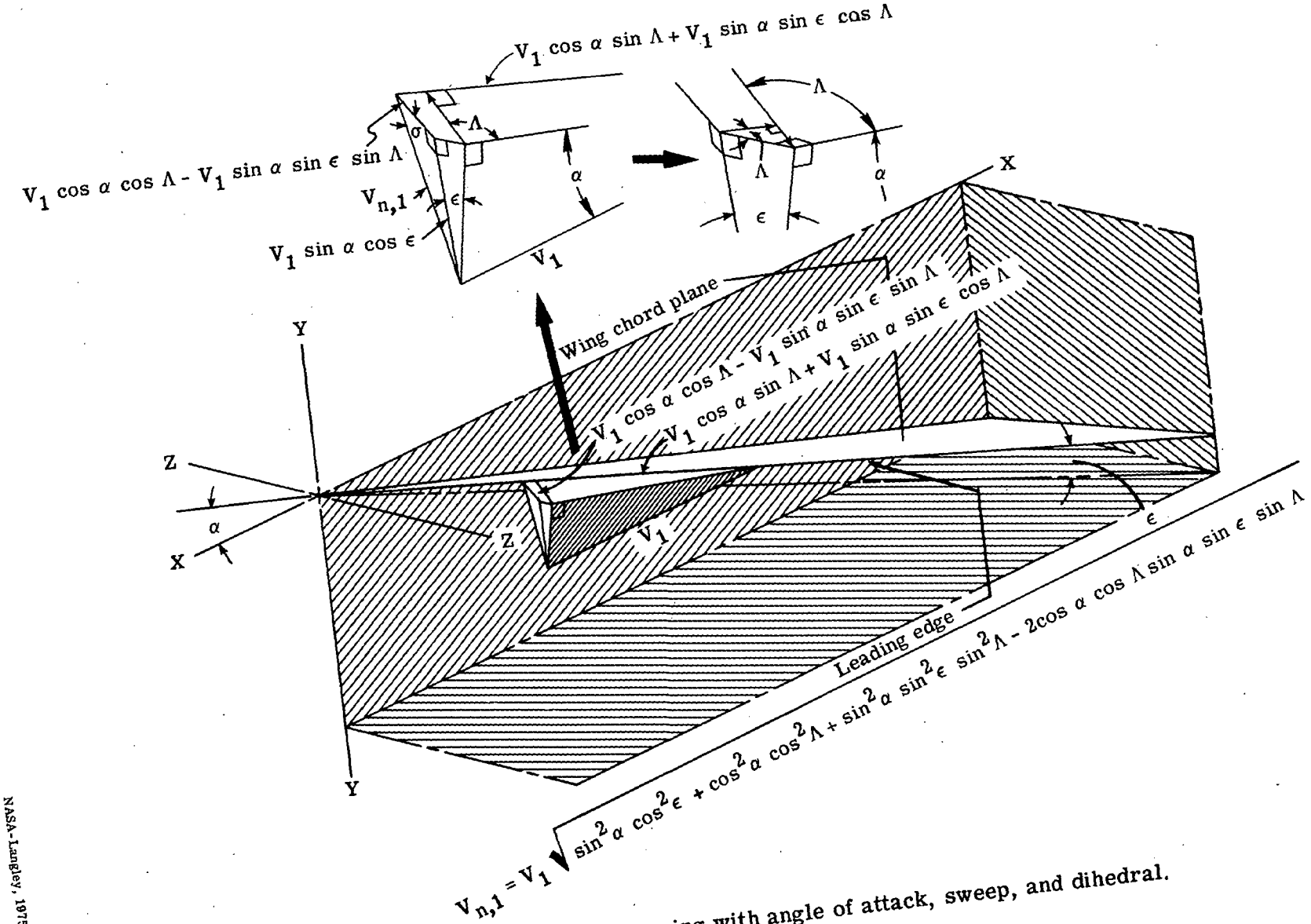


Figure 7.- Velocity vectors for a wing with angle of attack, sweep, and dihedral.

NASA-Langley, 1975 L-959

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