8/13-24

573

UCRL-51471

**THE BOTE MODEL: AN ANALYTIC APPROACH
TO PREDICTING GROUND MOTION PHENOMENA RESULTING
FROM UNDERGROUND NUCLEAR EXPLOSIONS**

S. R. Kurtz

November 9, 1973

Prepared for U.S. Atomic Energy Commission under contract No. W-7405-Eng-48

**LAWRENCE
LIVERMORE
LABORATORY**

University of California/Livermore

MASTER

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

NOTICE

"This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Atomic Energy Commission, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately-owned rights."

Printed in the United States of America
Available from
National Technical Information Service
U. S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22151
Price: Printed Copy \$ *; Microfiche \$0.95

<u>* Pages</u>	<u>NTIS Selling Price</u>
1-50	\$4.00
51-150	\$5.45
151-325	\$7.60
326-500	\$10.60
501-1000	\$13.60

LAWRENCE LIVERMORE LABORATORY

February 7, 1974

TO: All holders of UCRL-51471, "The BOTE Model: An Analytic Approach to Predicting Ground Motion Phenomena Resulting from Underground Nuclear Explosions"

FROM: Technical Information Department, L-3

ERRATA

Please make the following corrections to your copy of UCRL-51471:

Page 2

Equation 4 should read:

$$\Gamma = \Gamma_0 \rho_0 / \rho$$

Page 7

In Table 1, the value for h(ft) in the BOTE column should be:
400

Page 7

Seventh line from the bottom should read:

"...normally done to look at the first few..."

Page 8

Fifth line from the bottom should read:

"...for tufts of 100% and 50% water..."

Page 9

Third line of the caption for Fig. 8 should read:

"...for tuff having 100%..."

Page 9

Third line of the caption for Fig. 9 should read:

"...for tuff having 50%..."

Page 17

In Table A1, the value for Y in the first set of units was omitted.

It should be: $Y \equiv kt$

H. L. Lentzner
Technical Information Department

TID-4500, UC-11
Environmental and
Earth Sciences

LAWRENCE LIVERMORE LABORATORY
University of California/Livermore, California/94550

UCRL-51471

**THE BOTE MODEL: AN ANALYTIC APPROACH
TO PREDICTING GROUND MOTION PHENOMENA RESULTING
FROM UNDERGROUND NUCLEAR EXPLOSIONS**

S. R. Kurtz

MS. date: November 13, 1973

NOTICE

This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Atomic Energy Commission, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights.

MASTER

DISTRIBUTION STATEMENT

44

Contents

Abstract	1
Introduction	1
Discussion	2
Description of the Medium	2
Description of the Model	4
Comparison with Calculated and Experimental Data	7
Summary	13
Acknowledgments	14
References	15
Appendix A. Using the BOTE Model	16
Appendix B. Reference Tables for BOTE Parameters	18

THE BOTE MODEL: AN ANALYTIC APPROACH TO PREDICTING GROUND MOTION PHENOMENA RESULTING FROM UNDERGROUND NUCLEAR EXPLOSIONS

Astract

An analytic model (the BOTE model) based upon a superposition of the limiting forms for the outgoing stress wave (i.e., a strong shock at early times decaying to a simple acoustic wave at later times) is presented as a means to describe the ground-motion phenomena resulting from underground nuclear explosions. Taking

into account the effects of both the porosity and the water content of the surrounding medium, the BOTE model provides good agreement with both calculated and experimental data for times ranging from tens of microseconds to tens of milliseconds, and for distances ranging out to 350 ft/kt^{1/3}.

Introduction

A great deal of time and effort is spent on attempts to predict the effects of underground nuclear explosions on the surrounding medium, with ground-motion phenomena often being of particular interest. Methods commonly used to predict these phenomena range from the use of sophisticated computer codes which use finite difference techniques to solve the hydrodynamic equations of motion, to the use of empirically derived scaling laws which relate one event with a particular set of parameters such as yield, and surrounding medium, to another event having a different set of parameters.

The primary difficulty in using computer codes lies in the amount of time and effort required to obtain results. Some codes (e.g. SOC^{1,2,3}) require a quite

extensive knowledge of the equation of state, material properties, and geology of the surrounding medium, while other codes (e.g. RADOIL⁴) require many hours of computer time to obtain results out to only a few hundred microseconds past nuclear zero time.

On the other hand, the simple use of scaling laws to predict the results of a proposed event often leaves one with a rather uneasy feeling; for the coefficients and exponents appearing in such laws are simply the results of empirical fits to experimental data. Although the similarities between these fits and the analytic solutions for a spherical blast wave have long been recognized,^{5,6} no firm basis in physical theory for these fits has been brought forth. Thus, one is left with the

question as to whether physics or black magic is being used in making the predictions.

We present in this paper a simple analytic model (the BOTE* model) which can be used to predict ground motion phenomena. This model is based on a superposition of the limiting forms for

the outgoing stress wave (i.e., a strong shock at early times decaying to a simple acoustic wave at later times). While obviously being quicker and easier to use than a computer code, the BOTE model also has a more explicit basis in physical theory than do simple scaling laws.

Discussion

DESCRIPTION OF THE MEDIUM

The first thing needed is a means of describing the medium in which the explosion is to take place. Because of the large effects of water content and total porosity upon the ground motion phenomena,^{7,8} our description must take into account not only the medium type, but also its water content and total porosity.

Let us assume that we have an infinite homogeneous medium of initial density ρ_0 ; and that this medium can be described by an equation of state of the form

$$P = (\gamma - 1) \rho I, \quad (1)$$

where P is the pressure, ρ is the density, I is the specific internal energy, and γ is a dimensionless constant. Usage of this form of equation of state is felt to be justified by the very high pressures being considered.^{6,9} Thus, except for the density ρ , no material properties, water content, or porosity are explicitly taken into account. Rather, these omissions are taken into account implicitly by the value used for γ . In order to do this, we

*BOTE is an acronym for Back Of The Envelope.

need to relate the actual equation of state for the surrounding medium with our form shown in Eq. (1).

An equation of state commonly used to describe shocks in solids is the Grüneisen equation of state

$$P = \Gamma \rho (I - I_L) + P_L, \quad (2)$$

where P is the pressure, Γ is the Grüneisen gamma for solids, I is the specific internal energy, I_L is the "lattice" internal energy due simply to interaction between neighboring particles, and P_L is the "lattice" pressure. Because of the high pressures being considered when treating ground motion phenomena, the I_L and P_L terms become negligible and the Grüneisen equation of state becomes

$$P \cong \Gamma \rho I, \quad (3)$$

which is of the same form as Eq. (1). Noting that

$$\Gamma = \Gamma_0 \rho / \rho_0, \quad (4)$$

where Γ_0 is the Grüneisen gamma at normal density ρ_0 , we can rewrite Eq. (3) as

$$P = \Gamma_0 \rho_0 I. \quad (5)$$

For strong shocks, the limiting form for Γ_0 is

$$\Gamma_0 = \frac{2}{\frac{\rho}{\rho_0} - 1}. \quad (6)$$

From our assumed form of equation of state we know that

$$\frac{\rho}{\rho_0} = \frac{\gamma + 1}{\gamma - 1}. \quad (7)$$

This equation when substituted into the expression for Γ_0 gives

$$\gamma = \Gamma_0 + 1. \quad (8)$$

If we now assume that

$$\Gamma_0 = W\Gamma_{0W} + (1 - W)\Gamma_{0R}, \quad (9)$$

where W is the weight fraction of water, Γ_{0W} is the Grüneisen gamma for water, and Γ_{0R} is the Grüneisen gamma for the porous rock, we get

$$\gamma = W\Gamma_{0W} + (1 - W)\Gamma_{0R} + 1. \quad (10)$$

Schroeder and McMaster have shown that for water at 20°C the following expression can be used^{10,11}:

$$\Gamma_{0W} = 2S_W - 2$$

at

$$S_W = \begin{cases} 1.2 & \text{at pressures greater than 130 kbar} \\ 1.76 & \text{at pressures less than 130 kbar} \end{cases} \quad (11)$$

where S_W is the slope of the shock-velocity, particle-velocity Hugoniot. The phase change of the water as it is shock vaporized is taken into account in Eq. (11).

From the McMaster-Schroeder-Grüneisen equation of state for solid porous material containing water^{11,12} we get

$$\Gamma_{0R} = \left[\frac{2S_R}{(1 - W)} \frac{\rho_g}{\rho_0} - 1 \right] \left[\frac{(1 - W)\rho_0}{\rho_g} \right]^5, \quad (12)$$

where W is the weight fraction of water, ρ_0 is the initial in situ density, ρ_g is the grain density, and S_R is the slope of the shock-velocity, particle-velocity Hugoniot for the material when $\rho_0 = \rho_g$ and $W = 0$. Schroeder and McMaster have shown S_R to be related to the steepness of the atomic forces between atoms,¹² and as such, it is a measure of the compressibility of the material. An S_R value of 1.3 can be used for both the tuff and alluvium found at the Nevada Test Site.¹¹

Equation (12) can be rewritten to more clearly show its dependence on initial porosity if we first note that

$$1 - \phi = \frac{(1 - W)\rho_0}{\rho_g}, \quad (13)$$

where ϕ is the total porosity of the medium. Equation (12) then becomes

$$\Gamma_{0R} = \left[\frac{2S_R}{1 - \phi} - 1 \right] [1 - \phi]^5. \quad (14)$$

Substituting Eq. (11) and either Eq. (12) or (14) into Eq. (10) results in the following expressions for γ :

$$\gamma = \begin{cases} W[2S_W - 2] + (1 - W) \times \left[\frac{2S_R}{(1 - W)} \frac{\rho_g}{\rho_0} - 1 \right] \times \left[\frac{(1 - W)\rho_0}{\rho_g} \right]^5 + 1 \\ W[2S_W - 2] + (1 - W) \times \left[\frac{2S_R}{(1 - \phi)} - 1 \right] [1 - \phi]^5 + 1 \end{cases} \quad (15)$$

DESCRIPTION OF THE MODEL

Let us assume that the nuclear explosion releases its total energy Y in a short time interval at the center of a spherical explosion chamber of initial radius R_0 . A shock wave which represents the ground shock will then propagate outward from this explosion point. We will consider the phenomena occurring after the ground shock has traveled through a distance R_s which is large in comparison with R_0 ; thus the total mass of material set in motion by the explosion is large in comparison with the mass of the explosion products. This leads to the approximation that the energy release is instantaneous and occurs at a point source. The resemblance between early-time ground-motion phenomena and the self-similar solutions for a spherical-blast wave was recognized early in the history of underground testing; and, in fact, provided the basis from which the scaling laws were founded. However, the blast-wave solutions themselves were not used to predict ground-motion phenomena because a simple way to account for the properties of the surrounding medium did not exist. By using the method described in the preceding section this limitation is eliminated.

In a simple blast-wave model, we would restrict the distance that the ground shock has traveled from the explosion point by requiring that the pressure in the ground shock P_s be sufficiently large so that the initial pressure P_0 of the surrounding medium can be neglected. This is equivalent to neglecting the initial internal energy I_0 and sound speed C_0 of the surrounding medium in comparison

with the explosive yield Y and the shock velocity V_s , respectively. If we also assume that essentially all of the mass of the surrounding medium that has been swept out by the ground shock is contained within a thin layer of thickness Δr immediately behind the leading surface of the shock front; then the outgoing shock wave can be characterized as a thin shell of high density material propagating outwardly from the explosion point at the shock velocity V_s .

If we define Ψ as

$$\Psi \equiv \left[\frac{3}{4\pi} \frac{(\gamma-1)(\gamma+1)^2}{(3\gamma-1)} \right]^{1/2} \quad (16)$$

then the approximate solution according to Chernyi for a spherical blast wave gives¹³:

$$R_s = R_{s0} \left(\frac{Y}{\rho_0} \right)^{1/5} t^{2/5} \quad (17a)$$

$$V_s = \begin{cases} V_{s1} \left(\frac{Y}{\rho_0} \right)^{1/2} R_s^{-3/2} \\ V_{s2} \left(\frac{Y}{\rho_0} \right)^{1/5} t^{-3/5} \end{cases} \quad (17b)$$

$$P_s = \begin{cases} P_{s1} (Y) R_s^{-3} \\ P_{s2} (\rho_0)^{3/5} (Y)^{2/5} t^{-6/5} \end{cases} \quad (17c)$$

where

$$R_{s0} \equiv \left(\frac{5}{2} \right)^{2/5} \Psi^{2/5} \quad (18a)$$

$$V_{s1} \equiv \Psi \quad (18b)$$

$$V_{s2} \equiv \left(\frac{5}{2} \right)^{-3/5} \Psi^{2/5} \quad (18c)$$

$$P_{s1} = \left(\frac{2}{\gamma+1}\right) \Psi^2 \quad (18d)$$

$$P_{s2} = \left(\frac{2}{\gamma+1}\right) \left(\frac{5}{2}\right)^{-6/5} \Psi^{4/5}. \quad (18e)$$

We note that we can derive from Eqs. (17a, b, and c) the standard scaling laws for isopressure and isovelocity contours which show both position and time to scale like $(Y)^{1/3}$.

The interval of applicability of a simple blast-wave model is rather limited, however. It is restricted initially by the requirement that R_s be much greater than the initial radius of the explosion chamber. Although varying from shot to shot because of yield and initial geometry differences, this requirement is usually met by a few tens of microseconds. More importantly, the upper limit on the interval of applicability is restricted in two ways. First, extrapolation of this model past that point in time or space when the peak pressure has fallen off to a value where material properties become important is meaningless. Secondly, the theory behind this model no longer holds when P_s becomes of the order of $[(\gamma+1)/(\gamma-1)]P_0$, where P_0 is the initial pressure of the surrounding medium. Based on empirical comparisons with experimental data,⁶ this upper limit is on the order of approximately $600 \mu\text{sec}/(kt)^{1/3}$.

Although a simple blast-wave model is sufficient to describe the early time phenomenology while the outgoing stress wave can still be thought of as a strong shock, we also need to be able to describe those phenomena which occur during that time interval when the stress wave is intermediate between being a strong shock and being a simple acoustic

wave. This interval corresponds to approximately 95% of the shock wave's lifetime, and is the interval during which we propose to use the BOTE model.

The BOTE model is based upon a superposition of the limiting forms for the stress wave. We know that the stress wave decays from a strong shock wave moving with the shock velocity V_s to a simple acoustic wave moving with the sound speed C_0 . Because the velocity of the outgoing wave is given simply by the derivative with respect to time of the wave's position function, the above condition can be met by simply rewriting R_s and V_s as

$$\begin{aligned} R_s &= R_s + Ct \\ V_s &= V_s + C \end{aligned} \quad (19)$$

where C is either the elastic or bulk sound speed depending upon whether the stress wave is in the elastic or plastic pressure range.

We also know that the pressure in the stress wave cannot decay to a value less than the local overburden pressure P_0 . This fact leads us to rewrite P_s as

$$P_s = P_s + P_0 \quad (20)$$

where

$$P_0 = \rho_0 g(h - R_s). \quad (21)$$

with g being the acceleration due to gravity ($g = 9.81 \text{ m/s}^2$), and h being the original depth below the earth's surface of the explosion point. Equation (20) is consistent with the form used in Eq. (19) to take into account the sound speed C . The

spatial decay of $\mathcal{P}_s$ according to Eq. (20) will go predominantly as R_s^{-3} ; similar to a simple blast wave. This is in agreement with the functional dependence seen in curves empirically fitted to the data.^{6,13}

The following Eq. (20) summarizes the BOTE model:

$$\mathcal{P}_s = R_{s0} \left(\frac{Y}{\rho_0} \right)^{1/5} t^{2/5} + Ct$$

$$\gamma_s = \begin{cases} v_{s1} \left(\frac{Y}{\rho_0} \right)^{1/2} R_s^{-3/2} + C \\ v_{s2} \left(\frac{Y}{\rho_0} \right)^{1/5} + C \end{cases}$$

$$\mathcal{P}_s = \begin{cases} P_{s1}(Y)R_s^{-3} + \rho_0 g(h - R_s) \\ P_{s2}(\rho_0)^{3/5} (Y)^{2/5} t^{-6/5} \\ \times \left[1 + \frac{C}{R_{s0}} \left(\frac{\rho_0}{Y} \right)^{1/5} t^{3/5} \right]^{-3} \\ + \rho_0 g \left[h - R_{s0} \left(\frac{Y}{\rho_0} \right)^{1/5} t^{2/5} - Ct \right], \end{cases} \quad (22)$$

where R_{s0} , v_{s1} , v_{s2} , P_{s1} , and P_{s2} , are as defined in Eqs. (18a-e). At early times when the wave is still moving supersonically (i.e., $\gamma_s \gg C$), the results of Eq. (19) reduce to those of Eq. (14).

Figures 1 through 3 compare the BOTE model with both a simple blast-wave model and a simple acoustic-wave model for a 1-kt explosion in alluvium. Table 1 lists the input used in the three calculations.

Figure 1 compares ground shock position as a function of time as predicted by the three models. We see that the BOTE model differs from the simple blast-wave model by approximately 1.5 m at 1 ms and by approximately 15 m at 10 ms.

Figure 2 compares ground-shock velocity as a function of time for the three models. We see that the stress-wave velocity according to the blast-wave model falls below the local sound speed at 1.5 ms while the velocity according to the BOTE model is within $\approx 10\%$ of the initial sound speed by 50.0 ms.

Figure 3 compares the decay of the peak pressure in the ground shock as a function of range as predicted by the BOTE and blast-wave models. Also shown is the decay of overburden pressure as you approach the surface. We see that the overburden pressure term in

Fig. 1. A comparison of $\mathcal{P}_s$ vs t as predicted by: the BOTE model, a simple blast-wave model, and a simple acoustic model for a 1-kt explosion at a depth of 400 ft in alluvium. The alluvium was assumed to have $\rho_0 = 2.0 \text{ g/cm}^3$, $\rho_g = 2.65 \text{ g/cm}^3$, $W = 0.005$, and $C = 5000 \text{ ft/s}$.

Fig. 2. A comparison of V_g vs t as predicted by: the BOTE model, a simple blast-wave model, and a simple acoustic model for the event described in Fig. 1.

Fig. 3. A comparison of P_g vs R as predicted by the BOTE model and a simple blast-wave model for the event described in Fig. 1. Also shown is the overburden pressure at each depth.

Table 1. Input used in comparing the BOTE, blast-wave, and acoustic models.

	BOTE	Blast wave	Acoustic
$Y(\text{kt})$	1.0	1.0	—
S_R	1.3	1.3	—
$\rho_0(\text{g/cm}^3)$	2.0	2.0	—
$\rho_g(\text{g/cm}^3)$	2.65	2.65	—
W	0.05	0.05	—
$C(\text{ft/s})$	5000	—	5000
$h(\text{ft})$	4000	—	400

the BOTE model does not become significant until distances greater than 30 m from the original working point are reached.

COMPARISON WITH CALCULATED AND EXPERIMENTAL DATA

The validity and usefulness of any model depends upon how well it agrees with experimental data. Thus, in order to demonstrate the validity of our assumptions, we now wish to compare results obtained with the BOTE model with both calculated and experimental ground-motion data.

Figures 4 through 6 show comparisons of results obtained from BOTE with a calculation done using the MEG code.¹⁴ MEG is a one-dimensional explosion code incorporating Lagrangian hydrodynamics and the calculation is typical of the type normally done to look at the first few hundred microseconds after a nuclear explosion. The effects of a 100-kt explosion in tuff at a depth of burial of 1856 ft were compared. The tuff was characterized by an initial density of $\rho_0 = 1.9 \text{ g/cm}^3$, a grain density of $\rho_g = 2.43 \text{ g/cm}^3$, a

Fig. 4. A comparison of R_s vs t predicted by MEG (x) and by the BOTE model (solid line) for a 100-kt explosion at 1856 ft in tuff. The tuff equation of state used in the MEG calculation was characterized by $\rho_0 = 1.9 \text{ g/cm}^3$, $\rho_g = 2.43 \text{ g/cm}^3$, $W = 0.17$, and $C = 2500 \text{ ft/s}$. Further comparisons with this calculation are made in Figs. 5 and 6.

Fig. 5. A comparison of P_s vs t as predicted by MEG (x) and by the BOTE model (solid line) for the event described in Fig. 4.

weight fraction of water of $W = 0.17$, and a sound speed of 2500 ft/sec. Using these values for ρ_0 , ρ_g , W , and C in the BOTE

Fig. 6. A comparison of P_s vs R as predicted by MEG (x) and by the BOTE model (solid line) for the event described in Fig. 4.

model, we obtain results which agree quite well with the MEG data. Because MEG is an explosion code, and so calculates the exact solution for a spherical blast wave, the agreement seen in Figs. 4-6, although not perfect, indicates that the BOTE model does indeed reduce to a simple blast-wave solution at early times.

Figures 7 through 9 compare the results of the BOTE model with Butkovich's SOC calculations⁷ on the effect of saturation on ground motion phenomena. SOC calculations are typical of the type normally done to determine the late-time phenomenology associated with the outgoing stress wave. Figure 7 shows pressure decay as a function of range for tuff having 0% water saturation. Figures 8 and 9 are for tuffs of 50% and 100% water saturation, respectively. Table 2 lists the input used in the BOTE model in each case. Except for S_R , all of the above data was taken from Butkovich's paper.⁷

Fig. 7. A comparison of P_g vs R as predicted by the BOTE model (solid line) and by Butkovich's SOC calculation (x) for tuff having 0% water saturation.

Fig. 9. A comparison of P_g vs R as predicted by the BOTE model (solid line) and by Butkovich's SOC calculation (x) for tuff having 100% water saturation.

Fig. 8. A comparison of P_g vs R as predicted by the BOTE model (solid line) and by Butkovich's SOC calculation (x) for tuff having 50% water saturation.

The BOTE model and the SOC calculations agree reasonably well in each case, with quite good agreement for the 0% saturation case. The slight divergence between the results of the two methods as distance from the working point gets larger can be partially explained by the

Table 2. Input used in comparing the BOTE model with Butkovich's SOC calculations.⁷

	0% saturation	50% saturation	100% saturation
SR	1.3	1.3	1.3
Y(kt)	10.0	10.0	10.0
$\rho_0(\text{g/cm}^3)$	1.40	1.605	1.81
$\rho_g(\text{g/cm}^3)$	2.37	2.37	2.37
W	0.005	0.127	0.226
C(ft/s)	6700	6700	6700
h(ft)	863	863	863

fact that the BOTE model assumes an infinite medium, while the SOC calculations did not. Thus at large distances, the outgoing stress wave in SOC may be sensing the presence of the surface.

The discontinuous jump in the BOTE model's results for the 50% and 100% saturation cases at $P_g = 130$ kbar is due to the water no longer being shock vaporized for pressures less than 130 kbar.

While comparisons with calculations are informative, the question of whether

or not the comparison is being made with anything realistic can only be answered by comparison with experimental results.

A great deal of data giving ground shock position as a function of time is available. However, data concerning peak pressure in the outgoing stress wave is not so readily available. There is some peak pressure data available which can, and will, be compared to; however, the measurements usually made involve peak particle velocity as a function of range. This velocity is then related to the ground shock pressure by using the Hugoniot relationship

$$P = \rho_0 UV, \quad (23)$$

where P is the ground shock pressure, ρ_0 is the initial in situ density, V is the velocity of the outgoing stress wave, and U is the peak particle velocity. Using the BOTE model's expression for P and V as functions of distance, we find that

$$U = \frac{P_{s1}(Y)R_s^{-3} + \rho_0 g(h - R_s)}{\rho_0 V_{s1} \left(\frac{Y}{\rho_0} \right)^{1/2} R_s^{-3/2} + \rho_0 C}. \quad (24)$$

In order to conveniently compare a large number of events, we looked at data which had all been scaled to a yield of 1 kt. In order to use the BOTE model, we assumed realistic values for ρ_0 , ρ_g , W , and C which allowed the best agreement with the data. A scaled depth of

Fig. 10. A comparison of the BOTE model (solid line) with ground-shock position versus time data for both tuff and alluvium. The tuff data (triangles) comes from 3 events while the alluvium data (dots) comes from 19 events. All data has been scaled to a yield of 1 kt. SOC results (dashed line) are included for the sake of comparison.

burial of $400 \text{ ft/kt}^{1/3}$ was assumed in all cases. The somewhat arbitrary nature of the properties of our medium along with the fact that the characteristics of the tuff or alluvium in one area are not exactly the same as in another area explains the slight disagreement seen between some of the experimental data and our model.

Figure 10 shows ground shock position versus time data for both tuff and alluvium.² Scaled results from 3 events

Fig. 11. A comparison of the BOTE model (solid line) with pressure data from five events executed in tuff. All data has been scaled to a yield of 1 kt. Error bars are indicated on the data.

make up the tuff data, while scaled results from 19 events make up the alluvium data. In applying the BOTE model we assumed values listed in Table 3 to be representative of the medium.

Comparisons between the experimental data and our results are quite good over the time interval shown. The results of SOC calculations are also shown for the sake of comparison.

Figures 11 and 12 compare measurements of peak pressure in the ground

Fig. 12. A comparison of the BOTE model (solid line) with pressure data from 22 events executed in alluvium. All data has been scaled to a yield of 1 kt. Error bars are indicated on the data.

Table 3. Representative geologic data assumed when comparing the BOTE model with scaled ground-shock position data.

Tuff	Alluvium
$\rho_0 = 1.9 \text{ g/cm}^3$	$\rho_0 = 1.9 \text{ g/cm}^3$
$\rho_g = 2.43 \text{ g/cm}^3$	$\rho_g = 2.7 \text{ g/cm}^3$
$W = 0.01$	$W = 0.01$
$C = 5000 \text{ ft/s}$	$C = 1500 \text{ ft/s}^a$

^aThe somewhat low value for C indicates that the alluvium data was taken from shots near the surface.

Fig. 13. A comparison of the BOTE model (solid line) with peak particle-velocity data for events executed in tuff. All data has been scaled to a yield of 1 kt. Perret's fit¹⁶ (dashed line) to the data is also shown.

Table 4. Representative geologic data assumed when comparing the BOTE model with scaled ground-shock pressure data.

Tuff	Alluvium
$\rho_0 = 1.8 \text{ g/cm}^3$	$\rho_0 = 1.9 \text{ g/cm}^3$
$\rho_g = 2.43 \text{ g/cm}^3$	$\rho_g = 2.70 \text{ g/cm}^3$
$W = 0.01$	$W = 0.01$
$C = 5000 \text{ ft/s}$	$C = 3000 \text{ ft/s}$

Fig. 14. Compares the BOTE model (solid line) with peak particle-velocity data for events executed in alluvium. All data has been scaled to a yield of 1 kt. Also shown is a least square fit (dashed line) to the data.

shock with BOTE model results for tuff and alluvium respectively.⁶ The results of 5 events went into making up the tuff data, while 22 events make up the alluvium data. Table 4 lists the properties of the medium used in the BOTE model.

The results of the BOTE model are seen to lie well within the scatter of the data in both figures.

Figures 13 and 14 compare peak particle velocity versus range data for unsaturated tuff and alluvium with the BOTE model.¹⁵ While the tuff data is all from one event, no indication of the number of events contributing to the alluvium data is available. The properties of the medium assumed in the BOTE model are listed in Table 5. The BOTE model's results are seen to lie well within the scatter of the data in both cases. Also

Table 5. Representative geologic data assumed when comparing the BOTE model with scaled peak-particle-velocity data.

Tuff	Alluvium
$\rho_0 = 1.95 \text{ g/cm}^3$	$\rho_0 = 1.9 \text{ g/cm}^3$
$\rho_g = 2.43 \text{ g/cm}^3$	$\rho_g = 2.7 \text{ g/cm}^3$
$W = 0.005$	$W = 0.01$
$C = 5000 \text{ ft/s}$	$C = 3000 \text{ ft/s}$

shown are a curve derived by Perret¹⁶ for unsaturated tuff and a least squares fit to the alluvium data.¹⁷

Summary

In this paper, we have described a simple analytic model by which ground motion phenomena can be described for times ranging from tens of microseconds to tens of milliseconds after the detonation of an underground nuclear explosion. Using this model, we are able to predict the position of the stress wave as a function of time fairly accurately out to at least tens of milliseconds and the peak particle velocity (and so the peak pressure) in the wave as a function of range out to $350 \text{ ft/kt}^{1/3}$.

However, like all models, the BOTE model has its limitations. At very early times, before the ground shock has had a chance to move far enough away from the explosion point so that its position R_g is large when compared to the initial radius R_0 of the explosion chamber, the results obtained from the BOTE model are meaningless. It usually takes a few tens of

microseconds for the above condition to be met.

In comparing with SOC calculations, we note that the agreement between the BOTE model and the SOC results is better for lower values of water content W . This result is quite reasonable for the effect of water on ground motion phenomena is much more complicated than our simple linear combination of terms in Eq. (15) can account for. In spite of this limitation, however, we believe that the BOTE model's results are quite believable; for in all cases, the agreement with the SOC calculations is within acceptable bounds of uncertainty associated with such predictions.

Other limitations include the omission of precursor, layering and free surface effects, and the fact that the BOTE model is purely hydrodynamic in nature.

However, the BOTE model as described in this paper is not intended as a replacement for either computer code

calculations or scaling laws. Rather, it is hoped that this model will prove to be a useful supplement to these other methods.

Acknowledgments

We would like to thank Erlene Schooler for her aid in preparing the figures and tables included in this paper. We would also like to thank Ron Schroeder and

Gerry Nutt for their invaluable aid and discussions and Billy Hudson without whose support and encouragement this work could not have been done.

References

1. J. T. Cherry and W. R. Hurdlow, "Numerical Simulation of Seismic Disturbances," Geophysics 31, 33 (1966).
2. F. Holzer, Calculation of Seismic Source Mechanisms, Lawrence Livermore Laboratory, Rept. UCRL-12219 (1965).
3. J. F. Schatz, The Physics of SOC and TENSOR, Lawrence Livermore Laboratory, Rept. UCRL-51353 (1973).
4. W. Johnson, RADOIL and RAM, System, Science, and Software, La Jolla, California, Rept. 3SR-104 (1971).
5. J. Rambo, Lawrence Livermore Laboratory, private communication.
6. J. P. Mutachlecner and B. R. Saunders, Hydrodynamic Measurements of Yields of Underground Tests Durin-Niblich, Wehtstone, and Flintlock, Los Alamos Scientific Laboratory, Rept. LA-3971 (1968) (SRD).
7. T. R. Butkovich, Effects of Water Saturation on Underground Nuclear Detonations, Lawrence Livermore Laboratory, Rept. UCRL-51110 (1971).
8. B. K. Crowley, Effects of Porosity and Saturation on Shock Wave Response in Tufts, Lawrence Livermore Laboratory, Rept. UCRL-74207 (1972).
9. W. J. Rae, "Impact Generated Shock Propagation," in High Velocity Impact Phenomena, R. Kinslow, Ed. (Academic Press, New York, 1970).
10. R. C. Schroeder and W. H. McMaster, "Shock-Compression Freezing and Melting of Water and Ice," J. Appl. Phys. 44, 2591 (1973).
11. R. C. Schroeder, Lawrence Livermore Laboratory, private communication, to be published.
12. R. C. Schroeder and W. H. McMaster, Compilation of Shock Hugoniot Data and Hugoniot Melting Points for the Elements, Lawrence Livermore Laboratory, Rept. UCRL-51253 (1972).
13. Ya. B. Zel'dovich and Yu. P. Raizer, Physics of Shock Waves and High Temperature Hydrodynamic Phenomena (Academic Press, New York, 1966), Vol. 1.
14. H. Smith, MEG Equations, Lawrence Livermore Laboratory, Rept. UCID-15366 (1967) (title U, report SRD).
15. V. E. Wheeler and R. G. Preston, Scaled Free-Field Particle Motions from Underground Nuclear Explosions, Lawrence Livermore Laboratory, Rept. UCRL-50563 (1968).
16. W. R. Perret, Subsurface Motion from a Confined Underground Detonation Part I, Operation Plumbbob, Sandia Laboratories, Albuquerque, Rept. WT-1529 (1961).
17. B. C. Hudson, Lawrence Livermore Laboratory, private communication.

Appendix A

Using the BOTE Model

When using the BOTE model, extreme care must be taken with respect to units. For instance, if one indiscriminately uses units of $Y \equiv \text{kt}$, $\rho_0 \equiv \text{g/cm}^3$, $g \equiv \text{m/s}^2$, $h \equiv \text{m}$, $R_s \equiv \text{m}$ in the equation for $\mathcal{P}_s$ as a function of distance, you would end up with $\mathcal{P}_s$ being expressed in units of

$$\mathcal{P}_s \equiv \frac{\text{kt}}{\text{m}^3} + \frac{\text{g} \cdot \text{m}^2}{\text{cm}^3 \cdot \text{s}^2}.$$

This is not an exceptionally useful unit for the expression of pressure. Similar problems with ridiculous output units arise in using the other equations as well.

With the above difficulty in mind, we set about to determine conversion coefficients that would enable us to get results in reasonable units from input also in reasonable units. We first rewrote the defining equations for the BOTE model as:

$$\mathcal{P}_s = R_{s0} \left(\frac{\alpha Y}{\rho_0} \right)^{1/5} t^{2/5} + Ct$$

$$V_s = \begin{cases} V_{s1} \left(\frac{\alpha Y}{\rho_0} \right)^{1/2} R_s^{-3/2} + C \\ V_{s2} \left(\frac{\alpha Y}{\rho_0} \right)^{1/5} t^{-3/5} + C \end{cases}$$

(A1)

$$\mathcal{P}_s = \begin{cases} P_{s1} (\alpha Y) R_s^{-3} + \beta \rho_0 g (h - R_s) \\ P_{s2} (\rho_0)^{3/5} (\alpha Y)^{2/5} t^{-6/5} \left[1 + \frac{C}{R_{s0}} \left(\frac{\rho_0}{\alpha Y} \right)^{1/5} t^{3/5} \right]^{-3} \\ \quad + \beta \rho_0 g \left[h - R_s \left(\frac{\alpha Y}{\rho_0} \right)^{2/5} - Ct \right] \end{cases}$$

$$U = \frac{P_{s1} (\alpha Y) R_s^{-3} + \beta \rho_0 g (h - R_s)}{\rho_0 V_{s1} \left(\frac{\alpha Y}{\rho_0} \right)^{1/2} R_s^{-3/2} + \rho_0 C},$$

where α and β are the conversion coefficients. Table A1 lists values of α and β for two particular sets of units.

Table A1. Magnitudes of the conversion coefficients α and β .

Units	α	β
$Y \equiv$ $\mathcal{R}_S, h \equiv \text{cm}$ $t \equiv \mu\text{s}$ $v_S, U, C \equiv \text{cm}/\mu\text{s}$ $\rho_0 \equiv \text{g}/\text{cm}^3$ $\rho_g \equiv \text{g}/\text{cm}^3$ $W \equiv \text{dimensionless}$ $\mathcal{P}_S \equiv \text{Mbar}$ $g \equiv 981 \text{ cm}/\text{s}^2$	$4186 \times 10^{+4}$	1×10^{-12}
$Y \equiv \text{erg}$ $\mathcal{R}_S, h \equiv \text{cm}$ $t \equiv \text{sec}$ $v_S, U, C \equiv \text{cm}/\text{s}$ $\rho_0 \equiv \text{g}/\text{cm}^3$ $\rho_g \equiv \text{g}/\text{cm}$ $W \equiv \text{dimensionless}$ $\mathcal{P}_S \equiv \text{dynes}/\text{cm}^2$ $g \equiv 981 \text{ cm}/\text{s}^2$	1	1

While the above systems of units are perhaps not the most convenient ones in all cases, they do have the advantage that α and β have the same values in all of the equations that they appear in.

Appendix B

Reference Tables for BOTE Parameters

The following tables are included in order to facilitate the use of the BOTE model. Tables B1 and B2 list values of γ for various combinations of in situ density ($\rho_0 \equiv \text{RHO}$), grain density ($\rho_g \equiv \text{RHOG}$), and weight fraction of water (W). Table B1 would be used for peak pressures greater than 130 kbar, while Table B2 would be used for pressures less than 130 kbar. Tables B3 and B4 list values of γ for various combinations of weight fractions of water (W) and total porosity ($\phi \equiv \text{PHI}$). Table B3 is for pressures greater than 130 kbar, while Table B4 is for pressures less than 130 kbar.

Table B5 lists values of R_{s0} , V_{s1} , V_{s2} , P_{s1} , and P_{s2} for various values of γ . Figures B1 to B5 are plots of the values listed in Table B5 and are included to aid in interpolation between the values listed in Table B5.

Fig. B1. Plot (a) shows R_{s0} as a function of γ , while plot (b) shows $dR_{s0}/d\gamma$ as a function of γ .

Fig. B2. Plot (a) shows V_{s1} as a function of γ , while plot (b) shows $dV_{s1}/d\gamma$ as a function of γ .

Fig. B3. Plot (a) shows V_{s2} as a function of γ , while plot (b) shows $dV_{s2}/d\gamma$ as a function of γ .

Fig. B4. Plot (a) shows P_{s1} as a function of γ , while plot (b) shows $dP_{s1}/d\gamma$ as a function of γ .

Fig. B5. Plot (a) shows P_{s2} as a function of γ , while plot (b) shows $dP_{s2}/d\gamma$ as a function of γ .

Table B1. Values of γ for various combinations of in situ density ($\rho_0 = \text{RHO}$), grain density ($\rho_g = \text{RHOG}$), and weight fraction of water (W). These values would be used when $P_g > 130 \text{ Kbar}$.

$$\text{GAMMA} = 1 + (1-W) \{ (2SW/(1-W)) (RHC/RHCG) - 1 \} \{ (1-W) RHC/RHCG \}^{**5} + W \{ 2SW - 2 \}$$

$$\text{SW} = 1.30 \quad \text{RHCG} = 2.20 \quad \text{SW} = 1.20$$

W	RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.09128E+00	1.12911E+00	1.17741E+00	1.23763E+00	1.31123E+00	1.39962E+00	1.50418E+00	1.62618E+00
2.00000E-02	*	1.09114E+00	1.12720E+00	1.17326E+00	1.23072E+00	1.30047E+00	1.38527E+00	1.48524E+00	1.60188E+00
3.00000E-02	*	1.09115E+00	1.12551E+00	1.16942E+00	1.22421E+00	1.29122E+00	1.37177E+00	1.46715E+00	1.57855E+00
4.00000E-02	*	1.09131E+00	1.12404E+00	1.16586E+00	1.21808E+00	1.28197E+00	1.35881E+00	1.44982E+00	1.55619E+00
5.00000E-02	*	1.09162E+00	1.12217E+00	1.16259E+00	1.21233E+00	1.27321E+00	1.34646E+00	1.43327E+00	1.53477E+00
6.00000E-02	*	1.09207E+00	1.12170E+00	1.15960E+00	1.20644E+00	1.26443E+00	1.33472E+00	1.41747E+00	1.51426E+00
7.00000E-02	*	1.09256E+00	1.12083E+00	1.15687E+00	1.20192E+00	1.25711E+00	1.32356E+00	1.40239E+00	1.49446E+00
8.00000E-02	*	1.09333E+00	1.12015E+00	1.15441E+00	1.19724E+00	1.24774E+00	1.31298E+00	1.38803E+00	1.47591E+00
9.00000E-02	*	1.09424E+00	1.11966E+00	1.15220E+00	1.19240E+00	1.24281E+00	1.30296E+00	1.37437E+00	1.45802E+00
1.00000E-01	*	1.09523E+00	1.11935E+00	1.15024E+00	1.18890E+00	1.23631E+00	1.29348E+00	1.36138E+00	1.44097E+00
1.10000E-01	*	1.09633E+00	1.11921E+00	1.14852E+00	1.18921E+00	1.23623E+00	1.28453E+00	1.34906E+00	1.42472E+00
1.20000E-01	*	1.09756E+00	1.11924E+00	1.14703E+00	1.18183E+00	1.22455E+00	1.27610E+00	1.33737E+00	1.40926E+00
1.30000E-01	*	1.09891E+00	1.11944E+00	1.14577E+00	1.17876E+00	1.21426E+00	1.26616E+00	1.32632E+00	1.39457E+00
1.40000E-01	*	1.10036E+00	1.11980E+00	1.14473E+00	1.17598E+00	1.21436E+00	1.26617E+00	1.31587E+00	1.38062E+00
1.50000E-01	*	1.10193E+00	1.12032E+00	1.14351E+00	1.17348E+00	1.20783E+00	1.25374E+00	1.30601E+00	1.36741E+00
1.60000E-01	*	1.10360E+00	1.12098E+00	1.14329E+00	1.17126E+00	1.20566E+00	1.24727E+00	1.29472E+00	1.35490E+00
1.70000E-01	*	1.10538E+00	1.12179E+00	1.14287E+00	1.16931E+00	1.20183E+00	1.24116E+00	1.28800E+00	1.34307E+00
1.80000E-01	*	1.10729E+00	1.12275E+00	1.14265E+00	1.16762E+00	1.19635E+00	1.23552E+00	1.27798E+00	1.33192E+00
1.90000E-01	*	1.10922E+00	1.12383E+00	1.14261E+00	1.16618E+00	1.19519E+00	1.23430E+00	1.27721E+00	1.32141E+00
2.00000E-01	*	1.11128E+00	1.12506E+00	1.14276E+00	1.16497E+00	1.19236E+00	1.22549E+00	1.26501E+00	1.31154E+00
2.10000E-01	*	1.11344E+00	1.12641E+00	1.14308E+00	1.16403E+00	1.19083E+00	1.22108E+00	1.25836E+00	1.30227E+00
2.20000E-01	*	1.11567E+00	1.12788E+00	1.14357E+00	1.16330E+00	1.18760E+00	1.21704E+00	1.25215E+00	1.29360E+00
2.30000E-01	*	1.11800E+00	1.12947E+00	1.14423E+00	1.16279E+00	1.18566E+00	1.21338E+00	1.24648E+00	1.28550E+00
2.40000E-01	*	1.12040E+00	1.13118E+00	1.14505E+00	1.16249E+00	1.18400E+00	1.21007E+00	1.24122E+00	1.27795E+00
2.50000E-01	*	1.12280E+00	1.13300E+00	1.14602E+00	1.16240E+00	1.18261E+00	1.20711E+00	1.23640E+00	1.27095E+00
2.60000E-01	*	1.12544E+00	1.13493E+00	1.14714E+00	1.16251E+00	1.18148E+00	1.20449E+00	1.23200E+00	1.26446E+00
2.70000E-01	*	1.12827E+00	1.13706E+00	1.14840E+00	1.16281E+00	1.18000E+00	1.20218E+00	1.22860E+00	1.25848E+00
2.80000E-01	*	1.13027E+00	1.13909E+00	1.14981E+00	1.16330E+00	1.17996E+00	1.20019E+00	1.22440E+00	1.25298E+00
2.90000E-01	*	1.13354E+00	1.14132E+00	1.15134E+00	1.16396E+00	1.17956E+00	1.19850E+00	1.22117E+00	1.24796E+00
3.00000E-01	*	1.13637E+00	1.14303E+00	1.15300E+00	1.16460E+00	1.17938E+00	1.19710E+00	1.21831E+00	1.24339E+00
3.10000E-01	*	1.13927E+00	1.14604E+00	1.15479E+00	1.16580E+00	1.17942E+00	1.19598E+00	1.21581E+00	1.23925E+00
3.20000E-01	*	1.14222E+00	1.14894E+00	1.15669E+00	1.16697E+00	1.17967E+00	1.19513E+00	1.21364E+00	1.23554E+00
3.30000E-01	*	1.14523E+00	1.15111E+00	1.15871E+00	1.16828E+00	1.18013E+00	1.19453E+00	1.21180E+00	1.23223E+00
3.40000E-01	*	1.14830E+00	1.15377E+00	1.16083E+00	1.16974E+00	1.18077E+00	1.19419E+00	1.21028E+00	1.22932E+00
3.50000E-01	*	1.15141E+00	1.15650E+00	1.16306E+00	1.17135E+00	1.18180E+00	1.19408E+00	1.20905E+00	1.22678E+00
3.60000E-01	*	1.15458E+00	1.15930E+00	1.16539E+00	1.17309E+00	1.18261E+00	1.19421E+00	1.20812E+00	1.22460E+00

$$\text{GAMMA} = 1 + (1-W)((2SR/(1-W))(RHC/RHC)-1)((1-W)HHC/RFCG)*0.5 + W(2SW-2)$$

SR =1.30 RHLG =2.20 SW =1.20

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00
		*				
1.00000E-02	*	1.76683E+00	1.92720E+00	2.10822E+00	2.31065E+00	2.53509E+00
2.00000E-02	*	1.73639E+00	1.88905E+00	2.06318E+00	2.25714E+00	2.47235E+00
3.00000E-02	*	1.70713E+00	1.85389E+00	2.01976E+00	2.20550E+00	2.41174E+00
4.00000E-02	*	1.67901E+00	1.81930E+00	1.97794E+00	2.15570E+00	2.35321E+00
5.00000E-02	*	1.65203E+00	1.78604E+00	1.93767E+00	2.10770E+00	2.29674E+00
6.00000E-02	*	1.62615E+00	1.75409E+00	1.89894E+00	2.06146E+00	2.24228E+00
7.00000E-02	*	1.60135E+00	1.72341E+00	1.86170E+00	2.01695E+00	2.18980E+00
8.00000E-02	*	1.57759E+00	1.69399E+00	1.82592E+00	1.97413E+00	2.13926E+00
9.00000E-02	*	1.55487E+00	1.66579E+00	1.79158E+00	1.93296E+00	2.09061E+00
1.00000E-01	*	1.53314E+00	1.63877E+00	1.75863E+00	1.89344E+00	2.04383E+00
1.10000E-01	*	1.51240E+00	1.61292E+00	1.72705E+00	1.85550E+00	1.99867E+00
1.20000E-01	*	1.49260E+00	1.58820E+00	1.69681E+00	1.81910E+00	1.95570E+00
1.30000E-01	*	1.47373E+00	1.56459E+00	1.66787E+00	1.78422E+00	1.91427E+00
1.40000E-01	*	1.45517E+00	1.54206E+00	1.64020E+00	1.75083E+00	1.87454E+00
1.50000E-01	*	1.43869E+00	1.52058E+00	1.61377E+00	1.71866E+00	1.83648E+00
1.60000E-01	*	1.42247E+00	1.50013E+00	1.58855E+00	1.68833E+00	1.80005E+00
1.70000E-01	*	1.40708E+00	1.48067E+00	1.56450E+00	1.65917E+00	1.76521E+00
1.80000E-01	*	1.39249E+00	1.46219E+00	1.54161E+00	1.63134E+00	1.73192E+00
1.90000E-01	*	1.37870E+00	1.44464E+00	1.51983E+00	1.60482E+00	1.70013E+00
2.00000E-01	*	1.36567E+00	1.42802E+00	1.49913E+00	1.57957E+00	1.66982E+00
2.10000E-01	*	1.35339E+00	1.41228E+00	1.47950E+00	1.55555E+00	1.64095E+00
2.20000E-01	*	1.34182E+00	1.39741E+00	1.46088E+00	1.53274E+00	1.61347E+00
2.30000E-01	*	1.33096E+00	1.38338E+00	1.44327E+00	1.51110E+00	1.58734E+00
2.40000E-01	*	1.32077E+00	1.37016E+00	1.42662E+00	1.49059E+00	1.56254E+00
2.50000E-01	*	1.31123E+00	1.35773E+00	1.41090E+00	1.47119E+00	1.53901E+00
2.60000E-01	*	1.30234E+00	1.34607E+00	1.39610E+00	1.45285E+00	1.51674E+00
2.70000E-01	*	1.29405E+00	1.33515E+00	1.38218E+00	1.43555E+00	1.49566E+00
2.80000E-01	*	1.28636E+00	1.32494E+00	1.36911E+00	1.41926E+00	1.47576E+00
2.90000E-01	*	1.27925E+00	1.31542E+00	1.35686E+00	1.40393E+00	1.45700E+00
3.00000E-01	*	1.27269E+00	1.30658E+00	1.34541E+00	1.38955E+00	1.43933E+00
3.10000E-01	*	1.26666E+00	1.29838E+00	1.33474E+00	1.37608E+00	1.42273E+00
3.20000E-01	*	1.26115E+00	1.29080E+00	1.32481E+00	1.36349E+00	1.40716E+00
3.30000E-01	*	1.25614E+00	1.28362E+00	1.31559E+00	1.35174E+00	1.39257E+00
3.40000E-01	*	1.25161E+00	1.27743E+00	1.30707E+00	1.34082E+00	1.37895E+00
3.50000E-01	*	1.24754E+00	1.27159E+00	1.29922E+00	1.33069E+00	1.36626E+00
3.60000E-01	*	1.24391E+00	1.26629E+00	1.29201E+00	1.32131E+00	1.35445E+00

$$\text{GAMMA} = 1 + (1-W)((2SR/(1-h))(\text{RHCG}/\text{RHC})-1)((1-W)\text{RHC}/\text{RHCG})^{**5} + W(2SW-2)$$

SR =1.30 RHC =2.40 SW =1.20

	RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
W	*								
1.00000E-02	*	1.06677E+00	1.09407E+00	1.12911E+00	1.17295E+00	1.22671E+00	1.29150E+00	1.36843E+00	1.45856E+00
2.00000E-02	*	1.06771E+00	1.09380E+00	1.12720E+00	1.14901E+00	1.27029E+00	1.28213E+00	1.35588E+00	1.44168E+00
3.00000E-02	*	1.06883E+00	1.09368E+00	1.12551E+00	1.16536E+00	1.21426E+00	1.27325E+00	1.34334E+00	1.42553E+00
4.00000E-02	*	1.07007E+00	1.09372E+00	1.12404E+00	1.16200E+00	1.20860E+00	1.26483E+00	1.33188E+00	1.41010E+00
5.00000E-02	*	1.07141E+00	1.09391E+00	1.12277E+00	1.15891E+00	1.20330E+00	1.25688E+00	1.32060E+00	1.39538E+00
6.00000E-02	*	1.07285E+00	1.09425E+00	1.12170E+00	1.15610E+00	1.19835E+00	1.24937E+00	1.31007E+00	1.38134E+00
7.00000E-02	*	1.07439E+00	1.09473E+00	1.12083E+00	1.15354E+00	1.19374E+00	1.24230E+00	1.30009E+00	1.36797E+00
8.00000E-02	*	1.07603E+00	1.09536E+00	1.12015E+00	1.15124E+00	1.18946E+00	1.23565E+00	1.29064E+00	1.35526E+00
9.00000E-02	*	1.07777E+00	1.09611E+00	1.11966E+00	1.14919E+00	1.18551E+00	1.22942E+00	1.28171E+00	1.34318E+00
1.00000E-01	*	1.07960E+00	1.09700E+00	1.11935E+00	1.14738E+00	1.18107E+00	1.22358E+00	1.27328E+00	1.33172E+00
1.10000E-01	*	1.08152E+00	1.09802E+00	1.11921E+00	1.14581E+00	1.17854E+00	1.21814E+00	1.26534E+00	1.32087E+00
1.20000E-01	*	1.08352E+00	1.09916E+00	1.11924E+00	1.14446E+00	1.17551E+00	1.21308E+00	1.25788E+00	1.31060E+00
1.30000E-01	*	1.08561E+00	1.10042E+00	1.11944E+00	1.14334E+00	1.17276E+00	1.20838E+00	1.25088E+00	1.30091E+00
1.40000E-01	*	1.08778E+00	1.10179E+00	1.11980E+00	1.14243E+00	1.17030E+00	1.20405E+00	1.24433E+00	1.29176E+00
1.50000E-01	*	1.09003E+00	1.10328E+00	1.12037E+00	1.14172E+00	1.16810E+00	1.20006E+00	1.23821E+00	1.28316E+00
1.60000E-01	*	1.09236E+00	1.10488E+00	1.12098E+00	1.14122E+00	1.16618E+00	1.19641E+00	1.23252E+00	1.27509E+00
1.70000E-01	*	1.09476E+00	1.10658E+00	1.12179E+00	1.14092E+00	1.16450E+00	1.19309E+00	1.22725E+00	1.26752E+00
1.80000E-01	*	1.09724E+00	1.10839E+00	1.12275E+00	1.14080E+00	1.16308E+00	1.19009E+00	1.22237E+00	1.26045E+00
1.90000E-01	*	1.09978E+00	1.11029E+00	1.12383E+00	1.14087E+00	1.16189E+00	1.18740E+00	1.21788E+00	1.25386E+00
2.00000E-01	*	1.10239E+00	1.11229E+00	1.12506E+00	1.14112E+00	1.16094E+00	1.18500E+00	1.21377E+00	1.24773E+00
2.10000E-01	*	1.10506E+00	1.11439E+00	1.12641E+00	1.14154E+00	1.16022E+00	1.18289E+00	1.21002E+00	1.24205E+00
2.20000E-01	*	1.10780E+00	1.11657E+00	1.12788E+00	1.14212E+00	1.15971E+00	1.18107E+00	1.20662E+00	1.23682E+00
2.30000E-01	*	1.11059E+00	1.11884E+00	1.12947E+00	1.14287E+00	1.15941E+00	1.17951E+00	1.20357E+00	1.23200E+00
2.40000E-01	*	1.11345E+00	1.12119E+00	1.13118E+00	1.14377E+00	1.15932E+00	1.17821E+00	1.20084E+00	1.22759E+00
2.50000E-01	*	1.11636E+00	1.12363E+00	1.13300E+00	1.14681E+00	1.15942E+00	1.17717E+00	1.19844E+00	1.22358E+00
2.60000E-01	*	1.11933E+00	1.12614E+00	1.13493E+00	1.14601E+00	1.15971E+00	1.17637E+00	1.19634E+00	1.21996E+00
2.70000E-01	*	1.12235E+00	1.12872E+00	1.13696E+00	1.14734E+00	1.16019E+00	1.17581E+00	1.19454E+00	1.21670E+00
2.80000E-01	*	1.12541E+00	1.13138E+00	1.13909E+00	1.14881E+00	1.16084E+00	1.17548E+00	1.19303E+00	1.21380E+00
2.90000E-01	*	1.12853E+00	1.13411E+00	1.14132E+00	1.15041E+00	1.16166E+00	1.17536E+00	1.19179E+00	1.21125E+00
3.00000E-01	*	1.13169E+00	1.13690E+00	1.14363E+00	1.15213E+00	1.16265E+00	1.17546E+00	1.19082E+00	1.20903E+00
3.10000E-01	*	1.13490E+00	1.13976E+00	1.14604E+00	1.15397E+00	1.16380E+00	1.17576E+00	1.19011E+00	1.20713E+00
3.20000E-01	*	1.13815E+00	1.14268E+00	1.14854E+00	1.15593E+00	1.16509E+00	1.17625E+00	1.18965E+00	1.20555E+00
3.30000E-01	*	1.14144E+00	1.14566E+00	1.15111E+00	1.15800E+00	1.16654E+00	1.17694E+00	1.18943E+00	1.20424E+00
3.40000E-01	*	1.14478E+00	1.14870E+00	1.15377E+00	1.16018E+00	1.16812E+00	1.17780E+00	1.18943E+00	1.20323E+00
3.50000E-01	*	1.14815E+00	1.15179E+00	1.15650E+00	1.16245E+00	1.16984E+00	1.17884E+00	1.18966E+00	1.20250E+00
3.60000E-01	*	1.15155E+00	1.15493E+00	1.15930E+00	1.16483E+00	1.17168E+00	1.18004E+00	1.19010E+00	1.20203E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SR / (1-W)) (RHC / RHC) - 1 \} \{ (1-W) RHC / RHC \} ** 5 + W (2SW - 2)$$

SR = 1.30 RHC = 2.40 SW = 1.20

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00
W	*							
1.00000E-02	*	1.56292E+00	1.68245E+00	1.81805E+00	1.97048E+00	2.14045E+00	2.32851E+00	2.53509E+00
2.00000E-02	*	1.54140E+00	1.65569E+00	1.78539E+00	1.93128E+00	2.09405E+00	2.27426E+00	2.47235E+00
3.00000E-02	*	1.52077E+00	1.62998E+00	1.75398E+00	1.89353E+00	2.04932E+00	2.22190E+00	2.41174E+00
4.00000E-02	*	1.50102E+00	1.60531E+00	1.72379E+00	1.85720E+00	2.00622E+00	2.17146E+00	2.35321E+00
5.00000E-02	*	1.48211E+00	1.58166E+00	1.69479E+00	1.82226E+00	1.96471E+00	2.12272E+00	2.29674E+00
6.00000E-02	*	1.46404E+00	1.55899E+00	1.66697E+00	1.78868E+00	1.92478E+00	2.07582E+00	2.24228E+00
7.00000E-02	*	1.44678E+00	1.53730E+00	1.64628E+00	1.75643E+00	1.88638E+00	2.03067E+00	2.18988E+00
8.00000E-02	*	1.43031E+00	1.51655E+00	1.61471E+00	1.72548E+00	1.84947E+00	1.98724E+00	2.13926E+00
9.00000E-02	*	1.41461E+00	1.49672E+00	1.59023E+00	1.69580E+00	1.81404E+00	1.94549E+00	2.09061E+00
1.00000E-01	*	1.39966E+00	1.47779E+00	1.56682E+00	1.66737E+00	1.78004E+00	1.90537E+00	2.04383E+00
1.10000E-01	*	1.38544E+00	1.45974E+00	1.54444E+00	1.64014E+00	1.74745E+00	1.86687E+00	1.99887E+00
1.20000E-01	*	1.37194E+00	1.44255E+00	1.52307E+00	1.61410E+00	1.71622E+00	1.82993E+00	1.95570E+00
1.30000E-01	*	1.35913E+00	1.42618E+00	1.50268E+00	1.58922E+00	1.68633E+00	1.79453E+00	1.91427E+00
1.40000E-01	*	1.34699E+00	1.41063E+00	1.48326E+00	1.56546E+00	1.65775E+00	1.76063E+00	1.87454E+00
1.50000E-01	*	1.33552E+00	1.39586E+00	1.46478E+00	1.54280E+00	1.63044E+00	1.72819E+00	1.83648E+00
1.60000E-01	*	1.32468E+00	1.38187E+00	1.44720E+00	1.52120E+00	1.60437E+00	1.69718E+00	1.80005E+00
1.70000E-01	*	1.31446E+00	1.36862E+00	1.43051E+00	1.50065E+00	1.57951E+00	1.66756E+00	1.76521E+00
1.80000E-01	*	1.30485E+00	1.35609E+00	1.41468E+00	1.48111E+00	1.55583E+00	1.63930E+00	1.73192E+00
1.90000E-01	*	1.29582E+00	1.34427E+00	1.39969E+00	1.46255E+00	1.53330E+00	1.61236E+00	1.70013E+00
2.00000E-01	*	1.28736E+00	1.33313E+00	1.38551E+00	1.44495E+00	1.51188E+00	1.58671E+00	1.66982E+00
2.10000E-01	*	1.27945E+00	1.32266E+00	1.37213E+00	1.42828E+00	1.49154E+00	1.56231E+00	1.64095E+00
2.20000E-01	*	1.27207E+00	1.31283E+00	1.35951E+00	1.41252E+00	1.47226E+00	1.53913E+00	1.61347E+00
2.30000E-01	*	1.26522E+00	1.30363E+00	1.34763E+00	1.39763E+00	1.45401E+00	1.51713E+00	1.58734E+00
2.40000E-01	*	1.25886E+00	1.29502E+00	1.33648E+00	1.38359E+00	1.43676E+00	1.49628E+00	1.56256E+00
2.50000E-01	*	1.25299E+00	1.28701E+00	1.32602E+00	1.37038E+00	1.42045E+00	1.47655E+00	1.53901E+00
2.60000E-01	*	1.24758E+00	1.27956E+00	1.31624E+00	1.35797E+00	1.40508E+00	1.45790E+00	1.51674E+00
2.70000E-01	*	1.24263E+00	1.27266E+00	1.30712E+00	1.34633E+00	1.39062E+00	1.44030E+00	1.49566E+00
2.80000E-01	*	1.23812E+00	1.26629E+00	1.29862E+00	1.33544E+00	1.37704E+00	1.42372E+00	1.47576E+00
2.90000E-01	*	1.23403E+00	1.26043E+00	1.29074E+00	1.32527E+00	1.36431E+00	1.40812E+00	1.45700E+00
3.00000E-01	*	1.23035E+00	1.25506E+00	1.28346E+00	1.31581E+00	1.35239E+00	1.39348E+00	1.43933E+00
3.10000E-01	*	1.22706E+00	1.25017E+00	1.27679E+00	1.30702E+00	1.34127E+00	1.37976E+00	1.42273E+00
3.20000E-01	*	1.22415E+00	1.24574E+00	1.27057E+00	1.29888E+00	1.33092E+00	1.36693E+00	1.40716E+00
3.30000E-01	*	1.22160E+00	1.24176E+00	1.26493E+00	1.29137E+00	1.32131E+00	1.35496E+00	1.39257E+00
3.40000E-01	*	1.21941E+00	1.23820E+00	1.25981E+00	1.28447E+00	1.31240E+00	1.34383E+00	1.37895E+00
3.50000E-01	*	1.21755E+00	1.23504E+00	1.25517E+00	1.27815E+00	1.30419E+00	1.33349E+00	1.36626E+00
3.60000E-01	*	1.21602E+00	1.23229E+00	1.25102E+00	1.27240E+00	1.29664E+00	1.32392E+00	1.35445E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SR / (1-W)) (RHEG/RHC) - 1 \} \{ (1-W) RHC / (R+CG) \} ** 5 + W(2SW-2)$$

SR = 1.30 RHC = 2.43 SW = 1.20

W	RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.06380E+00	1.08993E+00	1.12340E+00	1.16528E+00	1.21666E+00	1.27862E+00	1.35222E+00	1.43850E+00
2.00000E-02	*	1.06445E+00	1.08905E+00	1.12175E+00	1.16169E+00	1.21071E+00	1.26983E+00	1.34010E+00	1.42251E+00
3.00000E-02	*	1.06620E+00	1.08992E+00	1.12032E+00	1.15838E+00	1.20512E+00	1.26151E+00	1.32856E+00	1.40723E+00
4.00000E-02	*	1.06756E+00	1.09014E+00	1.11909E+00	1.15535E+00	1.19988E+00	1.25365E+00	1.31759E+00	1.39264E+00
5.00000E-02	*	1.06902E+00	1.09050E+00	1.11806E+00	1.15258E+00	1.19499E+00	1.24622E+00	1.30716E+00	1.37872E+00
6.00000E-02	*	1.07058E+00	1.09101E+00	1.11722E+00	1.15007E+00	1.19044E+00	1.23922E+00	1.29727E+00	1.36546E+00
7.00000E-02	*	1.07224E+00	1.09165E+00	1.11657E+00	1.14781E+00	1.18622E+00	1.23263E+00	1.28790E+00	1.35285E+00
8.00000E-02	*	1.07399E+00	1.09243E+00	1.11610E+00	1.14579E+00	1.18231E+00	1.22646E+00	1.27904E+00	1.34086E+00
9.00000E-02	*	1.07583E+00	1.09333E+00	1.11581E+00	1.14402E+00	1.17871E+00	1.22068E+00	1.27068E+00	1.32948E+00
1.00000E-01	*	1.07776E+00	1.09436E+00	1.11570E+00	1.14247E+00	1.17542E+00	1.21528E+00	1.26279E+00	1.31870E+00
1.10000E-01	*	1.07977E+00	1.09552E+00	1.11575E+00	1.14115E+00	1.17241E+00	1.21025E+00	1.25538E+00	1.30849E+00
1.20000E-01	*	1.08187E+00	1.09679E+00	1.11590E+00	1.14004E+00	1.16969E+00	1.20500E+00	1.24842E+00	1.29988E+00
1.30000E-01	*	1.08405E+00	1.09817E+00	1.11633E+00	1.13915E+00	1.16725E+00	1.20129E+00	1.24161E+00	1.28975E+00
1.40000E-01	*	1.08630E+00	1.09967E+00	1.11686E+00	1.13846E+00	1.16508E+00	1.19733E+00	1.23582E+00	1.28118E+00
1.50000E-01	*	1.08863E+00	1.10127E+00	1.11753E+00	1.13797E+00	1.16316E+00	1.19370E+00	1.23016E+00	1.27314E+00
1.60000E-01	*	1.09104E+00	1.10298E+00	1.11835E+00	1.13767E+00	1.16150E+00	1.19039E+00	1.22400E+00	1.26559E+00
1.70000E-01	*	1.09351E+00	1.10479E+00	1.11930E+00	1.13756E+00	1.16008E+00	1.18740E+00	1.22003E+00	1.25853E+00
1.80000E-01	*	1.09606E+00	1.10670E+00	1.12040E+00	1.13764E+00	1.15840E+00	1.18471E+00	1.21555E+00	1.25195E+00
1.90000E-01	*	1.09867E+00	1.10870E+00	1.12162E+00	1.13788E+00	1.15795E+00	1.18231E+00	1.21144E+00	1.24583E+00
2.00000E-01	*	1.10134E+00	1.11079E+00	1.12297E+00	1.13830E+00	1.15723E+00	1.18020E+00	1.20765E+00	1.24015E+00
2.10000E-01	*	1.10408E+00	1.11297E+00	1.12444E+00	1.13886E+00	1.15671E+00	1.17837E+00	1.20429E+00	1.23490E+00
2.20000E-01	*	1.10687E+00	1.11524E+00	1.12603E+00	1.13962E+00	1.15641E+00	1.17681E+00	1.20122E+00	1.23007E+00
2.30000E-01	*	1.10972E+00	1.11759E+00	1.12773E+00	1.14051E+00	1.15631E+00	1.17550E+00	1.19848E+00	1.22565E+00
2.40000E-01	*	1.11263E+00	1.12002E+00	1.12955E+00	1.14136E+00	1.15640E+00	1.17444E+00	1.19606E+00	1.22162E+00
2.50000E-01	*	1.11559E+00	1.12252E+00	1.13147E+00	1.14274E+00	1.15668E+00	1.17363E+00	1.19294E+00	1.21797E+00
2.60000E-01	*	1.11861E+00	1.12510E+00	1.13349E+00	1.14406E+00	1.15714E+00	1.17305E+00	1.19212E+00	1.21468E+00
2.70000E-01	*	1.12167E+00	1.12776E+00	1.13561E+00	1.14552E+00	1.15778E+00	1.17269E+00	1.19058E+00	1.21175E+00
2.80000E-01	*	1.12478E+00	1.13048E+00	1.13783E+00	1.14710E+00	1.15858E+00	1.17256E+00	1.18932E+00	1.20916E+00
2.90000E-01	*	1.12794E+00	1.13326E+00	1.14014E+00	1.14881E+00	1.15955E+00	1.17263E+00	1.18832E+00	1.20690E+00
3.00000E-01	*	1.13114E+00	1.13611E+00	1.14253E+00	1.15064E+00	1.16068E+00	1.17290E+00	1.18757E+00	1.20496E+00
3.10000E-01	*	1.13439E+00	1.13902E+00	1.14501E+00	1.15258E+00	1.16195E+00	1.17337E+00	1.18708E+00	1.20332E+00
3.20000E-01	*	1.13767E+00	1.14199E+00	1.14758E+00	1.15463E+00	1.16337E+00	1.17426E+00	1.18682E+00	1.20148E+00
3.30000E-01	*	1.14100E+00	1.14502E+00	1.15022E+00	1.15679E+00	1.16493E+00	1.17486E+00	1.18678E+00	1.20039E+00
3.40000E-01	*	1.14436E+00	1.14810E+00	1.15294E+00	1.15905E+00	1.16663E+00	1.17587E+00	1.18691E+00	1.20014E+00
3.50000E-01	*	1.14776E+00	1.15123E+00	1.15573E+00	1.16141E+00	1.16845E+00	1.17704E+00	1.18737E+00	1.19962E+00
3.60000E-01	*	1.15120E+00	1.15442E+00	1.15858E+00	1.16386E+00	1.17040E+00	1.17827E+00	1.18757E+00	1.19930E+00

$$\text{GAMMA} = 1 + \{ (1-w) \{ (ZSA/(1-w)) (RHC/RHC) - 1 \} \{ (1-w) RHC/RHC \} \} * 5 + n1ZSW-2)$$

SR =1.30 RHC =2.43 Sh =1.20

RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00
h	*						
1.00000E-07	*	1.53945E+00	1.65301E+00	1.78303E+00	1.92931E+00	2.09252E+00	2.27324E+00
2.00000E-02	*	1.51801E+00	1.62752E+00	1.75189E+00	1.89186E+00	2.04814E+00	2.22129E+00
3.00000E-02	*	1.49843E+00	1.60306E+00	1.72194E+00	1.85582E+00	2.00537E+00	2.17116E+00
4.00000E-02	*	1.47969E+00	1.57960E+00	1.69317E+00	1.82114E+00	1.96417E+00	2.12282E+00
5.00000E-02	*	1.46176E+00	1.55711E+00	1.66555E+00	1.78780E+00	1.92451E+00	2.07624E+00
6.00000E-02	*	1.44463E+00	1.53558E+00	1.63906E+00	1.75517E+00	1.88636E+00	2.03138E+00
7.00000E-02	*	1.42828E+00	1.51497E+00	1.61366E+00	1.72502E+00	1.84968E+00	1.99821E+00
8.00000E-02	*	1.41269E+00	1.49527E+00	1.58933E+00	1.69552E+00	1.81446E+00	1.94669E+00
9.00000E-02	*	1.39784E+00	1.47646E+00	1.56605E+00	1.66724E+00	1.78064E+00	1.90679E+00
1.00000E-01	*	1.38370E+00	1.45851E+00	1.54379E+00	1.64016E+00	1.74821E+00	1.86847E+00
1.10000E-01	*	1.37027E+00	1.44140E+00	1.52252E+00	1.61424E+00	1.71713E+00	1.83170E+00
1.20000E-01	*	1.35793E+00	1.42512E+00	1.50223E+00	1.58946E+00	1.68736E+00	1.79644E+00
1.30000E-01	*	1.34545E+00	1.40963E+00	1.46288E+00	1.56519E+00	1.65888E+00	1.76265E+00
1.40000E-01	*	1.33402E+00	1.39442E+00	1.44446E+00	1.54320E+00	1.63166E+00	1.73031E+00
1.50000E-01	*	1.32321E+00	1.38096E+00	1.44693E+00	1.52166E+00	1.60966E+00	1.69938E+00
1.60000E-01	*	1.31302E+00	1.36774E+00	1.43028E+00	1.50115E+00	1.58085E+00	1.66982E+00
1.70000E-01	*	1.30343E+00	1.35524E+00	1.41448E+00	1.48164E+00	1.55720E+00	1.64160E+00
1.80000E-01	*	1.29441E+00	1.34343E+00	1.39951E+00	1.45311E+00	1.53469E+00	1.61469E+00
1.90000E-01	*	1.28595E+00	1.33230E+00	1.38533E+00	1.44551E+00	1.51328E+00	1.58904E+00
2.00000E-01	*	1.27804E+00	1.32182E+00	1.37194E+00	1.42884E+00	1.49294E+00	1.56463E+00
2.10000E-01	*	1.27065E+00	1.31198E+00	1.35931E+00	1.41306E+00	1.47364E+00	1.54143E+00
2.20000E-01	*	1.26378E+00	1.30275E+00	1.34741E+00	1.39814E+00	1.45535E+00	1.51940E+00
2.30000E-01	*	1.25740E+00	1.29413E+00	1.33622E+00	1.38407E+00	1.43804E+00	1.49850E+00
2.40000E-01	*	1.25150E+00	1.28608E+00	1.32573E+00	1.37081E+00	1.42169E+00	1.47871E+00
2.50000E-01	*	1.24607E+00	1.27859E+00	1.31590E+00	1.35835E+00	1.40626E+00	1.45998E+00
2.60000E-01	*	1.24108E+00	1.27165E+00	1.30673E+00	1.34665E+00	1.39173E+00	1.44230E+00
2.70000E-01	*	1.23653E+00	1.26523E+00	1.29818E+00	1.33569E+00	1.37807E+00	1.42563E+00
2.80000E-01	*	1.23239E+00	1.25932E+00	1.29023E+00	1.32545E+00	1.36525E+00	1.40993E+00
2.90000E-01	*	1.22866E+00	1.25389E+00	1.28289E+00	1.31590E+00	1.35324E+00	1.39518E+00
3.00000E-01	*	1.22532E+00	1.24894E+00	1.27609E+00	1.30702E+00	1.34202E+00	1.38134E+00
3.10000E-01	*	1.22236E+00	1.24445E+00	1.26984E+00	1.29880E+00	1.33156E+00	1.36839E+00
3.20000E-01	*	1.21976E+00	1.24040E+00	1.26413E+00	1.29119E+00	1.32183E+00	1.35629E+00
3.30000E-01	*	1.21751E+00	1.23677E+00	1.25892E+00	1.28419E+00	1.31282E+00	1.34501E+00
3.40000E-01	*	1.21560E+00	1.23354E+00	1.25420E+00	1.27777E+00	1.30448E+00	1.33454E+00
3.50000E-01	*	1.21401E+00	1.23071E+00	1.24995E+00	1.27191E+00	1.29660E+00	1.32483E+00
3.60000E-01	*	1.21272E+00	1.22826E+00	1.24615E+00	1.26659E+00	1.28976E+00	1.31586E+00

$$\text{GAMMA} = 1 + (1-w)((2SR/(1-w))((RHOG/RHC)-1)((1-w)RHC/RHCG)**5 + w(2Sw-2)$$

SR =1.3C RHCG =2.5D SW =1.2U

W	RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.05766E+00	1.08115E+00	1.11127E+00	1.14899E+00	1.19531E+00	1.25124E+00	1.31774E+00	1.39579E+00
2.00000E-02	*	1.05909E+00	1.08148E+00	1.11019E+00	1.14616E+00	1.19034E+00	1.24370E+00	1.30718E+00	1.38171E+00
3.00000E-02	*	1.06063E+00	1.08195E+00	1.10930E+00	1.14358E+00	1.18570E+00	1.23659E+00	1.29715E+00	1.36828E+00
4.00000E-02	*	1.06226E+00	1.08255E+00	1.10859E+00	1.14124E+00	1.18138E+00	1.22988E+00	1.28762E+00	1.35547E+00
5.00000E-02	*	1.06398E+00	1.08328E+00	1.10807E+00	1.13915E+00	1.17737E+00	1.22357E+00	1.27860E+00	1.34328E+00
6.00000E-02	*	1.06578E+00	1.08414E+00	1.10771E+00	1.13729E+00	1.17366E+00	1.21765E+00	1.27006E+00	1.33169E+00
7.00000E-02	*	1.06768E+00	1.08513E+00	1.10753E+00	1.13565E+00	1.17025E+00	1.21211E+00	1.26199E+00	1.32068E+00
8.00000E-02	*	1.06966E+00	1.08623E+00	1.10752E+00	1.13424E+00	1.16713E+00	1.20693E+00	1.25439E+00	1.31023E+00
9.00000E-02	*	1.07172E+00	1.08745E+00	1.10766E+00	1.13304E+00	1.16429E+00	1.20212E+00	1.24723E+00	1.30034E+00
1.00000E-01	*	1.07386E+00	1.08878E+00	1.10796E+00	1.13205E+00	1.16172E+00	1.19765E+00	1.24051E+00	1.29099E+00
1.10000E-01	*	1.07608E+00	1.09022E+00	1.10841E+00	1.13126E+00	1.15941E+00	1.19352E+00	1.23422E+00	1.28217E+00
1.20000E-01	*	1.07837E+00	1.09177E+00	1.10900E+00	1.13047E+00	1.15736E+00	1.18971E+00	1.22834E+00	1.27385E+00
1.30000E-01	*	1.08073E+00	1.09342E+00	1.10974E+00	1.13026E+00	1.15556E+00	1.18623E+00	1.22265E+00	1.26603E+00
1.40000E-01	*	1.08317E+00	1.09517E+00	1.11062E+00	1.13005E+00	1.15401E+00	1.18306E+00	1.21776E+00	1.25870E+00
1.50000E-01	*	1.08567E+00	1.09702E+00	1.11163E+00	1.13001E+00	1.15268E+00	1.18018E+00	1.21305E+00	1.25183E+00
1.60000E-01	*	1.08824E+00	1.09846E+00	1.11277E+00	1.13015E+00	1.15159E+00	1.17760E+00	1.20871E+00	1.24541E+00
1.70000E-01	*	1.09087E+00	1.10049E+00	1.11404E+00	1.13045E+00	1.15071E+00	1.17531E+00	1.20472E+00	1.23944E+00
1.80000E-01	*	1.09356E+00	1.10312E+00	1.11542E+00	1.13092E+00	1.15005E+00	1.17328E+00	1.20108E+00	1.23390E+00
1.90000E-01	*	1.09632E+00	1.10532E+00	1.11693E+00	1.13155E+00	1.14960E+00	1.17153E+00	1.19777E+00	1.22877E+00
2.00000E-01	*	1.09913E+00	1.10761E+00	1.11855E+00	1.13233E+00	1.14935E+00	1.17003E+00	1.19479E+00	1.22405E+00
2.10000E-01	*	1.10199E+00	1.10998E+00	1.12028E+00	1.13325E+00	1.14929E+00	1.16878E+00	1.19212E+00	1.21972E+00
2.20000E-01	*	1.10491E+00	1.11242E+00	1.12211E+00	1.13432E+00	1.14942E+00	1.16777E+00	1.18976E+00	1.21576E+00
2.30000E-01	*	1.10788E+00	1.11494E+00	1.12405E+00	1.13553E+00	1.14973E+00	1.16700E+00	1.18769E+00	1.21217E+00
2.40000E-01	*	1.11090E+00	1.11753E+00	1.12608E+00	1.13687E+00	1.15022E+00	1.16445E+00	1.18591E+00	1.20894E+00
2.50000E-01	*	1.11397E+00	1.12019E+00	1.12822E+00	1.13835E+00	1.15088E+00	1.16440E+00	1.18440E+00	1.20604E+00
2.60000E-01	*	1.11709E+00	1.12292E+00	1.13044E+00	1.13994E+00	1.15170E+00	1.16600E+00	1.18316E+00	1.20348E+00
2.70000E-01	*	1.12025E+00	1.12571E+00	1.13276E+00	1.14166E+00	1.15267E+00	1.16609E+00	1.18218E+00	1.20124E+00
2.80000E-01	*	1.12345E+00	1.12856E+00	1.13516E+00	1.14349E+00	1.15380E+00	1.16637E+00	1.18144E+00	1.19931E+00
2.90000E-01	*	1.12670E+00	1.13147E+00	1.13764E+00	1.14543E+00	1.15508E+00	1.16683E+00	1.18095E+00	1.19768E+00
3.00000E-01	*	1.12998E+00	1.13444E+00	1.14020E+00	1.14748E+00	1.15650E+00	1.16748E+00	1.18068E+00	1.19633E+00
3.10000E-01	*	1.13331E+00	1.13746E+00	1.14284E+00	1.14963E+00	1.15809E+00	1.16831E+00	1.18064E+00	1.19526E+00
3.20000E-01	*	1.13666E+00	1.14054E+00	1.14555E+00	1.15188E+00	1.15973E+00	1.16930E+00	1.18081E+00	1.19445E+00
3.30000E-01	*	1.14006E+00	1.14367E+00	1.14833E+00	1.15423E+00	1.16154E+00	1.17046E+00	1.18118E+00	1.19390E+00
3.40000E-01	*	1.14349E+00	1.14684E+00	1.15118E+00	1.15666E+00	1.16347E+00	1.17177E+00	1.18175E+00	1.19360E+00
3.50000E-01	*	1.14695E+00	1.15006E+00	1.15464E+00	1.15939E+00	1.16551E+00	1.17323E+00	1.18251E+00	1.19354E+00
3.60000E-01	*	1.15044E+00	1.15333E+00	1.15770E+00	1.16180E+00	1.16767E+00	1.17484E+00	1.18346E+00	1.19370E+00

$$\text{GAMMA} = 1 + (1-w) \{ (2SR / (1-w)) (RHC / RHC) - 1 \} \{ (1-w) RHC / RHC \} ** 5 + w (2SW - 2)$$

SR = 1.30 RHC = 2.50 SW = 1.20

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.44631E+00	1.59019E+00	1.70E26E+00	1.84129E+00	1.98994E+00	2.15482E+00	2.33642E+00	2.53509E+00
2.00000E-02	*	1.46818E+00	1.56747E+00	1.6EC37E+00	1.80762E+00	1.94991E+00	2.10782E+00	2.28184E+00	2.47235E+00
3.00000E-02	*	1.49084E+00	1.54588E+00	1.65357E+00	1.77924E+00	1.91136E+00	2.06250E+00	2.22916E+00	2.41174E+00
4.00000E-02	*	1.43426E+00	1.52480E+00	1.62785E+00	1.74411E+00	1.87425E+00	2.01883E+00	2.17835E+00	2.35321E+00
5.00000E-02	*	1.41842E+00	1.50461E+00	1.60317E+00	1.71421E+00	1.83855E+00	1.97678E+00	2.12937E+00	2.29674E+00
6.00000E-02	*	1.40331E+00	1.48568E+00	1.57952E+00	1.68350E+00	1.80424E+00	1.93631E+00	2.08218E+00	2.24228E+00
7.00000E-02	*	1.38890E+00	1.46741E+00	1.55687E+00	1.65791E+00	1.77129E+00	1.89738E+00	2.03675E+00	2.18980E+00
8.00000E-02	*	1.37519E+00	1.44946E+00	1.53521E+00	1.63157E+00	1.73965E+00	1.85996E+00	1.99305E+00	2.13926E+00
9.00000E-02	*	1.36213E+00	1.43311E+00	1.51449E+00	1.60630E+00	1.70931E+00	1.82406E+00	1.95103E+00	2.09061E+00
1.00000E-01	*	1.34976E+00	1.41745E+00	1.49471E+00	1.58211E+00	1.68024E+00	1.78960E+00	1.91066E+00	2.04383E+00
1.10000E-01	*	1.33801E+00	1.40236E+00	1.47583E+00	1.55899E+00	1.65240E+00	1.75655E+00	1.87190E+00	1.99887E+00
1.20000E-01	*	1.32686E+00	1.38801E+00	1.45784E+00	1.53691E+00	1.62576E+00	1.72488E+00	1.83473E+00	1.95570E+00
1.30000E-01	*	1.31635E+00	1.37439E+00	1.44671E+00	1.51584E+00	1.60630E+00	1.69457E+00	1.79910E+00	1.91427E+00
1.40000E-01	*	1.30642E+00	1.36148E+00	1.42442E+00	1.49576E+00	1.57599E+00	1.66558E+00	1.76497E+00	1.87454E+00
1.50000E-01	*	1.29705E+00	1.34925E+00	1.40894E+00	1.47663E+00	1.55280E+00	1.63788E+00	1.73232E+00	1.83648E+00
1.60000E-01	*	1.28824E+00	1.33769E+00	1.39427E+00	1.45844E+00	1.53069E+00	1.61144E+00	1.70110E+00	1.80005E+00
1.70000E-01	*	1.27997E+00	1.32678E+00	1.38036E+00	1.44116E+00	1.50464E+00	1.58621E+00	1.67128E+00	1.76521E+00
1.80000E-01	*	1.27222E+00	1.31650E+00	1.36721E+00	1.42477E+00	1.48963E+00	1.56218E+00	1.64283E+00	1.73192E+00
1.90000E-01	*	1.26498E+00	1.30684E+00	1.35478E+00	1.40924E+00	1.47062E+00	1.53931E+00	1.61570E+00	1.70013E+00
2.00000E-01	*	1.25823E+00	1.29777E+00	1.34307E+00	1.39454E+00	1.45258E+00	1.51757E+00	1.58967E+00	1.66982E+00
2.10000E-01	*	1.25196E+00	1.28927E+00	1.33204E+00	1.38065E+00	1.43549E+00	1.49692E+00	1.56530E+00	1.64095E+00
2.20000E-01	*	1.24616E+00	1.28134E+00	1.32168E+00	1.36755E+00	1.41933E+00	1.47735E+00	1.54195E+00	1.61347E+00
2.30000E-01	*	1.24080E+00	1.27394E+00	1.31197E+00	1.35522E+00	1.40405E+00	1.45880E+00	1.51980E+00	1.58734E+00
2.40000E-01	*	1.23588E+00	1.26768E+00	1.30288E+00	1.34363E+00	1.38965E+00	1.44127E+00	1.49880E+00	1.56254E+00
2.50000E-01	*	1.23137E+00	1.26072E+00	1.29440E+00	1.33275E+00	1.37608E+00	1.42471E+00	1.47892E+00	1.53901E+00
2.60000E-01	*	1.22727E+00	1.25465E+00	1.28651E+00	1.32257E+00	1.36333E+00	1.40909E+00	1.46013E+00	1.51674E+00
2.70000E-01	*	1.22357E+00	1.24945E+00	1.27918E+00	1.31306E+00	1.35137E+00	1.39439E+00	1.44240E+00	1.49566E+00
2.80000E-01	*	1.22024E+00	1.24451E+00	1.27241E+00	1.30421E+00	1.34017E+00	1.38058E+00	1.42570E+00	1.47576E+00
2.90000E-01	*	1.21728E+00	1.24062E+00	1.26617E+00	1.29598E+00	1.32971E+00	1.36763E+00	1.40998E+00	1.45700E+00
3.00000E-01	*	1.21467E+00	1.23546E+00	1.26044E+00	1.28836E+00	1.31997E+00	1.35551E+00	1.39522E+00	1.43933E+00
3.10000E-01	*	1.21240E+00	1.23230E+00	1.25520E+00	1.28133E+00	1.31091E+00	1.34419E+00	1.38139E+00	1.42273E+00
3.20000E-01	*	1.21046E+00	1.22905E+00	1.25044E+00	1.27480E+00	1.30252E+00	1.33365E+00	1.36846E+00	1.40716E+00
3.30000E-01	*	1.20883E+00	1.22618E+00	1.24614E+00	1.26894E+00	1.29477E+00	1.32386E+00	1.35639E+00	1.39257E+00
3.40000E-01	*	1.20751E+00	1.22367E+00	1.24228E+00	1.26354E+00	1.28765E+00	1.31479E+00	1.34516E+00	1.37895E+00
3.50000E-01	*	1.20648E+00	1.22152E+00	1.23885E+00	1.25865E+00	1.28111E+00	1.30641E+00	1.33473E+00	1.36626E+00
3.60000E-01	*	1.20573E+00	1.21971E+00	1.23583E+00	1.25425E+00	1.27515E+00	1.29871E+00	1.32508E+00	1.35445E+00

$$\text{GAMMA} = 1 + (1-W)((2SR/(1-h))(RHC/RHC)-1)((1-W)RHC/RHC))^{**5} + W(2SW-2)$$

SK =1.30 RHC =2.60 SW =1.20

RHD	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
W	*							
1.00000E-02	* 1.05018E+00	1.07046E+00	1.09648E+00	1.12911E+00	1.16924E+00	1.21775E+00	1.27551E+00	1.34340E+00
2.00000E-02	* 1.05197E+00	1.07129E+00	1.09609E+00	1.12720E+00	1.16547E+00	1.21174E+00	1.26687E+00	1.33168E+00
3.00000E-02	* 1.05385E+00	1.07224E+00	1.09587E+00	1.12551E+00	1.16199E+00	1.20611E+00	1.25869E+00	1.32053E+00
4.00000E-02	* 1.05580E+00	1.07331E+00	1.09580E+00	1.12404E+00	1.15878E+00	1.20083E+00	1.25095E+00	1.30992E+00
5.00000E-02	* 1.05784E+00	1.07449E+00	1.09589E+00	1.12277E+00	1.15585E+00	1.19589E+00	1.24365E+00	1.29985E+00
6.00000E-02	* 1.05995E+00	1.07578E+00	1.09614E+00	1.12170E+00	1.15318E+00	1.19130E+00	1.23677E+00	1.29031E+00
7.00000E-02	* 1.06214E+00	1.07718E+00	1.09653E+00	1.12083E+00	1.15077E+00	1.18703E+00	1.23030E+00	1.28127E+00
8.00000E-02	* 1.06440E+00	1.07866E+00	1.09706E+00	1.12015E+00	1.14861E+00	1.18308E+00	1.22424E+00	1.27273E+00
9.00000E-02	* 1.06673E+00	1.08029E+00	1.09773E+00	1.11966E+00	1.14669E+00	1.17945E+00	1.21857E+00	1.26468E+00
1.00000E-01	* 1.06912E+00	1.08198E+00	1.09854E+00	1.11935E+00	1.14501E+00	1.17612E+00	1.21328E+00	1.25709E+00
1.10000E-01	* 1.07159E+00	1.08378E+00	1.09947E+00	1.11921E+00	1.14355E+00	1.17408E+00	1.20835E+00	1.24996E+00
1.20000E-01	* 1.07412E+00	1.08567E+00	1.10054E+00	1.11924E+00	1.14232E+00	1.17032E+00	1.20379E+00	1.24328E+00
1.30000E-01	* 1.07671E+00	1.08764E+00	1.10172E+00	1.11944E+00	1.14131E+00	1.16785E+00	1.19958E+00	1.23703E+00
1.40000E-01	* 1.07936E+00	1.08970E+00	1.10303E+00	1.11980E+00	1.14051E+00	1.16564E+00	1.19570E+00	1.23120E+00
1.50000E-01	* 1.08207E+00	1.09185E+00	1.10445E+00	1.12032E+00	1.13991E+00	1.16370E+00	1.19216E+00	1.22578E+00
1.60000E-01	* 1.08484E+00	1.09408E+00	1.10598E+00	1.12098E+00	1.13751E+00	1.16201E+00	1.18894E+00	1.22075E+00
1.70000E-01	* 1.08766E+00	1.09638E+00	1.10763E+00	1.12179E+00	1.13501E+00	1.16056E+00	1.18602E+00	1.21611E+00
1.80000E-01	* 1.09053E+00	1.09876E+00	1.10937E+00	1.12275E+00	1.13277E+00	1.15936E+00	1.18341E+00	1.21185E+00
1.90000E-01	* 1.09346E+00	1.10122E+00	1.11122E+00	1.12383E+00	1.13043E+00	1.15838E+00	1.18109E+00	1.20794E+00
2.00000E-01	* 1.09644E+00	1.10374E+00	1.11317E+00	1.12506E+00	1.1376E+00	1.15763E+00	1.17905E+00	1.20439E+00
2.10000E-01	* 1.09946E+00	1.10634E+00	1.11521E+00	1.12641E+00	1.14025E+00	1.15709E+00	1.17728E+00	1.20117E+00
2.20000E-01	* 1.10253E+00	1.10900E+00	1.11735E+00	1.12788E+00	1.14091E+00	1.15677E+00	1.17578E+00	1.19829E+00
2.30000E-01	* 1.10565E+00	1.11172E+00	1.11957E+00	1.12947E+00	1.14173E+00	1.15664E+00	1.17453E+00	1.19572E+00
2.40000E-01	* 1.10880E+00	1.11451E+00	1.12188E+00	1.13118E+00	1.14270E+00	1.15672E+00	1.17354E+00	1.19346E+00
2.50000E-01	* 1.11200E+00	1.11736E+00	1.12427E+00	1.13300E+00	1.14381E+00	1.15698E+00	1.17278E+00	1.19150E+00
2.60000E-01	* 1.11524E+00	1.12026E+00	1.12674E+00	1.13493E+00	1.14507E+00	1.15742E+00	1.17255E+00	1.18982E+00
2.70000E-01	* 1.11852E+00	1.12322E+00	1.12929E+00	1.13696E+00	1.14666E+00	1.15804E+00	1.17194E+00	1.18843E+00
2.80000E-01	* 1.12184E+00	1.12623E+00	1.13191E+00	1.13909E+00	1.14799E+00	1.15883E+00	1.17185E+00	1.18730E+00
2.90000E-01	* 1.12519E+00	1.12929E+00	1.13460E+00	1.14132E+00	1.14964E+00	1.15978E+00	1.17197E+00	1.18643E+00
3.00000E-01	* 1.12857E+00	1.13241E+00	1.13736E+00	1.14363E+00	1.15141E+00	1.16089E+00	1.17229E+00	1.18581E+00
3.10000E-01	* 1.13199E+00	1.13557E+00	1.14019E+00	1.14604E+00	1.15330E+00	1.16215E+00	1.17279E+00	1.18543E+00
3.20000E-01	* 1.13544E+00	1.13877E+00	1.14308E+00	1.14854E+00	1.15530E+00	1.16356E+00	1.17349E+00	1.18528E+00
3.30000E-01	* 1.13892E+00	1.14202E+00	1.14603E+00	1.15111E+00	1.15742E+00	1.16511E+00	1.17436E+00	1.18535E+00
3.40000E-01	* 1.14243E+00	1.14531E+00	1.14904E+00	1.15377E+00	1.15963E+00	1.16679E+00	1.17540E+00	1.18563E+00
3.50000E-01	* 1.14597E+00	1.14864E+00	1.15211E+00	1.15650E+00	1.16195E+00	1.16860E+00	1.17661E+00	1.18612E+00
3.60000E-01	* 1.14953E+00	1.15201E+00	1.15523E+00	1.15930E+00	1.16436E+00	1.17054E+00	1.17797E+00	1.18681E+00

$$\text{GAMMA} = 1 + (1-W)(125R/(1-W))(RHC/RHC)-1((1-W)RHC/RHC)**5 + W(25W-2)$$

SK =1.3C RHC =2.60 SW =1.20

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.42227E+00	1.51293E+00	1.61615E+00	1.73206E+00	1.86312E+00	2.00813E+00	2.16819E+00	2.34374E+00
2.00000E-02	*	1.40700E+00	1.49362E+00	1.59229E+00	1.70370E+00	1.82852E+00	1.96733E+00	2.12063E+00	2.28886E+00
3.00000E-02	*	1.39242E+00	1.47513E+00	1.56939E+00	1.67588E+00	1.79523E+00	1.92802E+00	2.07476E+00	2.23589E+00
4.00000E-02	*	1.37851E+00	1.45745E+00	1.54744E+00	1.64916E+00	1.76322E+00	1.89018E+00	2.03056E+00	2.18479E+00
5.00000E-02	*	1.36525E+00	1.44054E+00	1.52642E+00	1.62352E+00	1.73246E+00	1.85378E+00	1.98800E+00	2.13553E+00
6.00000E-02	*	1.35262E+00	1.42440E+00	1.50629E+00	1.59894E+00	1.70292E+00	1.81879E+00	1.94703E+00	2.08807E+00
7.00000E-02	*	1.34062E+00	1.40900E+00	1.48705E+00	1.57539E+00	1.67459E+00	1.78517E+00	1.90763E+00	2.04238E+00
8.00000E-02	*	1.32922E+00	1.39432E+00	1.46867E+00	1.55285E+00	1.64742E+00	1.75290E+00	1.86976E+00	1.99842E+00
9.00000E-02	*	1.31840E+00	1.38036E+00	1.45113E+00	1.53130E+00	1.62140E+00	1.72195E+00	1.83339E+00	1.95616E+00
1.00000E-01	*	1.30816E+00	1.36708E+00	1.43441E+00	1.51071E+00	1.59650E+00	1.69227E+00	1.79849E+00	1.91555E+00
1.10000E-01	*	1.29848E+00	1.35447E+00	1.41848E+00	1.49105E+00	1.57268E+00	1.66386E+00	1.76502E+00	1.87657E+00
1.20000E-01	*	1.28934E+00	1.34252E+00	1.40333E+00	1.47231E+00	1.54993E+00	1.63667E+00	1.73295E+00	1.83917E+00
1.30000E-01	*	1.28073E+00	1.33120E+00	1.38894E+00	1.45446E+00	1.52822E+00	1.61067E+00	1.70225E+00	1.80333E+00
1.40000E-01	*	1.27263E+00	1.32050E+00	1.37528E+00	1.43747E+00	1.50751E+00	1.58584E+00	1.67288E+00	1.76899E+00
1.50000E-01	*	1.26503E+00	1.31040E+00	1.36234E+00	1.42133E+00	1.48779E+00	1.56215E+00	1.64481E+00	1.73614E+00
1.60000E-01	*	1.25792E+00	1.30088E+00	1.35010E+00	1.40600E+00	1.46902E+00	1.53956E+00	1.61801E+00	1.70473E+00
1.70000E-01	*	1.25127E+00	1.29193E+00	1.33853E+00	1.39148E+00	1.45119E+00	1.51806E+00	1.59245E+00	1.67473E+00
1.80000E-01	*	1.24508E+00	1.28354E+00	1.32762E+00	1.37773E+00	1.43426E+00	1.49760E+00	1.56809E+00	1.64609E+00
1.90000E-01	*	1.23934E+00	1.27568E+00	1.31735E+00	1.36474E+00	1.41822E+00	1.47816E+00	1.54491E+00	1.61880E+00
2.00000E-01	*	1.23402E+00	1.26833E+00	1.30769E+00	1.35247E+00	1.40303E+00	1.45972E+00	1.52287E+00	1.59280E+00
2.10000E-01	*	1.22912E+00	1.26150E+00	1.29864E+00	1.34092E+00	1.38867E+00	1.44224E+00	1.50193E+00	1.56807E+00
2.20000E-01	*	1.22463E+00	1.25514E+00	1.29018E+00	1.33006E+00	1.37513E+00	1.42569E+00	1.48208E+00	1.54457E+00
2.30000E-01	*	1.22052E+00	1.24926E+00	1.28227E+00	1.31987E+00	1.36236E+00	1.41006E+00	1.46327E+00	1.52227E+00
2.40000E-01	*	1.21679E+00	1.24384E+00	1.27492E+00	1.31032E+00	1.35035E+00	1.39531E+00	1.44548E+00	1.50113E+00
2.50000E-01	*	1.21343E+00	1.23886E+00	1.26809E+00	1.30140E+00	1.33908E+00	1.38142E+00	1.42867E+00	1.48112E+00
2.60000E-01	*	1.21042E+00	1.23431E+00	1.26178E+00	1.29309E+00	1.32853E+00	1.36835E+00	1.41283E+00	1.46221E+00
2.70000E-01	*	1.20775E+00	1.23017E+00	1.25596E+00	1.28537E+00	1.31866E+00	1.35609E+00	1.39791E+00	1.44435E+00
2.80000E-01	*	1.20541E+00	1.22644E+00	1.25062E+00	1.27821E+00	1.30946E+00	1.34460E+00	1.38388E+00	1.42753E+00
2.90000E-01	*	1.20339E+00	1.22308E+00	1.24574E+00	1.27161E+00	1.30091E+00	1.33387E+00	1.37073E+00	1.41170E+00
3.00000E-01	*	1.20167E+00	1.22010E+00	1.24131E+00	1.26553E+00	1.29298E+00	1.32386E+00	1.35841E+00	1.39684E+00
3.10000E-01	*	1.20025E+00	1.21748E+00	1.23731E+00	1.25997E+00	1.28565E+00	1.31456E+00	1.34691E+00	1.38290E+00
3.20000E-01	*	1.19912E+00	1.21520E+00	1.23373E+00	1.25490E+00	1.27890E+00	1.30593E+00	1.33620E+00	1.36987E+00
3.30000E-01	*	1.19825E+00	1.21326E+00	1.23054E+00	1.25030E+00	1.27271E+00	1.29796E+00	1.32624E+00	1.35771E+00
3.40000E-01	*	1.19765E+00	1.21163E+00	1.22774E+00	1.24616E+00	1.26706E+00	1.29062E+00	1.31701E+00	1.34653E+00
3.50000E-01	*	1.19731E+00	1.21031E+00	1.22531E+00	1.24246E+00	1.26193E+00	1.28388E+00	1.30848E+00	1.33588E+00
3.60000E-01	*	1.19720E+00	1.20929E+00	1.22324E+00	1.23919E+00	1.25730E+00	1.27773E+00	1.30063E+00	1.32616E+00

GANMA = 1 + (1-W)((2SR/(1-W)) (RHGG/RHC)-1)((1-W)RHC/RHCG)**5 + W(2SW-2)

SR =1.30 RHC =2.60 SW =1.20

M RHC * 2.60000E+00

*

1.00000E-02 * 2.53509E+00
 2.00000E-02 * 2.47235E+00
 3.00000E-02 * 2.41174E+00
 4.00000E-02 * 2.35321E+00
 5.00000E-02 * 2.29674E+00
 6.00000E-02 * 2.24228E+00
 7.00000E-02 * 2.18980E+00
 8.00000E-02 * 2.13926E+00
 9.00000E-02 * 2.09061E+00
 1.00000E-01 * 2.04383E+00
 1.10000E-01 * 1.99887E+00
 1.20000E-01 * 1.95570E+00
 1.30000E-01 * 1.91427E+00
 1.40000E-01 * 1.87454E+00
 1.50000E-01 * 1.83648E+00
 1.60000E-01 * 1.80005E+00
 1.70000E-01 * 1.76521E+00
 1.80000E-01 * 1.73192E+00
 1.90000E-01 * 1.70013E+00
 2.00000E-01 * 1.66982E+00
 2.10000E-01 * 1.64095E+00
 2.20000E-01 * 1.61347E+00
 2.30000E-01 * 1.58734E+00
 2.40000E-01 * 1.56254E+00
 2.50000E-01 * 1.53901E+00
 2.60000E-01 * 1.51674E+00
 2.70000E-01 * 1.49566E+00
 2.80000E-01 * 1.47576E+00
 2.90000E-01 * 1.45700E+00
 3.00000E-01 * 1.43933E+00
 3.10000E-01 * 1.42273E+00
 3.20000E-01 * 1.40716E+00
 3.30000E-01 * 1.39257E+00
 3.40000E-01 * 1.37895E+00
 3.50000E-01 * 1.36626E+00
 3.60000E-01 * 1.35445E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SR/(1-W)) (RHC/RHC) - 1 \} \{ (1-W) RHC / (RHC) \} ** 5 + W (2S-2)$$

SR =1.30 RHC =2.65 SW =1.20

W	RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.04693E+00	1.06580E+00	1.09004E+00	1.12045E+00	1.15786E+00	1.20312E+00	1.25704E+00	1.32047E+00
2.00000E-02	*	1.04888E+00	1.06886E+00	1.08995E+00	1.11894E+00	1.15462E+00	1.19779E+00	1.24924E+00	1.30979E+00
3.00000E-02	*	1.05090E+00	1.06802E+00	1.09002E+00	1.11764E+00	1.15164E+00	1.19280E+00	1.24187E+00	1.29963E+00
4.00000E-02	*	1.05300E+00	1.06929E+00	1.09024E+00	1.11654E+00	1.14893E+00	1.18814E+00	1.23492E+00	1.29000E+00
5.00000E-02	*	1.05517E+00	1.07067E+00	1.09060E+00	1.11563E+00	1.14647E+00	1.18381E+00	1.22837E+00	1.28086E+00
6.00000E-02	*	1.05741E+00	1.07215E+00	1.09110E+00	1.11491E+00	1.14425E+00	1.17986E+00	1.22222E+00	1.27271E+00
7.00000E-02	*	1.05973E+00	1.07373E+00	1.09174E+00	1.11437E+00	1.14228E+00	1.17609E+00	1.21646E+00	1.26404E+00
8.00000E-02	*	1.06211E+00	1.07540E+00	1.09251E+00	1.11402E+00	1.14053E+00	1.17268E+00	1.21107E+00	1.25634E+00
9.00000E-02	*	1.06455E+00	1.07717E+00	1.09341E+00	1.11383E+00	1.13902E+00	1.16956E+00	1.20605E+00	1.24909E+00
1.00000E-01	*	1.06707E+00	1.07903E+00	1.09444E+00	1.11382E+00	1.13772E+00	1.16672E+00	1.20138E+00	1.24228E+00
1.10000E-01	*	1.06964E+00	1.08040E+00	1.09558E+00	1.11396E+00	1.13664E+00	1.16416E+00	1.19706E+00	1.23589E+00
1.20000E-01	*	1.07227E+00	1.08301E+00	1.09685E+00	1.11427E+00	1.13577E+00	1.16187E+00	1.19308E+00	1.22992E+00
1.30000E-01	*	1.07496E+00	1.08513E+00	1.09823E+00	1.11473E+00	1.13510E+00	1.15983E+00	1.18942E+00	1.22436E+00
1.40000E-01	*	1.07771E+00	1.08733E+00	1.09977E+00	1.11534E+00	1.13463E+00	1.15805E+00	1.18608E+00	1.21919E+00
1.50000E-01	*	1.08051E+00	1.08960E+00	1.10133E+00	1.11610E+00	1.13435E+00	1.15651E+00	1.18305E+00	1.21440E+00
1.60000E-01	*	1.08336E+00	1.09195E+00	1.10303E+00	1.11699E+00	1.13425E+00	1.15521E+00	1.18031E+00	1.20999E+00
1.70000E-01	*	1.08627E+00	1.09438E+00	1.10484E+00	1.11802E+00	1.13432E+00	1.15414E+00	1.17787E+00	1.20593E+00
1.80000E-01	*	1.08922E+00	1.09687E+00	1.10674E+00	1.11919E+00	1.13458E+00	1.15329E+00	1.17570E+00	1.20222E+00
1.90000E-01	*	1.09222E+00	1.09943E+00	1.10874E+00	1.12048E+00	1.13500E+00	1.15265E+00	1.17381E+00	1.19885E+00
2.00000E-01	*	1.09527E+00	1.10206E+00	1.11083E+00	1.12189E+00	1.13558E+00	1.15223E+00	1.17219E+00	1.19581E+00
2.10000E-01	*	1.09836E+00	1.10476E+00	1.11301E+00	1.12343E+00	1.13632E+00	1.15200E+00	1.17081E+00	1.19308E+00
2.20000E-01	*	1.10150E+00	1.10751E+00	1.11528E+00	1.12508E+00	1.13721E+00	1.15197E+00	1.16969E+00	1.19067E+00
2.30000E-01	*	1.10468E+00	1.11033E+00	1.11762E+00	1.12684E+00	1.13824E+00	1.15213E+00	1.16880E+00	1.18855E+00
2.40000E-01	*	1.10789E+00	1.11320E+00	1.12005E+00	1.12870E+00	1.13942E+00	1.15248E+00	1.16815E+00	1.18871E+00
2.50000E-01	*	1.11115E+00	1.11612E+00	1.12255E+00	1.13068E+00	1.14074E+00	1.15300E+00	1.16771E+00	1.18516E+00
2.60000E-01	*	1.11444E+00	1.11910E+00	1.12513E+00	1.13275E+00	1.14219E+00	1.15368E+00	1.16750E+00	1.18387E+00
2.70000E-01	*	1.11777E+00	1.12214E+00	1.12778E+00	1.13492E+00	1.14376E+00	1.15454E+00	1.16794E+00	1.18284E+00
2.80000E-01	*	1.12114E+00	1.12522E+00	1.13050E+00	1.13718E+00	1.14546E+00	1.15555E+00	1.16768E+00	1.18207E+00
2.90000E-01	*	1.12453E+00	1.12835E+00	1.13329E+00	1.13953E+00	1.14727E+00	1.15671E+00	1.16806E+00	1.18153E+00
3.00000E-01	*	1.12796E+00	1.13152E+00	1.13613E+00	1.14197E+00	1.14920E+00	1.15802E+00	1.16863E+00	1.18123E+00
3.10000E-01	*	1.13142E+00	1.13474E+00	1.13904E+00	1.14448E+00	1.15124E+00	1.15947E+00	1.16938E+00	1.18115E+00
3.20000E-01	*	1.13491E+00	1.13800E+00	1.14201E+00	1.14708E+00	1.15338E+00	1.16106E+00	1.17030E+00	1.18128E+00
3.30000E-01	*	1.13843E+00	1.14131E+00	1.14504E+00	1.14976E+00	1.15562E+00	1.16278E+00	1.17139E+00	1.18162E+00
3.40000E-01	*	1.14197E+00	1.14465E+00	1.14812E+00	1.15251E+00	1.15796E+00	1.16462E+00	1.17264E+00	1.18226E+00
3.50000E-01	*	1.14554E+00	1.14803E+00	1.15125E+00	1.15533E+00	1.16040E+00	1.16659E+00	1.17404E+00	1.18290E+00
3.60000E-01	*	1.14914E+00	1.15144E+00	1.15443E+00	1.15822E+00	1.16292E+00	1.16867E+00	1.17559E+00	1.18381E+00

$$\text{GAMMA} = 1 + \{(1-W)\{(2SR/(1-W))\}(RHC/RHC)-1\}\{(1-W)RHC/RHC\}^{**5} + W(2SW-2)$$

SR =1.30 RHC =2.65 SW =1.20

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.39420E+00	1.47902E+00	1.57567E+00	1.68486E+00	1.80723E+00	1.94338E+00	2.09382E+00	2.25898E+00
2.00000E-02	*	1.38019E+00	1.46122E+00	1.55359E+00	1.65799E+00	1.77504E+00	1.90534E+00	2.04938E+00	2.20762E+00
3.00000E-02	*	1.36683E+00	1.44419E+00	1.53242E+00	1.63218E+00	1.74409E+00	1.86871E+00	2.00656E+00	2.15807E+00
4.00000E-02	*	1.35409E+00	1.42791E+00	1.51214E+00	1.60741E+00	1.71433E+00	1.83347E+00	1.96531E+00	2.11029E+00
5.00000E-02	*	1.34196E+00	1.41237E+00	1.49273E+00	1.58366E+00	1.68576E+00	1.79958E+00	1.92560E+00	2.06425E+00
6.00000E-02	*	1.33043E+00	1.39754E+00	1.47416E+00	1.56091E+00	1.65835E+00	1.76702E+00	1.88740E+00	2.01992E+00
7.00000E-02	*	1.31948E+00	1.38341E+00	1.45642E+00	1.53912E+00	1.63206E+00	1.73575E+00	1.85068E+00	1.97726E+00
8.00000E-02	*	1.30910E+00	1.36945E+00	1.43949E+00	1.51829E+00	1.60687E+00	1.70576E+00	1.81540E+00	1.93624E+00
9.00000E-02	*	1.29926E+00	1.35716E+00	1.42335E+00	1.49838E+00	1.58276E+00	1.67700E+00	1.78155E+00	1.89681E+00
1.00000E-01	*	1.28997E+00	1.34502E+00	1.40798E+00	1.47937E+00	1.55970E+00	1.64945E+00	1.74907E+00	1.85896E+00
1.10000E-01	*	1.28119E+00	1.33350E+00	1.39335E+00	1.46124E+00	1.53767E+00	1.62309E+00	1.71795E+00	1.82263E+00
1.20000E-01	*	1.27293E+00	1.32260E+00	1.37945E+00	1.44397E+00	1.51663E+00	1.59788E+00	1.68814E+00	1.78780E+00
1.30000E-01	*	1.26515E+00	1.31229E+00	1.36626E+00	1.42754E+00	1.49657E+00	1.57379E+00	1.65962E+00	1.75444E+00
1.40000E-01	*	1.25786E+00	1.30257E+00	1.35376E+00	1.41191E+00	1.47745E+00	1.55080E+00	1.63236E+00	1.72250E+00
1.50000E-01	*	1.25104E+00	1.29340E+00	1.34194E+00	1.39708E+00	1.45926E+00	1.52888E+00	1.60633E+00	1.69196E+00
1.60000E-01	*	1.24467E+00	1.28478E+00	1.33076E+00	1.38302E+00	1.44197E+00	1.50800E+00	1.58148E+00	1.66277E+00
1.70000E-01	*	1.23874E+00	1.27670E+00	1.32022E+00	1.36971E+00	1.42556E+00	1.48814E+00	1.55781E+00	1.63491E+00
1.80000E-01	*	1.23323E+00	1.26913E+00	1.31030E+00	1.35713E+00	1.40999E+00	1.46925E+00	1.53526E+00	1.60835E+00
1.90000E-01	*	1.22814E+00	1.26206E+00	1.30097E+00	1.34525E+00	1.39525E+00	1.45133E+00	1.51382E+00	1.58304E+00
2.00000E-01	*	1.22345E+00	1.25547E+00	1.29227E+00	1.33406E+00	1.38132E+00	1.43434E+00	1.49345E+00	1.55895E+00
2.10000E-01	*	1.21915E+00	1.24936E+00	1.28404E+00	1.32353E+00	1.36817E+00	1.41826E+00	1.47412E+00	1.53605E+00
2.20000E-01	*	1.21523E+00	1.24370E+00	1.27640E+00	1.31366E+00	1.35577E+00	1.40305E+00	1.45581E+00	1.51432E+00
2.30000E-01	*	1.21167E+00	1.23849E+00	1.26930E+00	1.30440E+00	1.34411E+00	1.38870E+00	1.43848E+00	1.49370E+00
2.40000E-01	*	1.20847E+00	1.23370E+00	1.26270E+00	1.29576E+00	1.33316E+00	1.37510E+00	1.42210E+00	1.47418E+00
2.50000E-01	*	1.20560E+00	1.22932E+00	1.25660E+00	1.28770E+00	1.32289E+00	1.36244E+00	1.40665E+00	1.45572E+00
2.60000E-01	*	1.20307E+00	1.22535E+00	1.25098E+00	1.28021E+00	1.31330E+00	1.35051E+00	1.39209E+00	1.43829E+00
2.70000E-01	*	1.20085E+00	1.22176E+00	1.24582E+00	1.27327E+00	1.30435E+00	1.33972E+00	1.37841E+00	1.42185E+00
2.80000E-01	*	1.19895E+00	1.21855E+00	1.24111E+00	1.26686E+00	1.29603E+00	1.32886E+00	1.36557E+00	1.40638E+00
2.90000E-01	*	1.19733E+00	1.21569E+00	1.23683E+00	1.26096E+00	1.28831E+00	1.31910E+00	1.35354E+00	1.39185E+00
3.00000E-01	*	1.19601E+00	1.21319E+00	1.23297E+00	1.25556E+00	1.28118E+00	1.31002E+00	1.34230E+00	1.37822E+00
3.10000E-01	*	1.19496E+00	1.21161E+00	1.22951E+00	1.25064E+00	1.27461E+00	1.30160E+00	1.33182E+00	1.36546E+00
3.20000E-01	*	1.19417E+00	1.20916E+00	1.22644E+00	1.24618E+00	1.26858E+00	1.29382E+00	1.32208E+00	1.35355E+00
3.30000E-01	*	1.19364E+00	1.20720E+00	1.22374E+00	1.24216E+00	1.26307E+00	1.28664E+00	1.31305E+00	1.34245E+00
3.40000E-01	*	1.19336E+00	1.20638E+00	1.22140E+00	1.23858E+00	1.25807E+00	1.28006E+00	1.30470E+00	1.33215E+00
3.50000E-01	*	1.19331E+00	1.20543E+00	1.21941E+00	1.23540E+00	1.25356E+00	1.27404E+00	1.29700E+00	1.32260E+00
3.60000E-01	*	1.19349E+00	1.20475E+00	1.21775E+00	1.23262E+00	1.24951E+00	1.26857E+00	1.28995E+00	1.31378E+00

GAMMA = 1 + (1-M)((2S_M/(1-M)) (RHUG/RHC)-1)((1-M)RPE/RHC)**5 + W(2S_M-2)

SR =1.30 NHC6 =2.65 Sh =1.20

RHC * 2.60000E+00

1.00000E-02 * 2.43923E+00
 2.00000E-02 * 2.38041E+00
 3.00000E-02 * 2.32361E+00
 4.00000E-02 * 2.26805E+00
 5.00000E-02 * 2.21593E+00
 6.00000E-02 * 2.16497E+00
 7.00000E-02 * 2.11588E+00
 8.00000E-02 * 2.06863E+00
 9.00000E-02 * 2.02317E+00
 1.00000E-01 * 1.97948E+00
 1.10000E-01 * 1.93751E+00
 1.20000E-01 * 1.89723E+00
 1.30000E-01 * 1.85859E+00
 1.40000E-01 * 1.82157E+00
 1.50000E-01 * 1.78611E+00
 1.60000E-01 * 1.75220E+00
 1.70000E-01 * 1.71978E+00
 1.80000E-01 * 1.68882E+00
 1.90000E-01 * 1.65928E+00
 2.00000E-01 * 1.63114E+00
 2.10000E-01 * 1.60434E+00
 2.20000E-01 * 1.57855E+00
 2.30000E-01 * 1.55465E+00
 2.40000E-01 * 1.53168E+00
 2.50000E-01 * 1.50992E+00
 2.60000E-01 * 1.48933E+00
 2.70000E-01 * 1.46957E+00
 2.80000E-01 * 1.45151E+00
 2.90000E-01 * 1.43422E+00
 3.00000E-01 * 1.41796E+00
 3.10000E-01 * 1.40270E+00
 3.20000E-01 * 1.38840E+00
 3.30000E-01 * 1.37504E+00
 3.40000E-01 * 1.36257E+00
 3.50000E-01 * 1.35098E+00
 3.60000E-01 * 1.34022E+00

$$\text{GAMMA} = 1 + \{(1-w)\{(2SR/(1-w))\}(RHC/RHC)-1\}\{(1-w)RHC/RHC\}^{**5} + w(2SW-2)$$

SR =1.3C RHC =2.70 SW =1.20

RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
*								
1.00000E-02	* 1.04396E+00	1.06155E+00	1.08415E+00	1.11252E+00	1.14745E+00	1.18971E+00	1.24011E+00	1.29943E+00
2.00000E-02	* 1.04605E+00	1.06260E+00	1.08434E+00	1.11138E+00	1.14468E+00	1.18500E+00	1.23309E+00	1.28970E+00
3.00000E-02	* 1.04821E+00	1.06416E+00	1.08467E+00	1.11044E+00	1.14217E+00	1.18060E+00	1.22646E+00	1.28047E+00
4.00000E-02	* 1.05044E+00	1.06562E+00	1.08514E+00	1.10968E+00	1.13991E+00	1.17652E+00	1.22023E+00	1.27172E+00
5.00000E-02	* 1.05273E+00	1.06717E+00	1.08579E+00	1.10910E+00	1.13768E+00	1.17274E+00	1.21438E+00	1.26344E+00
6.00000E-02	* 1.05510E+00	1.06883E+00	1.08644E+00	1.10870E+00	1.13608E+00	1.16926E+00	1.20889E+00	1.25562E+00
7.00000E-02	* 1.05753E+00	1.07057E+00	1.08736E+00	1.10847E+00	1.13450E+00	1.16606E+00	1.20778E+00	1.24825E+00
8.00000E-02	* 1.06002E+00	1.07246E+00	1.08835E+00	1.10840E+00	1.13314E+00	1.16315E+00	1.19901E+00	1.24131E+00
9.00000E-02	* 1.06257E+00	1.07433E+00	1.08954E+00	1.10850E+00	1.13200E+00	1.16050E+00	1.19458E+00	1.23480E+00
1.00000E-01	* 1.06519E+00	1.07643E+00	1.09069E+00	1.10876E+00	1.13106E+00	1.15812E+00	1.19049E+00	1.22870E+00
1.10000E-01	* 1.06786E+00	1.07842E+00	1.09203E+00	1.10917E+00	1.13032E+00	1.15600E+00	1.18672E+00	1.22330E+00
1.20000E-01	* 1.07058E+00	1.08059E+00	1.09348E+00	1.10972E+00	1.12978E+00	1.15413E+00	1.18327E+00	1.21769E+00
1.30000E-01	* 1.07336E+00	1.08263E+00	1.09504E+00	1.11042E+00	1.12942E+00	1.15250E+00	1.18012E+00	1.21275E+00
1.40000E-01	* 1.07620E+00	1.08516E+00	1.09671E+00	1.11126E+00	1.12925E+00	1.15110E+00	1.17727E+00	1.20819E+00
1.50000E-01	* 1.07908E+00	1.08755E+00	1.09817E+00	1.11224E+00	1.12926E+00	1.14994E+00	1.17474E+00	1.20398E+00
1.60000E-01	* 1.08201E+00	1.09001E+00	1.10033E+00	1.11335E+00	1.12943E+00	1.14899E+00	1.17242E+00	1.20013E+00
1.70000E-01	* 1.08499E+00	1.09255E+00	1.10229E+00	1.11458E+00	1.12978E+00	1.14826E+00	1.17040E+00	1.19660E+00
1.80000E-01	* 1.08802E+00	1.09514E+00	1.10434E+00	1.11545E+00	1.13028E+00	1.14773E+00	1.16865E+00	1.19341E+00
1.90000E-01	* 1.09116E+00	1.09781E+00	1.10647E+00	1.11741E+00	1.13095E+00	1.14741E+00	1.16716E+00	1.19033E+00
2.00000E-01	* 1.09442E+00	1.10053E+00	1.10870E+00	1.11900E+00	1.13176E+00	1.14729E+00	1.16591E+00	1.18796E+00
2.10000E-01	* 1.09776E+00	1.10331E+00	1.11100E+00	1.12071E+00	1.13272E+00	1.14735E+00	1.16489E+00	1.18568E+00
2.20000E-01	* 1.10116E+00	1.10615E+00	1.11338E+00	1.12252E+00	1.13382E+00	1.14759E+00	1.16411E+00	1.18369E+00
2.30000E-01	* 1.10379E+00	1.10905E+00	1.11585E+00	1.12443E+00	1.13506E+00	1.14801E+00	1.16356E+00	1.18198E+00
2.40000E-01	* 1.10706E+00	1.11200E+00	1.11838E+00	1.12644E+00	1.13643E+00	1.14860E+00	1.16321E+00	1.18054E+00
2.50000E-01	* 1.11037E+00	1.11500E+00	1.12039E+00	1.12855E+00	1.13793E+00	1.14936E+00	1.16300E+00	1.17935E+00
2.60000E-01	* 1.11371E+00	1.11805E+00	1.12366E+00	1.13076E+00	1.13955E+00	1.15027E+00	1.16315E+00	1.17842E+00
2.70000E-01	* 1.11709E+00	1.12115E+00	1.12641E+00	1.13305E+00	1.14129E+00	1.15134E+00	1.16341E+00	1.17773E+00
2.80000E-01	* 1.12050E+00	1.12436E+00	1.12921E+00	1.13533E+00	1.14314E+00	1.15255E+00	1.16386E+00	1.17728E+00
2.90000E-01	* 1.12393E+00	1.12749E+00	1.13208E+00	1.13790E+00	1.14511E+00	1.15391E+00	1.16445E+00	1.17705E+00
3.00000E-01	* 1.12740E+00	1.13072E+00	1.13501E+00	1.14044E+00	1.14718E+00	1.15540E+00	1.16529E+00	1.17703E+00
3.10000E-01	* 1.13090E+00	1.13356E+00	1.13800E+00	1.14300E+00	1.14935E+00	1.15703E+00	1.16626E+00	1.17723E+00
3.20000E-01	* 1.13442E+00	1.13700E+00	1.14104E+00	1.14570E+00	1.15162E+00	1.15878E+00	1.16739E+00	1.17763E+00
3.30000E-01	* 1.13797E+00	1.14066E+00	1.14413E+00	1.14852E+00	1.15338E+00	1.16065E+00	1.16868E+00	1.17822E+00
3.40000E-01	* 1.14155E+00	1.14404E+00	1.14727E+00	1.15136E+00	1.15644E+00	1.16264E+00	1.17011E+00	1.17899E+00
3.50000E-01	* 1.14515E+00	1.14746E+00	1.15040E+00	1.15420E+00	1.15898E+00	1.16475E+00	1.17164E+00	1.17995E+00
3.60000E-01	* 1.14877E+00	1.15092E+00	1.15370E+00	1.15723E+00	1.16160E+00	1.16695E+00	1.17341E+00	1.18107E+00

$$\text{GAMMA} = 1 + \{(1-W)\{(25R/(1-W))\}(RHC/RHC)-1\}\{(1-W)RHC/RHC\}^{**5} + W\{25W-2\}$$

SR =1.30

RHC =2.70

SW =1.20

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
W	*								
1.00000E-02	*	1.36844E+00	1.44786E+00	1.53845E+00	1.64087E+00	1.75575E+00	1.88367E+00	2.02516E+00	2.18066E+00
2.00000E-02	*	1.35558E+00	1.43146E+00	1.51801E+00	1.61592E+00	1.72579E+00	1.84819E+00	1.98364E+00	2.13257E+00
3.00000E-02	*	1.34334E+00	1.41577E+00	1.49843E+00	1.59197E+00	1.69649E+00	1.81404E+00	1.94326E+00	2.08620E+00
4.00000E-02	*	1.33168E+00	1.40079E+00	1.47969E+00	1.56901E+00	1.66933E+00	1.78120E+00	1.90511E+00	2.04151E+00
5.00000E-02	*	1.32060E+00	1.38649E+00	1.46176E+00	1.54700E+00	1.64278E+00	1.74964E+00	1.86805E+00	1.98846E+00
6.00000E-02	*	1.31007E+00	1.37287E+00	1.44463E+00	1.52593E+00	1.61732E+00	1.71933E+00	1.83242E+00	1.95703E+00
7.00000E-02	*	1.30009E+00	1.35991E+00	1.42828E+00	1.50578E+00	1.59293E+00	1.69024E+00	1.79918E+00	1.91718E+00
8.00000E-02	*	1.29064E+00	1.34758E+00	1.41269E+00	1.48631E+00	1.56957E+00	1.66235E+00	1.76532E+00	1.87878E+00
9.00000E-02	*	1.28171E+00	1.33588E+00	1.39784E+00	1.46812E+00	1.54722E+00	1.63563E+00	1.73378E+00	1.84209E+00
1.00000E-01	*	1.27328E+00	1.32476E+00	1.38370E+00	1.45057E+00	1.52586E+00	1.61005E+00	1.70255E+00	1.80678E+00
1.10000E-01	*	1.26534E+00	1.31427E+00	1.37027E+00	1.43385E+00	1.50547E+00	1.58558E+00	1.67460E+00	1.77292E+00
1.20000E-01	*	1.25788E+00	1.30433E+00	1.35753E+00	1.41794E+00	1.48602E+00	1.56220E+00	1.64689E+00	1.74047E+00
1.30000E-01	*	1.25088E+00	1.29455E+00	1.34545E+00	1.40281E+00	1.46748E+00	1.53987E+00	1.62039E+00	1.70940E+00
1.40000E-01	*	1.24433E+00	1.28612E+00	1.33402E+00	1.38845E+00	1.44983E+00	1.51858E+00	1.59508E+00	1.67968E+00
1.50000E-01	*	1.23821E+00	1.27781E+00	1.32321E+00	1.37483E+00	1.43306E+00	1.49830E+00	1.57092E+00	1.65127E+00
1.60000E-01	*	1.23252E+00	1.27002E+00	1.31302E+00	1.36193E+00	1.41712E+00	1.47899E+00	1.54788E+00	1.62415E+00
1.70000E-01	*	1.22725E+00	1.26273E+00	1.30343E+00	1.34973E+00	1.40201E+00	1.46063E+00	1.52594E+00	1.59827E+00
1.80000E-01	*	1.22237E+00	1.25591E+00	1.29441E+00	1.33827E+00	1.38770E+00	1.44321E+00	1.50507E+00	1.57361E+00
1.90000E-01	*	1.21788E+00	1.24957E+00	1.28595E+00	1.32737E+00	1.37417E+00	1.42668E+00	1.48524E+00	1.55013E+00
2.00000E-01	*	1.21377E+00	1.24366E+00	1.27804E+00	1.31716E+00	1.36139E+00	1.41033E+00	1.46441E+00	1.52278E+00
2.10000E-01	*	1.21002E+00	1.23824E+00	1.27065E+00	1.30758E+00	1.34934E+00	1.39624E+00	1.44856E+00	1.50661E+00
2.20000E-01	*	1.20662E+00	1.23322E+00	1.26378E+00	1.29861E+00	1.33400E+00	1.38226E+00	1.43167E+00	1.48649E+00
2.30000E-01	*	1.20357E+00	1.22861E+00	1.25740E+00	1.29022E+00	1.32730E+00	1.36909E+00	1.41570E+00	1.46744E+00
2.40000E-01	*	1.20084E+00	1.22441E+00	1.25150E+00	1.28240E+00	1.31738E+00	1.35670E+00	1.40062E+00	1.44941E+00
2.50000E-01	*	1.19844E+00	1.22059E+00	1.24607E+00	1.27513E+00	1.30804E+00	1.34506E+00	1.38642E+00	1.43238E+00
2.60000E-01	*	1.19634E+00	1.21714E+00	1.24108E+00	1.26839E+00	1.29934E+00	1.33414E+00	1.37306E+00	1.41631E+00
2.70000E-01	*	1.19454E+00	1.21466E+00	1.23653E+00	1.26217E+00	1.29123E+00	1.32394E+00	1.36051E+00	1.40118E+00
2.80000E-01	*	1.19303E+00	1.21133E+00	1.23239E+00	1.25645E+00	1.28372E+00	1.31442E+00	1.34876E+00	1.38496E+00
2.90000E-01	*	1.19179E+00	1.20893E+00	1.22866E+00	1.25121E+00	1.27677E+00	1.30555E+00	1.33777E+00	1.37362E+00
3.00000E-01	*	1.19082E+00	1.20686E+00	1.22532E+00	1.24643E+00	1.27036E+00	1.29733E+00	1.32752E+00	1.36112E+00
3.10000E-01	*	1.19011E+00	1.20510E+00	1.22236E+00	1.24210E+00	1.26449E+00	1.28972E+00	1.31798E+00	1.34945E+00
3.20000E-01	*	1.18965E+00	1.20364E+00	1.21976E+00	1.23820E+00	1.25912E+00	1.28271E+00	1.30913E+00	1.33857E+00
3.30000E-01	*	1.18943E+00	1.20247E+00	1.21751E+00	1.23471E+00	1.25424E+00	1.27627E+00	1.30095E+00	1.32845E+00
3.40000E-01	*	1.18943E+00	1.20158E+00	1.21508E+00	1.23163E+00	1.24984E+00	1.27038E+00	1.29341E+00	1.31908E+00
3.50000E-01	*	1.18966E+00	1.20096E+00	1.21401E+00	1.22893E+00	1.24589E+00	1.26502E+00	1.28648E+00	1.31041E+00
3.60000E-01	*	1.19010E+00	1.20060E+00	1.21272E+00	1.22660E+00	1.24238E+00	1.26018E+00	1.28015E+00	1.30243E+00

$$\text{GAMMA} = 1 + (1-W) \{ (25R/(1-W)) (RHC/RHC) - 1 \} \{ (1-W) RHC/RHC \} ** 5 + W(25W-2)$$

SN = 1.3C   RHC = 2.7C   SW = 1.2U

W	RHC	* 2.60000E+00	2.70000E+00
1.00000E-02	*	2.35054E+00	2.53509E+00
2.00000E-02	*	2.29538E+00	2.47235E+00
3.00000E-02	*	2.24213E+00	2.41174E+00
4.00000E-02	*	2.19077E+00	2.35321E+00
5.00000E-02	*	2.14125E+00	2.29674E+00
6.00000E-02	*	2.09355E+00	2.24228E+00
7.00000E-02	*	2.04767E+00	2.18980E+00
8.00000E-02	*	2.00367E+00	2.13926E+00
9.00000E-02	*	1.96159E+00	2.09051E+00
1.00000E-01	*	1.92140E+00	2.04363E+00
1.10000E-01	*	1.88311E+00	1.99867E+00
1.20000E-01	*	1.84673E+00	1.95570E+00
1.30000E-01	*	1.81226E+00	1.91477E+00
1.40000E-01	*	1.77973E+00	1.87584E+00
1.50000E-01	*	1.74907E+00	1.83895E+00
1.60000E-01	*	1.72021E+00	1.80405E+00
1.70000E-01	*	1.69319E+00	1.77112E+00
1.80000E-01	*	1.66793E+00	1.74015E+00
1.90000E-01	*	1.64436E+00	1.71112E+00
2.00000E-01	*	1.62241E+00	1.68401E+00
2.10000E-01	*	1.60200E+00	1.65879E+00
2.20000E-01	*	1.58316E+00	1.63544E+00
2.30000E-01	*	1.56581E+00	1.61394E+00
2.40000E-01	*	1.55000E+00	1.59427E+00
2.50000E-01	*	1.53575E+00	1.57641E+00
2.60000E-01	*	1.52300E+00	1.56034E+00
2.70000E-01	*	1.51170E+00	1.54604E+00
2.80000E-01	*	1.50180E+00	1.53349E+00
2.90000E-01	*	1.49325E+00	1.52267E+00
3.00000E-01	*	1.48600E+00	1.51357E+00
3.10000E-01	*	1.48000E+00	1.50518E+00
3.20000E-01	*	1.47520E+00	1.49750E+00
3.30000E-01	*	1.47155E+00	1.49053E+00
3.40000E-01	*	1.46890E+00	1.48427E+00
3.50000E-01	*	1.46720E+00	1.47872E+00
3.60000E-01	*	1.46640E+00	1.47387E+00

$$\text{GAMMA} = 1 + (1-w) \{ (2SR/(1-w)) (RRCG/NHL) - 1 \} (1-w) RRCG / (NFCG) + 0.5 \cdot w (2Sw - 2)$$

SM = 1.3C RMCU = 2.8C SM = 1.2U

	RMC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.03816E+00	1.05469E+00	1.07380E+00	1.09858E+00	1.12911E+00	1.16611E+00	1.21027E+00	1.26231E+00
2.00000E-02	*	1.04109E+00	1.05589E+00	1.07448E+00	1.09809E+00	1.12720E+00	1.16248E+00	1.20461E+00	1.25427E+00
3.00000E-02	*	1.04348E+00	1.05739E+00	1.07528E+00	1.09778E+00	1.12551E+00	1.15914E+00	1.19931E+00	1.24667E+00
4.00000E-02	*	1.04594E+00	1.05917E+00	1.07620E+00	1.09762E+00	1.12404E+00	1.15607E+00	1.19434E+00	1.23949E+00
5.00000E-02	*	1.04846E+00	1.06104E+00	1.07724E+00	1.09762E+00	1.12277E+00	1.15327E+00	1.18972E+00	1.23273E+00
6.00000E-02	*	1.05104E+00	1.06300E+00	1.07840E+00	1.09778E+00	1.12170E+00	1.15072E+00	1.18542E+00	1.22637E+00
7.00000E-02	*	1.05367E+00	1.06503E+00	1.07967E+00	1.09809E+00	1.12083E+00	1.14843E+00	1.18144E+00	1.22041E+00
8.00000E-02	*	1.05636E+00	1.06714E+00	1.08104E+00	1.09858E+00	1.12015E+00	1.14638E+00	1.17777E+00	1.21483E+00
9.00000E-02	*	1.05910E+00	1.06933E+00	1.08253E+00	1.09914E+00	1.11966E+00	1.14458E+00	1.17439E+00	1.20962E+00
1.00000E-01	*	1.06189E+00	1.07160E+00	1.08411E+00	1.09987E+00	1.11935E+00	1.14300E+00	1.17132E+00	1.20477E+00
1.10000E-01	*	1.06473E+00	1.07393E+00	1.08579E+00	1.10074E+00	1.11921E+00	1.14165E+00	1.16852E+00	1.20028E+00
1.20000E-01	*	1.06762E+00	1.07634E+00	1.08757E+00	1.10174E+00	1.11924E+00	1.14052E+00	1.16600E+00	1.19613E+00
1.30000E-01	*	1.07056E+00	1.07881E+00	1.08945E+00	1.10286E+00	1.11944E+00	1.13960E+00	1.16375E+00	1.19232E+00
1.40000E-01	*	1.07355E+00	1.08135E+00	1.09141E+00	1.10411E+00	1.11980E+00	1.13889E+00	1.16176E+00	1.18882E+00
1.50000E-01	*	1.07658E+00	1.08395E+00	1.09347E+00	1.10547E+00	1.12022E+00	1.13838E+00	1.16002E+00	1.18564E+00
1.60000E-01	*	1.07965E+00	1.08641E+00	1.09560E+00	1.10695E+00	1.12098E+00	1.13806E+00	1.15853E+00	1.18277E+00
1.70000E-01	*	1.08276E+00	1.08934E+00	1.09782E+00	1.10854E+00	1.12179E+00	1.13793E+00	1.15728E+00	1.18019E+00
1.80000E-01	*	1.08592E+00	1.09212E+00	1.10012E+00	1.11023E+00	1.12275E+00	1.13798E+00	1.15625E+00	1.17790E+00
1.90000E-01	*	1.08911E+00	1.09495E+00	1.10230E+00	1.11203E+00	1.12383E+00	1.13821E+00	1.15545E+00	1.17589E+00
2.00000E-01	*	1.09234E+00	1.09784E+00	1.10495E+00	1.11393E+00	1.12506E+00	1.13860E+00	1.15487E+00	1.17414E+00
2.10000E-01	*	1.09560E+00	1.10078E+00	1.10748E+00	1.11593E+00	1.12641E+00	1.13917E+00	1.15449E+00	1.17266E+00
2.20000E-01	*	1.09890E+00	1.10377E+00	1.11007E+00	1.11802E+00	1.12788E+00	1.13989E+00	1.15432E+00	1.17142E+00
2.30000E-01	*	1.10224E+00	1.10681E+00	1.11273E+00	1.12021E+00	1.12947E+00	1.14077E+00	1.15434E+00	1.17043E+00
2.40000E-01	*	1.10561E+00	1.10990E+00	1.11545E+00	1.12348E+00	1.13118E+00	1.14179E+00	1.15455E+00	1.16968E+00
2.50000E-01	*	1.10900E+00	1.11303E+00	1.11824E+00	1.12483E+00	1.13300E+00	1.14296E+00	1.15494E+00	1.16916E+00
2.60000E-01	*	1.11243E+00	1.11621E+00	1.12109E+00	1.12727E+00	1.13493E+00	1.14427E+00	1.15551E+00	1.16885E+00
2.70000E-01	*	1.11589E+00	1.11942E+00	1.12400E+00	1.12978E+00	1.13696E+00	1.14572E+00	1.15625E+00	1.16876E+00
2.80000E-01	*	1.11938E+00	1.12268E+00	1.12696E+00	1.13231E+00	1.13909E+00	1.14729E+00	1.15715E+00	1.16887E+00
2.90000E-01	*	1.12289E+00	1.12598E+00	1.12997E+00	1.13503E+00	1.14132E+00	1.14898E+00	1.15821E+00	1.16917E+00
3.00000E-01	*	1.12643E+00	1.12931E+00	1.13304E+00	1.13777E+00	1.14363E+00	1.15080E+00	1.15942E+00	1.16967E+00
3.10000E-01	*	1.12999E+00	1.13248E+00	1.13616E+00	1.14057E+00	1.14604E+00	1.15273E+00	1.16078E+00	1.17035E+00
3.20000E-01	*	1.13358E+00	1.13608E+00	1.13932E+00	1.14343E+00	1.14854E+00	1.15477E+00	1.16228E+00	1.17121E+00
3.30000E-01	*	1.13719E+00	1.13952E+00	1.14253E+00	1.14636E+00	1.15111E+00	1.15692E+00	1.16392E+00	1.17224E+00
3.40000E-01	*	1.14082E+00	1.14298E+00	1.14579E+00	1.14935E+00	1.15377E+00	1.15917E+00	1.16568E+00	1.17343E+00
3.50000E-01	*	1.14447E+00	1.14648E+00	1.14909E+00	1.15239E+00	1.15650E+00	1.16152E+00	1.16757E+00	1.17477E+00
3.60000E-01	*	1.14814E+00	1.15001E+00	1.15242E+00	1.15549E+00	1.15930E+00	1.16396E+00	1.16958E+00	1.17627E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SR/(1-W)) (RHCG/RHL) - 1 \} \{ (1-W) RHC/RHCG \}^{0.5} + W (2SW-2)$$

SR = 1.30 RHCG = 2.80 SW = 1.20

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.32292E+00	1.39279E+00	1.47258E+00	1.56292E+00	1.66442E+00	1.77762E+00	1.90304E+00	2.04114E+00
2.00000E-02	*	1.31213E+00	1.37889E+00	1.45507E+00	1.54140E+00	1.63843E+00	1.74671E+00	1.86673E+00	1.99894E+00
3.00000E-02	*	1.30187E+00	1.36554E+00	1.43831E+00	1.52077E+00	1.61349E+00	1.71699E+00	1.83177E+00	1.95828E+00
4.00000E-02	*	1.29212E+00	1.35286E+00	1.42230E+00	1.50102E+00	1.58956E+00	1.68844E+00	1.79815E+00	1.91912E+00
5.00000E-02	*	1.28289E+00	1.34079E+00	1.40702E+00	1.48211E+00	1.56662E+00	1.66104E+00	1.76584E+00	1.88144E+00
6.00000E-02	*	1.27415E+00	1.32932E+00	1.39244E+00	1.46404E+00	1.54465E+00	1.63475E+00	1.73479E+00	1.84521E+00
7.00000E-02	*	1.26589E+00	1.31842E+00	1.37855E+00	1.44678E+00	1.52362E+00	1.60955E+00	1.70500E+00	1.81040E+00
8.00000E-02	*	1.25804E+00	1.30604E+00	1.36532E+00	1.43031E+00	1.50351E+00	1.58541E+00	1.67643E+00	1.77697E+00
9.00000E-02	*	1.25075E+00	1.29830E+00	1.35276E+00	1.41461E+00	1.48431E+00	1.56231E+00	1.64504E+00	1.74489E+00
1.00000E-01	*	1.24380E+00	1.28905E+00	1.34083E+00	1.39906E+00	1.46398E+00	1.54023E+00	1.62282E+00	1.71414E+00
1.10000E-01	*	1.23740E+00	1.28032E+00	1.32952E+00	1.38544E+00	1.44651E+00	1.51514E+00	1.59774E+00	1.68468E+00
1.20000E-01	*	1.23135E+00	1.27210E+00	1.31882E+00	1.37194E+00	1.43187E+00	1.49901E+00	1.57376E+00	1.65648E+00
1.30000E-01	*	1.22571E+00	1.26437E+00	1.30871E+00	1.35913E+00	1.41604E+00	1.47983E+00	1.55087E+00	1.62951E+00
1.40000E-01	*	1.22047E+00	1.25712E+00	1.29916E+00	1.34699E+00	1.40100E+00	1.46156E+00	1.52903E+00	1.60375E+00
1.50000E-01	*	1.21562E+00	1.25034E+00	1.29018E+00	1.33502E+00	1.38673E+00	1.44418E+00	1.50821E+00	1.57915E+00
1.60000E-01	*	1.21114E+00	1.24400E+00	1.28173E+00	1.32468E+00	1.37321E+00	1.42767E+00	1.48839E+00	1.55570E+00
1.70000E-01	*	1.20702E+00	1.23811E+00	1.27381E+00	1.31440E+00	1.36042E+00	1.41201E+00	1.46955E+00	1.53335E+00
1.80000E-01	*	1.20322E+00	1.23204E+00	1.26637E+00	1.30435E+00	1.34833E+00	1.39716E+00	1.45165E+00	1.51209E+00
1.90000E-01	*	1.19982E+00	1.22758E+00	1.25947E+00	1.29502E+00	1.33693E+00	1.38312E+00	1.43467E+00	1.49188E+00
2.00000E-01	*	1.19672E+00	1.22292E+00	1.25303E+00	1.28736E+00	1.32620E+00	1.36985E+00	1.41859E+00	1.47269E+00
2.10000E-01	*	1.19395E+00	1.21855E+00	1.24706E+00	1.27944E+00	1.31611E+00	1.35733E+00	1.40337E+00	1.45450E+00
2.20000E-01	*	1.19148E+00	1.21476E+00	1.24153E+00	1.27207E+00	1.30866E+00	1.34554E+00	1.38500E+00	1.43728E+00
2.30000E-01	*	1.18931E+00	1.21123E+00	1.23644E+00	1.26522E+00	1.29780E+00	1.33446E+00	1.37544E+00	1.42099E+00
2.40000E-01	*	1.18743E+00	1.20805E+00	1.23178E+00	1.25888E+00	1.28954E+00	1.32407E+00	1.36268E+00	1.40561E+00
2.50000E-01	*	1.18583E+00	1.20521E+00	1.22757E+00	1.25279E+00	1.28185E+00	1.31434E+00	1.35069E+00	1.39112E+00
2.60000E-01	*	1.18451E+00	1.20270E+00	1.22365E+00	1.24758E+00	1.27471E+00	1.30526E+00	1.33945E+00	1.37748E+00
2.70000E-01	*	1.18344E+00	1.20091E+00	1.22017E+00	1.24205E+00	1.26610E+00	1.29280E+00	1.32189E+00	1.35467E+00
2.80000E-01	*	1.18262E+00	1.19802E+00	1.21705E+00	1.23612E+00	1.25620E+00	1.28094E+00	1.30909E+00	1.34266E+00
2.90000E-01	*	1.18205E+00	1.19733E+00	1.21429E+00	1.23403E+00	1.25442E+00	1.28166E+00	1.30944E+00	1.34163E+00
3.00000E-01	*	1.18171E+00	1.19572E+00	1.21188E+00	1.23035E+00	1.25131E+00	1.27495E+00	1.30144E+00	1.33095E+00
3.10000E-01	*	1.18160E+00	1.19444E+00	1.20979E+00	1.22706E+00	1.24666E+00	1.26878E+00	1.29357E+00	1.32120E+00
3.20000E-01	*	1.18171E+00	1.19333E+00	1.20802E+00	1.22415E+00	1.24247E+00	1.26313E+00	1.28630E+00	1.31214E+00
3.30000E-01	*	1.18202E+00	1.19341E+00	1.20656E+00	1.22160E+00	1.23870E+00	1.25793E+00	1.27963E+00	1.30376E+00
3.40000E-01	*	1.18253E+00	1.19344E+00	1.20539E+00	1.21941E+00	1.23534E+00	1.25333E+00	1.27351E+00	1.29603E+00
3.50000E-01	*	1.18324E+00	1.19311E+00	1.20451E+00	1.21755E+00	1.23239E+00	1.24914E+00	1.26794E+00	1.28893E+00
3.60000E-01	*	1.18413E+00	1.19330E+00	1.20389E+00	1.21602E+00	1.22982E+00	1.24540E+00	1.26290E+00	1.28243E+00

$$\text{GAMMA} = 1 + ((1-W)((2SW/(1-W))(RHC/RHC)-1)((1-W)RHC/(RHC+CG))^{**5} + W(2SW-2))$$

SM = 1.30 RHC = 2.80 SW = 1.20

W	RHC	* 2.60000E+00	2.70000E+00	2.80000E+00
1.00000E-02	*	2.19231E+00	2.35688E+00	2.53509E+00
2.00000E-02	*	2.14374E+00	2.30145E+00	2.47235E+00
3.00000E-02	*	2.09689E+00	2.24796E+00	2.41174E+00
4.00000E-02	*	2.05174E+00	2.19654E+00	2.35321E+00
5.00000E-02	*	2.00829E+00	2.14659E+00	2.29674E+00
6.00000E-02	*	1.96639E+00	2.09865E+00	2.24228E+00
7.00000E-02	*	1.92612E+00	2.05249E+00	2.18980E+00
8.00000E-02	*	1.88741E+00	2.00806E+00	2.13926E+00
9.00000E-02	*	1.85023E+00	1.96537E+00	2.09061E+00
1.00000E-01	*	1.81454E+00	1.92434E+00	2.04383E+00
1.10000E-01	*	1.78031E+00	1.88495E+00	1.99887E+00
1.20000E-01	*	1.74751E+00	1.84715E+00	1.95570E+00
1.30000E-01	*	1.71609E+00	1.81092E+00	1.91427E+00
1.40000E-01	*	1.68604E+00	1.77622E+00	1.87454E+00
1.50000E-01	*	1.65732E+00	1.74301E+00	1.83648E+00
1.60000E-01	*	1.62989E+00	1.71125E+00	1.80005E+00
1.70000E-01	*	1.60371E+00	1.68091E+00	1.76521E+00
1.80000E-01	*	1.57877E+00	1.65190E+00	1.73192E+00
1.90000E-01	*	1.55502E+00	1.62436E+00	1.70013E+00
2.00000E-01	*	1.53244E+00	1.59807E+00	1.66982E+00
2.10000E-01	*	1.51098E+00	1.57305E+00	1.64095E+00
2.20000E-01	*	1.49063E+00	1.54928E+00	1.61347E+00
2.30000E-01	*	1.47134E+00	1.52672E+00	1.58734E+00
2.40000E-01	*	1.45309E+00	1.50533E+00	1.56254E+00
2.50000E-01	*	1.43584E+00	1.48507E+00	1.53901E+00
2.60000E-01	*	1.41957E+00	1.46593E+00	1.51674E+00
2.70000E-01	*	1.40429E+00	1.44785E+00	1.49566E+00
2.80000E-01	*	1.38984E+00	1.43082E+00	1.47576E+00
2.90000E-01	*	1.37632E+00	1.41479E+00	1.45700E+00
3.00000E-01	*	1.36366E+00	1.39973E+00	1.43933E+00
3.10000E-01	*	1.35183E+00	1.38562E+00	1.42273E+00
3.20000E-01	*	1.34079E+00	1.37241E+00	1.40716E+00
3.30000E-01	*	1.33053E+00	1.36009E+00	1.39257E+00
3.40000E-01	*	1.32102E+00	1.34861E+00	1.37895E+00
3.50000E-01	*	1.31222E+00	1.33795E+00	1.36628E+00
3.60000E-01	*	1.30411E+00	1.32808E+00	1.35445E+00

$$\text{GAMMA} = 1 + \{(1-W)\{(2SR/(1-W))\}(RHOG/RHC)-1\}\{(1-W)RHC/RHCG\}**5 + W(2SW-2)$$

SR = 1.3C RHCG = 2.90 SW = 1.20

W	RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.03437E+00	1.04779E+00	1.06507E+00	1.08680E+00	1.11361E+00	1.14612E+00	1.18498E+00	1.23081E+00
2.00000E-02	*	1.03691E+00	1.04949E+00	1.06616E+00	1.08687E+00	1.11242E+00	1.14342E+00	1.18048E+00	1.22421E+00
3.00000E-02	*	1.03951E+00	1.05168E+00	1.06735E+00	1.08708E+00	1.11143E+00	1.14097E+00	1.17630E+00	1.21799E+00
4.00000E-02	*	1.04216E+00	1.05374E+00	1.06866E+00	1.08744E+00	1.11062E+00	1.13876E+00	1.17242E+00	1.21216E+00
5.00000E-02	*	1.04486E+00	1.05587E+00	1.07006E+00	1.08793E+00	1.11000E+00	1.13679E+00	1.16883E+00	1.20669E+00
6.00000E-02	*	1.04762E+00	1.05848E+00	1.07157E+00	1.08857E+00	1.10955E+00	1.13504E+00	1.16554E+00	1.20157E+00
7.00000E-02	*	1.05042E+00	1.06036E+00	1.07318E+00	1.08933E+00	1.10928E+00	1.13351E+00	1.16253E+00	1.19681E+00
8.00000E-02	*	1.05327E+00	1.06271E+00	1.07488E+00	1.09022E+00	1.10918E+00	1.13221E+00	1.15978E+00	1.19238E+00
9.00000E-02	*	1.05617E+00	1.06513E+00	1.07668E+00	1.09124E+00	1.10924E+00	1.13111E+00	1.15731E+00	1.18828E+00
1.00000E-01	*	1.05912E+00	1.06761E+00	1.07856E+00	1.09238E+00	1.10945E+00	1.13021E+00	1.15509E+00	1.18451E+00
1.10000E-01	*	1.06210E+00	1.07015E+00	1.08054E+00	1.09363E+00	1.10963E+00	1.12952E+00	1.15312E+00	1.18104E+00
1.20000E-01	*	1.06514E+00	1.07276E+00	1.08259E+00	1.09500E+00	1.11035E+00	1.12902E+00	1.15140E+00	1.17788E+00
1.30000E-01	*	1.06821E+00	1.07542E+00	1.08473E+00	1.09646E+00	1.11102E+00	1.12870E+00	1.14991E+00	1.17501E+00
1.40000E-01	*	1.07132E+00	1.07814E+00	1.08695E+00	1.09807E+00	1.11183E+00	1.12857E+00	1.14865E+00	1.17243E+00
1.50000E-01	*	1.07447E+00	1.08092E+00	1.08925E+00	1.09976E+00	1.11277E+00	1.12861E+00	1.14761E+00	1.17012E+00
1.60000E-01	*	1.07766E+00	1.08375E+00	1.09162E+00	1.10155E+00	1.11385E+00	1.12882E+00	1.14675E+00	1.16808E+00
1.70000E-01	*	1.08089E+00	1.08663E+00	1.09406E+00	1.10344E+00	1.11505E+00	1.12920E+00	1.14616E+00	1.16631E+00
1.80000E-01	*	1.08415E+00	1.08957E+00	1.09657E+00	1.10542E+00	1.11638E+00	1.12974E+00	1.14577E+00	1.16478E+00
1.90000E-01	*	1.08744E+00	1.09255E+00	1.09951E+00	1.10750E+00	1.11783E+00	1.13043E+00	1.14556E+00	1.16350E+00
2.00000E-01	*	1.09077E+00	1.09558E+00	1.10180E+00	1.10966E+00	1.11940E+00	1.13128E+00	1.14554E+00	1.16246E+00
2.10000E-01	*	1.09413E+00	1.09865E+00	1.10451E+00	1.11191E+00	1.12108E+00	1.13226E+00	1.14570E+00	1.16165E+00
2.20000E-01	*	1.09752E+00	1.10177E+00	1.10728E+00	1.11424E+00	1.12287E+00	1.13339E+00	1.14604E+00	1.16106E+00
2.30000E-01	*	1.10093E+00	1.10493E+00	1.11010E+00	1.11665E+00	1.12476E+00	1.13466E+00	1.14656E+00	1.16068E+00
2.40000E-01	*	1.10438E+00	1.10813E+00	1.11299E+00	1.11913E+00	1.12675E+00	1.13605E+00	1.14723E+00	1.16051E+00
2.50000E-01	*	1.10786E+00	1.11137E+00	1.11593E+00	1.12169E+00	1.12885E+00	1.13757E+00	1.14807E+00	1.16054E+00
2.60000E-01	*	1.11136E+00	1.11465E+00	1.11892E+00	1.12433E+00	1.13103E+00	1.13922E+00	1.14906E+00	1.16076E+00
2.70000E-01	*	1.11488E+00	1.11797E+00	1.12197E+00	1.12703E+00	1.13311E+00	1.14098E+00	1.15021E+00	1.16117E+00
2.80000E-01	*	1.11843E+00	1.12132E+00	1.12506E+00	1.12979E+00	1.13567E+00	1.14285E+00	1.15149E+00	1.16176E+00
2.90000E-01	*	1.12201E+00	1.12470E+00	1.12820E+00	1.13262E+00	1.13812E+00	1.14483E+00	1.15292E+00	1.16253E+00
3.00000E-01	*	1.12560E+00	1.12812E+00	1.13138E+00	1.13522E+00	1.14065E+00	1.14692E+00	1.15448E+00	1.16346E+00
3.10000E-01	*	1.12922E+00	1.13157E+00	1.13461E+00	1.13847E+00	1.14326E+00	1.14911E+00	1.15616E+00	1.16455E+00
3.20000E-01	*	1.13286E+00	1.13505E+00	1.13788E+00	1.14148E+00	1.14594E+00	1.15140E+00	1.15797E+00	1.16580E+00
3.30000E-01	*	1.13652E+00	1.13856E+00	1.14119E+00	1.14454E+00	1.14869E+00	1.15378E+00	1.15990E+00	1.16714E+00
3.40000E-01	*	1.14020E+00	1.14209E+00	1.14454E+00	1.14765E+00	1.15152E+00	1.15625E+00	1.16154E+00	1.16737E+00
3.50000E-01	*	1.14390E+00	1.14565E+00	1.14793E+00	1.15082E+00	1.15441E+00	1.15880E+00	1.16416E+00	1.17040E+00
3.60000E-01	*	1.14761E+00	1.14924E+00	1.15135E+00	1.15403E+00	1.15736E+00	1.16144E+00	1.16639E+00	1.17221E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SR/(1-W)) (RHC/RHC) - 1 \} \{ (1-W) RHC/RHC \}^{**5} + W(2SN-2)$$

SR = 1.30 RHC = 2.90 SN = 1.2

RHO * 1.80000E+00 1.90000E+00 2.00000E+00 2.10000E+00 2.20000E+00 2.30000E+00 2.40000E+00 2.50000E+00

W

W	RHO	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.28425E+00	1.34593E+00	1.41646E+00	1.49642E+00	1.58638E+00	1.68686E+00	1.79836E+00	1.92133E+00
2.00000E-02	*	1.27521E+00	1.33410E+00	1.40145E+00	1.47785E+00	1.56382E+00	1.65990E+00	1.76655E+00	1.88423E+00
3.00000E-02	*	1.26665E+00	1.32283E+00	1.38713E+00	1.46007E+00	1.54219E+00	1.63400E+00	1.73557E+00	1.84852E+00
4.00000E-02	*	1.25854E+00	1.31212E+00	1.37346E+00	1.44307E+00	1.52147E+00	1.60915E+00	1.70657E+00	1.81416E+00
5.00000E-02	*	1.25088E+00	1.30195E+00	1.36043E+00	1.42682E+00	1.50163E+00	1.58533E+00	1.67835E+00	1.78113E+00
6.00000E-02	*	1.24366E+00	1.29231E+00	1.34803E+00	1.41132E+00	1.48265E+00	1.56249E+00	1.65127E+00	1.74940E+00
7.00000E-02	*	1.23686E+00	1.28318E+00	1.33624E+00	1.39654E+00	1.46452E+00	1.54064E+00	1.62531E+00	1.71894E+00
8.00000E-02	*	1.23048E+00	1.27454E+00	1.32505E+00	1.38246E+00	1.44721E+00	1.51973E+00	1.60044E+00	1.68972E+00
9.00000E-02	*	1.22450E+00	1.26640E+00	1.31444E+00	1.36906E+00	1.43069E+00	1.49975E+00	1.57663E+00	1.66171E+00
1.00000E-01	*	1.21891E+00	1.25873E+00	1.30440E+00	1.35634E+00	1.41496E+00	1.48068E+00	1.55387E+00	1.63499E+00
1.10000E-01	*	1.21370E+00	1.25152E+00	1.29490E+00	1.34426E+00	1.39999E+00	1.46249E+00	1.53211E+00	1.60923E+00
1.20000E-01	*	1.20887E+00	1.24476E+00	1.28594E+00	1.33282E+00	1.38576E+00	1.44515E+00	1.51135E+00	1.58469E+00
1.30000E-01	*	1.20439E+00	1.23843E+00	1.27750E+00	1.32199E+00	1.37226E+00	1.42866E+00	1.49155E+00	1.56126E+00
1.40000E-01	*	1.20027E+00	1.23253E+00	1.26957E+00	1.31176E+00	1.35945E+00	1.41298E+00	1.47269E+00	1.53889E+00
1.50000E-01	*	1.19648E+00	1.22763E+00	1.26213E+00	1.30212E+00	1.34733E+00	1.39810E+00	1.45474E+00	1.51758E+00
1.60000E-01	*	1.19302E+00	1.22194E+00	1.25517E+00	1.29304E+00	1.33587E+00	1.38398E+00	1.43768E+00	1.49728E+00
1.70000E-01	*	1.18989E+00	1.21724E+00	1.24867E+00	1.28451E+00	1.32506E+00	1.37062E+00	1.42149E+00	1.47797E+00
1.80000E-01	*	1.18706E+00	1.21291E+00	1.24263E+00	1.27652E+00	1.31487E+00	1.35799E+00	1.40615E+00	1.45962E+00
1.90000E-01	*	1.18454E+00	1.20895E+00	1.23702E+00	1.26904E+00	1.30530E+00	1.34606E+00	1.39162E+00	1.44222E+00
2.00000E-01	*	1.18230E+00	1.20533E+00	1.23183E+00	1.26207E+00	1.29631E+00	1.33483E+00	1.37788E+00	1.42572E+00
2.10000E-01	*	1.18035E+00	1.20207E+00	1.22706E+00	1.25558E+00	1.28790E+00	1.32426E+00	1.36492E+00	1.41011E+00
2.20000E-01	*	1.17867E+00	1.19913E+00	1.22268E+00	1.24957E+00	1.28004E+00	1.31434E+00	1.35270E+00	1.39537E+00
2.30000E-01	*	1.17725E+00	1.19651E+00	1.21869E+00	1.24401E+00	1.27272E+00	1.30505E+00	1.34121E+00	1.38145E+00
2.40000E-01	*	1.17609E+00	1.19421E+00	1.21507E+00	1.23890E+00	1.26593E+00	1.29636E+00	1.33043E+00	1.36834E+00
2.50000E-01	*	1.17518E+00	1.19220E+00	1.21181E+00	1.23422E+00	1.25963E+00	1.28827E+00	1.32033E+00	1.35602E+00
2.60000E-01	*	1.17450E+00	1.19046E+00	1.20890E+00	1.22995E+00	1.25383E+00	1.28074E+00	1.31089E+00	1.34446E+00
2.70000E-01	*	1.17406E+00	1.18904E+00	1.20632E+00	1.22608E+00	1.24850E+00	1.27377E+00	1.30209E+00	1.33363E+00
2.80000E-01	*	1.17383E+00	1.18788E+00	1.20407E+00	1.22259E+00	1.24362E+00	1.26733E+00	1.29390E+00	1.32352E+00
2.90000E-01	*	1.17382E+00	1.18697E+00	1.20213E+00	1.21948E+00	1.23918E+00	1.26141E+00	1.28632E+00	1.31409E+00
3.00000E-01	*	1.17402E+00	1.18631E+00	1.20050E+00	1.21673E+00	1.23517E+00	1.25598E+00	1.27931E+00	1.30533E+00
3.10000E-01	*	1.17441E+00	1.18590E+00	1.19915E+00	1.21433E+00	1.23157E+00	1.25103E+00	1.27286E+00	1.29721E+00
3.20000E-01	*	1.17500E+00	1.18572E+00	1.19809E+00	1.21226E+00	1.22836E+00	1.24654E+00	1.26694E+00	1.28971E+00
3.30000E-01	*	1.17577E+00	1.18576E+00	1.19730E+00	1.21051E+00	1.22554E+00	1.24250E+00	1.26155E+00	1.28280E+00
3.40000E-01	*	1.17671E+00	1.18602E+00	1.19676E+00	1.20907E+00	1.22308E+00	1.23889E+00	1.25665E+00	1.27648E+00
3.50000E-01	*	1.17783E+00	1.18648E+00	1.19648E+00	1.20793E+00	1.22097E+00	1.23569E+00	1.25223E+00	1.27075E+00
3.60000E-01	*	1.17910E+00	1.18714E+00	1.19643E+00	1.20708E+00	1.21920E+00	1.23289E+00	1.24828E+00	1.26347E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SR/(1-W)) (RHC/RHC) - 1 \} \{ (1-W) RHC/RHC \} ** 5 + W(2SW-2)$$

SR =1.30 RHC =2.90 SW =1.20

W	RHC	* 2.60000E+00	2.70000E+00	2.80000E+00	2.90000E+00
1.00000E-02	*	2.05617E+00	2.20323E+00	2.36280E+00	2.53509E+00
2.00000E-02	*	2.01333E+00	2.15420E+00	2.30713E+00	2.47235E+00
3.00000E-02	*	1.97205E+00	2.10691E+00	2.25339E+00	2.41174E+00
4.00000E-02	*	1.93229E+00	2.06132E+00	2.20155E+00	2.35321E+00
5.00000E-02	*	1.89404E+00	2.01742E+00	2.15157E+00	2.29674E+00
6.00000E-02	*	1.85724E+00	1.97515E+00	2.10341E+00	2.24228E+00
7.00000E-02	*	1.82189E+00	1.93449E+00	2.05704E+00	2.18980E+00
8.00000E-02	*	1.78793E+00	1.89546E+00	2.01242E+00	2.13926E+00
9.00000E-02	*	1.75534E+00	1.85785E+00	1.96952E+00	2.09061E+00
1.00000E-01	*	1.72410E+00	1.82181E+00	1.92830E+00	2.04383E+00
1.10000E-01	*	1.69416E+00	1.78723E+00	1.88872E+00	1.99887E+00
1.20000E-01	*	1.66551E+00	1.75410E+00	1.85074E+00	1.95570E+00
1.30000E-01	*	1.63810E+00	1.72237E+00	1.81434E+00	1.91427E+00
1.40000E-01	*	1.61190E+00	1.69201E+00	1.77947E+00	1.87454E+00
1.50000E-01	*	1.58640E+00	1.66298E+00	1.74610E+00	1.83648E+00
1.60000E-01	*	1.56305E+00	1.63526E+00	1.71419E+00	1.80005E+00
1.70000E-01	*	1.54032E+00	1.60882E+00	1.68370E+00	1.76521E+00
1.80000E-01	*	1.51869E+00	1.58361E+00	1.65460E+00	1.73192E+00
1.90000E-01	*	1.49813E+00	1.55940E+00	1.62686E+00	1.70013E+00
2.00000E-01	*	1.47861E+00	1.53677E+00	1.60044E+00	1.66982E+00
2.10000E-01	*	1.46009E+00	1.51508E+00	1.57529E+00	1.64095E+00
2.20000E-01	*	1.44256E+00	1.49450E+00	1.55140E+00	1.61347E+00
2.30000E-01	*	1.42597E+00	1.47499E+00	1.52872E+00	1.58734E+00
2.40000E-01	*	1.41031E+00	1.45653E+00	1.50721E+00	1.56234E+00
2.50000E-01	*	1.39554E+00	1.43909E+00	1.48685E+00	1.53901E+00
2.60000E-01	*	1.38164E+00	1.42263E+00	1.46760E+00	1.51674E+00
2.70000E-01	*	1.36859E+00	1.40713E+00	1.44943E+00	1.49566E+00
2.80000E-01	*	1.35634E+00	1.39255E+00	1.43230E+00	1.47576E+00
2.90000E-01	*	1.34488E+00	1.37886E+00	1.41618E+00	1.45706E+00
3.00000E-01	*	1.33419E+00	1.36604E+00	1.40104E+00	1.43933E+00
3.10000E-01	*	1.32422E+00	1.35405E+00	1.38684E+00	1.42273E+00
3.20000E-01	*	1.31497E+00	1.34268E+00	1.37356E+00	1.40716E+00
3.30000E-01	*	1.30640E+00	1.33248E+00	1.36116E+00	1.39257E+00
3.40000E-01	*	1.29850E+00	1.32243E+00	1.34961E+00	1.37895E+00
3.50000E-01	*	1.29123E+00	1.31351E+00	1.33889E+00	1.36626E+00
3.60000E-01	*	1.28457E+00	1.30569E+00	1.32895E+00	1.35445E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SK / (1-W)) (R+CG/RHC) - 1 \} \{ (1-W) RHC / (R+CG) \} * 5 + W (2SW - 2)$$

SK = 1.3C   RHC = 3.00   SW = 1.20

W	RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.03065E+00	1.04245E+00	1.05766E+00	1.07680E+00	1.10043E+00	1.12911E+00	1.16343E+00	1.20294E+00
2.00000E-02	*	1.03337E+00	1.04461E+00	1.05909E+00	1.07733E+00	1.09986E+00	1.12720E+00	1.15993E+00	1.19857E+00
3.00000E-02	*	1.03614E+00	1.04684E+00	1.06063E+00	1.07800E+00	1.09946E+00	1.12551E+00	1.15670E+00	1.19355E+00
4.00000E-02	*	1.03895E+00	1.04913E+00	1.06226E+00	1.07879E+00	1.09922E+00	1.12404E+00	1.15375E+00	1.18886E+00
5.00000E-02	*	1.04181E+00	1.05149E+00	1.06398E+00	1.07971E+00	1.09915E+00	1.12277E+00	1.15105E+00	1.18449E+00
6.00000E-02	*	1.04472E+00	1.05392E+00	1.06578E+00	1.08074E+00	1.09923E+00	1.12170E+00	1.14862E+00	1.18044E+00
7.00000E-02	*	1.04767E+00	1.05641E+00	1.06768E+00	1.08189E+00	1.09947E+00	1.12083E+00	1.14643E+00	1.17670E+00
8.00000E-02	*	1.05066E+00	1.05896E+00	1.06966E+00	1.08316E+00	1.09985E+00	1.12015E+00	1.14448E+00	1.17327E+00
9.00000E-02	*	1.05369E+00	1.06156E+00	1.07172E+00	1.08453E+00	1.10038E+00	1.11966E+00	1.14277E+00	1.17012E+00
1.00000E-01	*	1.05677E+00	1.06423E+00	1.07386E+00	1.08601E+00	1.10105E+00	1.11935E+00	1.14128E+00	1.16725E+00
1.10000E-01	*	1.05988E+00	1.06695E+00	1.07608E+00	1.08760E+00	1.10186E+00	1.11921E+00	1.14002E+00	1.16467E+00
1.20000E-01	*	1.06303E+00	1.06972E+00	1.07837E+00	1.08942E+00	1.10280E+00	1.11924E+00	1.13898E+00	1.16235E+00
1.30000E-01	*	1.06621E+00	1.07255E+00	1.08073E+00	1.09107E+00	1.10386E+00	1.11944E+00	1.13814E+00	1.16029E+00
1.40000E-01	*	1.06944E+00	1.07543E+00	1.08317E+00	1.09295E+00	1.10505E+00	1.11980E+00	1.13750E+00	1.15848E+00
1.50000E-01	*	1.07269E+00	1.07835E+00	1.08567E+00	1.09492E+00	1.10637E+00	1.12032E+00	1.13706E+00	1.15692E+00
1.60000E-01	*	1.07598E+00	1.08133E+00	1.08824E+00	1.09697E+00	1.10779E+00	1.12098E+00	1.13682E+00	1.15559E+00
1.70000E-01	*	1.07930E+00	1.08435E+00	1.09087E+00	1.09912E+00	1.10934E+00	1.12179E+00	1.13675E+00	1.15450E+00
1.80000E-01	*	1.08265E+00	1.08741E+00	1.09356E+00	1.10134E+00	1.11099E+00	1.12275E+00	1.13687E+00	1.15363E+00
1.90000E-01	*	1.08603E+00	1.09051E+00	1.09632E+00	1.10365E+00	1.11274E+00	1.12383E+00	1.13716E+00	1.15298E+00
2.00000E-01	*	1.08944E+00	1.09366E+00	1.09913E+00	1.10606E+00	1.11460E+00	1.12506E+00	1.13762E+00	1.15253E+00
2.10000E-01	*	1.09288E+00	1.09685E+00	1.10199E+00	1.10850E+00	1.11656E+00	1.12641E+00	1.13824E+00	1.15229E+00
2.20000E-01	*	1.09634E+00	1.10008E+00	1.10491E+00	1.11103E+00	1.11862E+00	1.12788E+00	1.13902E+00	1.15224E+00
2.30000E-01	*	1.09983E+00	1.10334E+00	1.10788E+00	1.11363E+00	1.12076E+00	1.12947E+00	1.13995E+00	1.15239E+00
2.40000E-01	*	1.10335E+00	1.10664E+00	1.11090E+00	1.11630E+00	1.12300E+00	1.13118E+00	1.14102E+00	1.15272E+00
2.50000E-01	*	1.10688E+00	1.10997E+00	1.11397E+00	1.11904E+00	1.12532E+00	1.13300E+00	1.14224E+00	1.15322E+00
2.60000E-01	*	1.11045E+00	1.11334E+00	1.11709E+00	1.12183E+00	1.12773E+00	1.13493E+00	1.14359E+00	1.15390E+00
2.70000E-01	*	1.11403E+00	1.11674E+00	1.12025E+00	1.12469E+00	1.13021E+00	1.13696E+00	1.14508E+00	1.15473E+00
2.80000E-01	*	1.11764E+00	1.12017E+00	1.12345E+00	1.12761E+00	1.13278E+00	1.13909E+00	1.14669E+00	1.15573E+00
2.90000E-01	*	1.12126E+00	1.12363E+00	1.12670E+00	1.13058E+00	1.13541E+00	1.14132E+00	1.14843E+00	1.15689E+00
3.00000E-01	*	1.12491E+00	1.12712E+00	1.12998E+00	1.13361E+00	1.13812E+00	1.14363E+00	1.15028E+00	1.15818E+00
3.10000E-01	*	1.12858E+00	1.13064E+00	1.13331E+00	1.13669E+00	1.14090E+00	1.14604E+00	1.15224E+00	1.15962E+00
3.20000E-01	*	1.13226E+00	1.13418E+00	1.13666E+00	1.13982E+00	1.14374E+00	1.14854E+00	1.15432E+00	1.16120E+00
3.30000E-01	*	1.13596E+00	1.13775E+00	1.14006E+00	1.14300E+00	1.14665E+00	1.15111E+00	1.15650E+00	1.16291E+00
3.40000E-01	*	1.13968E+00	1.14134E+00	1.14349E+00	1.14622E+00	1.14961E+00	1.15377E+00	1.15878E+00	1.16474E+00
3.50000E-01	*	1.14341E+00	1.14495E+00	1.14695E+00	1.14948E+00	1.15264E+00	1.15650E+00	1.16115E+00	1.16670E+00
3.60000E-01	*	1.14716E+00	1.14859E+00	1.15044E+00	1.15279E+00	1.15572E+00	1.15930E+00	1.16362E+00	1.16877E+00

$$\text{GAMMA} = 1 + \{1-W\} \{ (2SR / (1-W)) (RHCG / RHO) - 1 \} \{ (1-W) RHC / RHCG \} ** 5 + W (2SW - 2)$$

SR = 1.30 RHCG = 3.00 SW = 1.20

	RHC	*	1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
W	*									
1.00000E-02	*	1.25124E+00	1.30588E+00	1.36843E+00	1.43943E+00	1.51941E+00	1.60886E+00	1.70826E+00	1.81805E+00	
2.00000E-02	*	1.24370E+00	1.29586E+00	1.35558E+00	1.42340E+00	1.49982E+00	1.58532E+00	1.68037E+00	1.78539E+00	
3.00000E-02	*	1.23659E+00	1.28634E+00	1.34334E+00	1.40808E+00	1.48105E+00	1.56273E+00	1.65357E+00	1.75398E+00	
4.00000E-02	*	1.22988E+00	1.27732E+00	1.33168E+00	1.39345E+00	1.46310E+00	1.54108E+00	1.62785E+00	1.72379E+00	
5.00000E-02	*	1.22357E+00	1.26878E+00	1.32060E+00	1.37949E+00	1.44593E+00	1.52035E+00	1.60317E+00	1.69479E+00	
6.00000E-02	*	1.21765E+00	1.26071E+00	1.31007E+00	1.36620E+00	1.42954E+00	1.50051E+00	1.57952E+00	1.66697E+00	
7.00000E-02	*	1.21211E+00	1.25309E+00	1.30009E+00	1.35355E+00	1.41389E+00	1.48154E+00	1.55687E+00	1.64028E+00	
8.00000E-02	*	1.20693E+00	1.24592E+00	1.29064E+00	1.34153E+00	1.39899E+00	1.46342E+00	1.53521E+00	1.61471E+00	
9.00000E-02	*	1.20212E+00	1.23918E+00	1.28171E+00	1.33012E+00	1.38479E+00	1.44613E+00	1.51449E+00	1.59023E+00	
1.00000E-01	*	1.19765E+00	1.23286E+00	1.27328E+00	1.31930E+00	1.37130E+00	1.42965E+00	1.49471E+00	1.56682E+00	
1.10000E-01	*	1.19332E+00	1.22645E+00	1.26534E+00	1.30906E+00	1.35848E+00	1.41396E+00	1.47583E+00	1.54444E+00	
1.20000E-01	*	1.18971E+00	1.22144E+00	1.25788E+00	1.29939E+00	1.34633E+00	1.39903E+00	1.45784E+00	1.52307E+00	
1.30000E-01	*	1.18623E+00	1.21631E+00	1.25088E+00	1.29026E+00	1.33481E+00	1.38485E+00	1.44071E+00	1.50268E+00	
1.40000E-01	*	1.18306E+00	1.21156E+00	1.24433E+00	1.28167E+00	1.32393E+00	1.37141E+00	1.42442E+00	1.48326E+00	
1.50000E-01	*	1.18018E+00	1.20718E+00	1.23821E+00	1.27360E+00	1.31365E+00	1.35866E+00	1.40894E+00	1.46478E+00	
1.60000E-01	*	1.17760E+00	1.20315E+00	1.23252E+00	1.26603E+00	1.30396E+00	1.34661E+00	1.39427E+00	1.44720E+00	
1.70000E-01	*	1.17531E+00	1.19946E+00	1.22725E+00	1.25895E+00	1.29485E+00	1.33523E+00	1.38036E+00	1.43051E+00	
1.80000E-01	*	1.17328E+00	1.19611E+00	1.22237E+00	1.25234E+00	1.28630E+00	1.32450E+00	1.36721E+00	1.41468E+00	
1.90000E-01	*	1.17153E+00	1.19308E+00	1.21788E+00	1.24620E+00	1.27828E+00	1.31440E+00	1.35478E+00	1.39969E+00	
2.00000E-01	*	1.17003E+00	1.19036E+00	1.21377E+00	1.24050E+00	1.27080E+00	1.30491E+00	1.34307E+00	1.38551E+00	
2.10000E-01	*	1.16878E+00	1.18745E+00	1.21002E+00	1.23523E+00	1.26382E+00	1.29601E+00	1.33204E+00	1.37213E+00	
2.20000E-01	*	1.16777E+00	1.18583E+00	1.20662E+00	1.23039E+00	1.25733E+00	1.28769E+00	1.32168E+00	1.35951E+00	
2.30000E-01	*	1.16700E+00	1.18399E+00	1.20357E+00	1.22594E+00	1.25133E+00	1.27993E+00	1.31197E+00	1.34763E+00	
2.40000E-01	*	1.16645E+00	1.18243E+00	1.20084E+00	1.22190E+00	1.24579E+00	1.27271E+00	1.30288E+00	1.33648E+00	
2.50000E-01	*	1.16612E+00	1.18113E+00	1.19844E+00	1.21823E+00	1.24069E+00	1.26602E+00	1.29440E+00	1.32602E+00	
2.60000E-01	*	1.16600E+00	1.18004E+00	1.19634E+00	1.21493E+00	1.23603E+00	1.25983E+00	1.28651E+00	1.31624E+00	
2.70000E-01	*	1.16609E+00	1.17930E+00	1.19454E+00	1.21198E+00	1.23179E+00	1.25413E+00	1.27918E+00	1.30712E+00	
2.80000E-01	*	1.16637E+00	1.17874E+00	1.19303E+00	1.20937E+00	1.22795E+00	1.24890E+00	1.27241E+00	1.29862E+00	
2.90000E-01	*	1.16683E+00	1.17842E+00	1.19179E+00	1.20710E+00	1.22450E+00	1.24414E+00	1.26617E+00	1.29074E+00	
3.00000E-01	*	1.16748E+00	1.17832E+00	1.19082E+00	1.20515E+00	1.22143E+00	1.23981E+00	1.26044E+00	1.28346E+00	
3.10000E-01	*	1.16831E+00	1.17843E+00	1.19011E+00	1.20350E+00	1.21872E+00	1.23591E+00	1.25520E+00	1.27674E+00	
3.20000E-01	*	1.16930E+00	1.17875E+00	1.18965E+00	1.20215E+00	1.21636E+00	1.23241E+00	1.25044E+00	1.27057E+00	
3.30000E-01	*	1.17046E+00	1.17926E+00	1.18943E+00	1.20108E+00	1.21434E+00	1.22932E+00	1.24614E+00	1.26493E+00	
3.40000E-01	*	1.17171E+00	1.17996E+00	1.18943E+00	1.20029E+00	1.21264E+00	1.22660E+00	1.24228E+00	1.25981E+00	
3.50000E-01	*	1.17323E+00	1.18049E+00	1.18966E+00	1.19976E+00	1.21125E+00	1.22425E+00	1.23885E+00	1.25517E+00	
3.60000E-01	*	1.17484E+00	1.18191E+00	1.19010E+00	1.19948E+00	1.21016E+00	1.22225E+00	1.23583E+00	1.25102E+00	

$$\text{GAMMA} = 1 + (1-W) \{ (2SR / (1-W)) (RHC / RMC) - 1 \} \{ (1-W) RMC / (R+CG) \} * * 5 + W (2SW - 2)$$

SR =1.30 RMC =3.00 SW =1.20

RMC * 2.60000E+00 2.70000E+00 2.80000E+00 2.90000E+00 3.00000E+00

W

1.00000E-02	* 1.93861E+00	2.07032E+00	2.21348E+00	2.36833E+00	2.53509E+00
2.00000E-02	* 1.40078E+00	2.02688E+00	2.16401E+00	2.31244E+00	2.47235E+00
3.00000E-02	* 1.86434E+00	1.98502E+00	2.11631E+00	2.25848E+00	2.41174E+00
4.00000E-02	* 1.82929E+00	1.94470E+00	2.07032E+00	2.20642E+00	2.35321E+00
5.00000E-02	* 1.79559E+00	1.90550E+00	2.02602E+00	2.15623E+00	2.29674E+00
6.00000E-02	* 1.76321E+00	1.86858E+00	1.98337E+00	2.10787E+00	2.24228E+00
7.00000E-02	* 1.73212E+00	1.83271E+00	1.94234E+00	2.06130E+00	2.18980E+00
8.00000E-02	* 1.70229E+00	1.79825E+00	1.90290E+00	2.01649E+00	2.13926E+00
9.00000E-02	* 1.67370E+00	1.76519E+00	1.86501E+00	1.97340E+00	2.09061E+00
1.00000E-01	* 1.64631E+00	1.73348E+00	1.82863E+00	1.93200E+00	2.04383E+00
1.10000E-01	* 1.62009E+00	1.70310E+00	1.79373E+00	1.89225E+00	1.99887E+00
1.20000E-01	* 1.59503E+00	1.67401E+00	1.76029E+00	1.85411E+00	1.95570E+00
1.30000E-01	* 1.57108E+00	1.64618E+00	1.72826E+00	1.81754E+00	1.91427E+00
1.40000E-01	* 1.54823E+00	1.61999E+00	1.69761E+00	1.78252E+00	1.87454E+00
1.50000E-01	* 1.52644E+00	1.59420E+00	1.66830E+00	1.74899E+00	1.83648E+00
1.60000E-01	* 1.50568E+00	1.56997E+00	1.64031E+00	1.71694E+00	1.80005E+00
1.70000E-01	* 1.48594E+00	1.54689E+00	1.61361E+00	1.68631E+00	1.76521E+00
1.80000E-01	* 1.46717E+00	1.52442E+00	1.58815E+00	1.65708E+00	1.73192E+00
1.90000E-01	* 1.44936E+00	1.50402E+00	1.56390E+00	1.62921E+00	1.70013E+00
2.00000E-01	* 1.43248E+00	1.48418E+00	1.54084E+00	1.60266E+00	1.66982E+00
2.10000E-01	* 1.41650E+00	1.46536E+00	1.51893E+00	1.57739E+00	1.64095E+00
2.20000E-01	* 1.40139E+00	1.44753E+00	1.49813E+00	1.55338E+00	1.61347E+00
2.30000E-01	* 1.38713E+00	1.43067E+00	1.47843E+00	1.53059E+00	1.58734E+00
2.40000E-01	* 1.37370E+00	1.41474E+00	1.45977E+00	1.50898E+00	1.56254E+00
2.50000E-01	* 1.36107E+00	1.39971E+00	1.44214E+00	1.48852E+00	1.53901E+00
2.60000E-01	* 1.34920E+00	1.38557E+00	1.42550E+00	1.46917E+00	1.51674E+00
2.70000E-01	* 1.33809E+00	1.37228E+00	1.40983E+00	1.45091E+00	1.49566E+00
2.80000E-01	* 1.32770E+00	1.35981E+00	1.39508E+00	1.43369E+00	1.47576E+00
2.90000E-01	* 1.31802E+00	1.34813E+00	1.38124E+00	1.41748E+00	1.45700E+00
3.00000E-01	* 1.30910E+00	1.33723E+00	1.36827E+00	1.40226E+00	1.43933E+00
3.10000E-01	* 1.30065E+00	1.32708E+00	1.35615E+00	1.38799E+00	1.42273E+00
3.20000E-01	* 1.29293E+00	1.31764E+00	1.34483E+00	1.37463E+00	1.40716E+00
3.30000E-01	* 1.28581E+00	1.30890E+00	1.33431E+00	1.36216E+00	1.39257E+00
3.40000E-01	* 1.27928E+00	1.30082E+00	1.32454E+00	1.35055E+00	1.37895E+00
3.50000E-01	* 1.27332E+00	1.29340E+00	1.31551E+00	1.33976E+00	1.36626E+00
3.60000E-01	* 1.26790E+00	1.28659E+00	1.30718E+00	1.32977E+00	1.35445E+00

Table B2. Values of γ for various combinations of in situ density ($\rho_0 = \text{RHO}$), grain density ($\rho_g = \text{RHOG}$), and weight fraction of water (W). These values would be used when $P_g \leq 130 \text{ kbar}$.

$$\text{GAMMA} = 1 + (1-w) \{ (25w/(1-w)) (\text{RHOG}/\text{RHO}) - 1 \} \{ (1-w) \text{RHO}/\text{RHO} \} + w \{ (25w-z) \}$$

SR = 1.3L RHOG = 2.20 Sh = 1.76

W	RHO	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.10248E+00	1.14031E+00	1.18861E+00	1.24883E+00	1.32243E+00	1.41082E+00	1.51538E+00	1.63738E+00
2.00000E-02	*	1.11354E+00	1.14960E+00	1.19568E+00	1.25312E+00	1.32337E+00	1.40777E+00	1.50768E+00	1.62428E+00
3.00000E-02	*	1.12475E+00	1.15911E+00	1.20362E+00	1.25761E+00	1.32782E+00	1.40537E+00	1.50527E+00	1.61215E+00
4.00000E-02	*	1.13611E+00	1.16884E+00	1.21066E+00	1.26280E+00	1.32777E+00	1.40361E+00	1.49462E+00	1.60099E+00
5.00000E-02	*	1.14762E+00	1.17877E+00	1.21859E+00	1.26633E+00	1.32721E+00	1.40246E+00	1.48927E+00	1.59077E+00
6.00000E-02	*	1.15927E+00	1.18909E+00	1.22680E+00	1.27414E+00	1.33513E+00	1.40192E+00	1.48461E+00	1.58146E+00
7.00000E-02	*	1.17106E+00	1.19923E+00	1.23527E+00	1.28032E+00	1.33551E+00	1.40156E+00	1.48079E+00	1.57305E+00
8.00000E-02	*	1.18249E+00	1.20975E+00	1.24401E+00	1.28684E+00	1.33934E+00	1.40256E+00	1.47761E+00	1.56551E+00
9.00000E-02	*	1.19354E+00	1.22046E+00	1.25308E+00	1.29376E+00	1.34361E+00	1.40376E+00	1.47517E+00	1.55882E+00
1.00000E-01	*	1.20723E+00	1.23135E+00	1.26224E+00	1.30090E+00	1.34631E+00	1.40542E+00	1.47838E+00	1.55247E+00
1.10000E-01	*	1.21953E+00	1.24241E+00	1.27172E+00	1.30841E+00	1.35343E+00	1.40773E+00	1.48226E+00	1.56792E+00
1.20000E-01	*	1.23196E+00	1.25304E+00	1.28143E+00	1.31623E+00	1.35895E+00	1.41050E+00	1.48117E+00	1.56366E+00
1.30000E-01	*	1.24451E+00	1.26504E+00	1.29137E+00	1.32436E+00	1.36486E+00	1.41376E+00	1.47921E+00	1.56017E+00
1.40000E-01	*	1.25716E+00	1.27660E+00	1.30153E+00	1.33278E+00	1.37116E+00	1.41751E+00	1.47827E+00	1.55747E+00
1.50000E-01	*	1.26993E+00	1.28832E+00	1.31191E+00	1.34148E+00	1.37783E+00	1.42174E+00	1.47401E+00	1.55541E+00
1.60000E-01	*	1.28280E+00	1.30010E+00	1.32249E+00	1.35046E+00	1.38486E+00	1.42642E+00	1.47542E+00	1.55410E+00
1.70000E-01	*	1.29578E+00	1.31219E+00	1.33327E+00	1.35971E+00	1.39223E+00	1.43156E+00	1.47846E+00	1.55334E+00
1.80000E-01	*	1.30885E+00	1.32435E+00	1.34425E+00	1.36922E+00	1.39995E+00	1.43712E+00	1.48142E+00	1.55352E+00
1.90000E-01	*	1.32202E+00	1.33663E+00	1.35541E+00	1.37898E+00	1.40799E+00	1.44316E+00	1.48448E+00	1.55421E+00
2.00000E-01	*	1.33528E+00	1.34966E+00	1.36676E+00	1.38899E+00	1.41536E+00	1.44949E+00	1.48901E+00	1.55546E+00
2.10000E-01	*	1.34864E+00	1.36161E+00	1.37828E+00	1.39923E+00	1.42303E+00	1.45626E+00	1.49356E+00	1.55747E+00
2.20000E-01	*	1.36207E+00	1.37428E+00	1.38997E+00	1.40970E+00	1.43360E+00	1.46544E+00	1.49799E+00	1.54000E+00
2.30000E-01	*	1.37560E+00	1.38767E+00	1.40183E+00	1.42039E+00	1.44326E+00	1.47095E+00	1.50408E+00	1.54316E+00
2.40000E-01	*	1.38920E+00	1.39948E+00	1.41385E+00	1.43124E+00	1.45200E+00	1.47827E+00	1.51000E+00	1.54615E+00
2.50000E-01	*	1.40288E+00	1.41306E+00	1.42662E+00	1.44424E+00	1.46261E+00	1.48711E+00	1.51646E+00	1.55095E+00
2.60000E-01	*	1.41664E+00	1.42613E+00	1.43834E+00	1.45371E+00	1.47248E+00	1.49569E+00	1.52320E+00	1.55506E+00
2.70000E-01	*	1.43047E+00	1.43936E+00	1.45086E+00	1.46521E+00	1.48300E+00	1.50458E+00	1.53046E+00	1.56088E+00
2.80000E-01	*	1.44437E+00	1.45269E+00	1.46341E+00	1.47690E+00	1.49356E+00	1.51379E+00	1.53880E+00	1.56658E+00
2.90000E-01	*	1.45836E+00	1.46612E+00	1.47614E+00	1.48878E+00	1.50436E+00	1.52330E+00	1.54557E+00	1.57276E+00
3.00000E-01	*	1.47237E+00	1.47963E+00	1.48900E+00	1.50000E+00	1.51238E+00	1.53310E+00	1.55421E+00	1.57939E+00
3.10000E-01	*	1.48647E+00	1.49324E+00	1.50199E+00	1.51300E+00	1.52622E+00	1.54318E+00	1.56361E+00	1.58665E+00
3.20000E-01	*	1.50062E+00	1.50694E+00	1.51509E+00	1.52537E+00	1.53807E+00	1.55353E+00	1.57204E+00	1.59374E+00
3.30000E-01	*	1.51483E+00	1.52071E+00	1.52831E+00	1.53768E+00	1.54947E+00	1.56413E+00	1.58146E+00	1.60133E+00
3.40000E-01	*	1.52910E+00	1.53457E+00	1.54161E+00	1.55034E+00	1.56157E+00	1.57499E+00	1.59128E+00	1.61012E+00
3.50000E-01	*	1.54341E+00	1.54850E+00	1.55506E+00	1.56335E+00	1.57360E+00	1.58608E+00	1.60000E+00	1.61876E+00
3.60000E-01	*	1.55778E+00	1.56250E+00	1.56959E+00	1.57829E+00	1.58881E+00	1.59774E+00	1.61117E+00	1.62706E+00

$$\text{GAMMA} = 1 + (1-w)(12SK/(1-w))(RHC6/RHC)-1)((1-w)RHC/RHC)**5 + w(2SK-2)$$

SK =1.30 RHC6 =2.20 SW =1.76

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00
*	*	*	*	*	*	*
1.00000E-02	*	1.77003E+00	1.93840E+00	2.11942E+00	2.32185E+00	2.54629E+00
2.00000E-02	*	1.75879E+00	1.91225E+00	2.08558E+00	2.27954E+00	2.49475E+00
3.00000E-02	*	1.74073E+00	1.88749E+00	2.05336E+00	2.23910E+00	2.44534E+00
4.00000E-02	*	1.72381E+00	1.86410E+00	2.02274E+00	2.20050E+00	2.39601E+00
5.00000E-02	*	1.70803E+00	1.84204E+00	1.99367E+00	2.16370E+00	2.35274E+00
6.00000E-02	*	1.69335E+00	1.82129E+00	1.96614E+00	2.12866E+00	2.30948E+00
7.00000E-02	*	1.67975E+00	1.80181E+00	1.94010E+00	2.09535E+00	2.26820E+00
8.00000E-02	*	1.66719E+00	1.78359E+00	1.91552E+00	2.06373E+00	2.22886E+00
9.00000E-02	*	1.65567E+00	1.76658E+00	1.89238E+00	2.03378E+00	2.19141E+00
1.00000E-01	*	1.64514E+00	1.75077E+00	1.87063E+00	2.00544E+00	2.15583E+00
1.10000E-01	*	1.63560E+00	1.73612E+00	1.85025E+00	1.97870E+00	2.12207E+00
1.20000E-01	*	1.62700E+00	1.72260E+00	1.83121E+00	1.95350E+00	2.09010E+00
1.30000E-01	*	1.61933E+00	1.71019E+00	1.81347E+00	1.92982E+00	2.05987E+00
1.40000E-01	*	1.61257E+00	1.69886E+00	1.79700E+00	1.90763E+00	2.03134E+00
1.50000E-01	*	1.60669E+00	1.68858E+00	1.78177E+00	1.88688E+00	2.00448E+00
1.60000E-01	*	1.60167E+00	1.67933E+00	1.76775E+00	1.86753E+00	1.97925E+00
1.70000E-01	*	1.59748E+00	1.67167E+00	1.75490E+00	1.84957E+00	1.95561E+00
1.80000E-01	*	1.59409E+00	1.66379E+00	1.74321E+00	1.83294E+00	1.93352E+00
1.90000E-01	*	1.59150E+00	1.65744E+00	1.73263E+00	1.81762E+00	1.91293E+00
2.00000E-01	*	1.58967E+00	1.65202E+00	1.72313E+00	1.80357E+00	1.89382E+00
2.10000E-01	*	1.58859E+00	1.64748E+00	1.71470E+00	1.79075E+00	1.87615E+00
2.20000E-01	*	1.58822E+00	1.64381E+00	1.70728E+00	1.77914E+00	1.85987E+00
2.30000E-01	*	1.58856E+00	1.64098E+00	1.70087E+00	1.76870E+00	1.84494E+00
2.40000E-01	*	1.58957E+00	1.63896E+00	1.69542E+00	1.75939E+00	1.83134E+00
2.50000E-01	*	1.59123E+00	1.63773E+00	1.69090E+00	1.75119E+00	1.81901E+00
2.60000E-01	*	1.59354E+00	1.63727E+00	1.68730E+00	1.74405E+00	1.80794E+00
2.70000E-01	*	1.59645E+00	1.63755E+00	1.68454E+00	1.73795E+00	1.79806E+00
2.80000E-01	*	1.59996E+00	1.63854E+00	1.68271E+00	1.73286E+00	1.78936E+00
2.90000E-01	*	1.60405E+00	1.64022E+00	1.68166E+00	1.72873E+00	1.78180E+00
3.00000E-01	*	1.60869E+00	1.64258E+00	1.68144E+00	1.72555E+00	1.77533E+00
3.10000E-01	*	1.61386E+00	1.64558E+00	1.68194E+00	1.72328E+00	1.76993E+00
3.20000E-01	*	1.61955E+00	1.64920E+00	1.68321E+00	1.72189E+00	1.76556E+00
3.30000E-01	*	1.62574E+00	1.65342E+00	1.68519E+00	1.72134E+00	1.76217E+00
3.40000E-01	*	1.63241E+00	1.65823E+00	1.68787E+00	1.72162E+00	1.75975E+00
3.50000E-01	*	1.63954E+00	1.66359E+00	1.69122E+00	1.72269E+00	1.75826E+00
3.60000E-01	*	1.64711E+00	1.66949E+00	1.69521E+00	1.72451E+00	1.75765E+00

$$\text{GAMMA} = 1 + \{(1-w) \{ (2SR / (1-w)) (RHC / RHL) - 1 \} \} ((1-w) RHC / RFC) ** 5 + w (2Sw - 2)$$

SR = 1.3G RHC = 2.40 Sw = 1.76

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00
W	*							
1.00000E-02	*	1.57412E+00	1.64305E+00	1.82925E+00	1.98168E+00	2.15165E+00	2.33971E+00	2.54629E+00
2.00000E-02	*	1.56380E+00	1.67809E+00	1.80779E+00	1.95368E+00	2.11645E+00	2.29666E+00	2.49475E+00
3.00000E-02	*	1.55437E+00	1.66358E+00	1.78758E+00	1.92713E+00	2.08292E+00	2.25550E+00	2.44534E+00
4.00000E-02	*	1.54582E+00	1.65011E+00	1.76859E+00	1.90200E+00	2.05102E+00	2.21620E+00	2.39801E+00
5.00000E-02	*	1.53811E+00	1.63766E+00	1.75079E+00	1.87826E+00	2.02071E+00	2.17872E+00	2.35274E+00
6.00000E-02	*	1.53124E+00	1.62619E+00	1.73417E+00	1.85546E+00	1.99198E+00	2.14302E+00	2.30948E+00
7.00000E-02	*	1.52518E+00	1.61570E+00	1.71868E+00	1.83483E+00	1.96478E+00	2.10907E+00	2.26820E+00
8.00000E-02	*	1.51991E+00	1.60615E+00	1.70431E+00	1.81508E+00	1.93907E+00	2.07684E+00	2.22866E+00
9.00000E-02	*	1.51541E+00	1.59752E+00	1.69103E+00	1.79660E+00	1.91484E+00	2.04629E+00	2.19141E+00
1.00000E-01	*	1.51166E+00	1.58979E+00	1.67882E+00	1.77937E+00	1.89204E+00	2.01737E+00	2.15523E+00
1.10000E-01	*	1.50864E+00	1.58294E+00	1.66764E+00	1.76334E+00	1.87065E+00	1.99007E+00	2.12207E+00
1.20000E-01	*	1.50634E+00	1.57695E+00	1.65747E+00	1.74850E+00	1.85062E+00	1.96433E+00	2.09010E+00
1.30000E-01	*	1.50473E+00	1.57178E+00	1.64828E+00	1.73482E+00	1.83193E+00	1.94013E+00	2.05987E+00
1.40000E-01	*	1.50379E+00	1.56743E+00	1.64006E+00	1.72226E+00	1.81455E+00	1.91743E+00	2.03134E+00
1.50000E-01	*	1.50352E+00	1.56366E+00	1.63278E+00	1.71080E+00	1.79844E+00	1.89619E+00	2.00448E+00
1.60000E-01	*	1.50388E+00	1.56107E+00	1.62640E+00	1.70040E+00	1.78357E+00	1.87638E+00	1.97925E+00
1.70000E-01	*	1.50486E+00	1.55902E+00	1.62691E+00	1.69105E+00	1.76991E+00	1.85796E+00	1.95561E+00
1.80000E-01	*	1.50645E+00	1.55769E+00	1.61828E+00	1.68271E+00	1.75743E+00	1.84090E+00	1.93352E+00
1.90000E-01	*	1.50862E+00	1.55707E+00	1.61249E+00	1.67535E+00	1.74610E+00	1.82516E+00	1.91293E+00
2.00000E-01	*	1.51136E+00	1.55713E+00	1.60951E+00	1.66895E+00	1.73588E+00	1.81071E+00	1.89382E+00
2.10000E-01	*	1.51465E+00	1.55786E+00	1.60733E+00	1.66348E+00	1.72674E+00	1.79751E+00	1.87615E+00
2.20000E-01	*	1.51847E+00	1.55923E+00	1.60591E+00	1.65892E+00	1.71866E+00	1.78553E+00	1.85987E+00
2.30000E-01	*	1.52282E+00	1.56123E+00	1.60523E+00	1.65523E+00	1.71161E+00	1.77473E+00	1.84494E+00
2.40000E-01	*	1.52766E+00	1.56382E+00	1.60528E+00	1.65239E+00	1.70554E+00	1.76508E+00	1.83134E+00
2.50000E-01	*	1.53299E+00	1.56701E+00	1.60802E+00	1.65038E+00	1.70045E+00	1.75655E+00	1.81901E+00
2.60000E-01	*	1.53878E+00	1.57076E+00	1.60744E+00	1.64917E+00	1.69628E+00	1.74910E+00	1.80754E+00
2.70000E-01	*	1.54503E+00	1.57506E+00	1.60952E+00	1.64873E+00	1.69302E+00	1.74270E+00	1.79806E+00
2.80000E-01	*	1.55172E+00	1.57989E+00	1.61222E+00	1.64904E+00	1.69064E+00	1.73722E+00	1.78936E+00
2.90000E-01	*	1.55883E+00	1.58523E+00	1.61554E+00	1.65007E+00	1.66911E+00	1.73292E+00	1.78180E+00
3.00000E-01	*	1.56635E+00	1.59166E+00	1.61946E+00	1.65181E+00	1.68839E+00	1.72948E+00	1.77533E+00
3.10000E-01	*	1.57426E+00	1.59737E+00	1.62394E+00	1.65422E+00	1.68847E+00	1.72696E+00	1.76993E+00
3.20000E-01	*	1.58255E+00	1.60414E+00	1.62897E+00	1.65728E+00	1.68932E+00	1.72533E+00	1.76556E+00
3.30000E-01	*	1.59120E+00	1.61136E+00	1.63453E+00	1.66097E+00	1.69091E+00	1.72456E+00	1.76217E+00
3.40000E-01	*	1.60021E+00	1.61900E+00	1.64061E+00	1.66527E+00	1.69320E+00	1.72463E+00	1.75975E+00
3.50000E-01	*	1.60955E+00	1.62704E+00	1.64717E+00	1.67015E+00	1.69619E+00	1.72549E+00	1.75826E+00
3.60000E-01	*	1.61922E+00	1.63549E+00	1.65422E+00	1.67560E+00	1.69984E+00	1.72712E+00	1.75765E+00

$$G(MMA) = 1 + (1-M)(12SR/(1-M))(RHC/G/RHC)-1) ((1-M)RHC/RHC) + 5 + k(25M-2)$$

$$SR = 1.30$$

$$RHC = 2.43$$

$$SW = 1.76$$

M	MHC	1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E+02	1.07500E+00	1.10011E+00	1.11966E+00	1.17646E+00	1.22746E+00	1.28922E+00	1.36342E+00	1.44970E+00	1.54690E+00
2.00000E+02	1.08715E+00	1.11225E+00	1.14419E+00	1.18490E+00	1.23311E+00	1.27922E+00	1.36350E+00	1.44970E+00	1.54690E+00
3.00000E+02	1.09890E+00	1.12335E+00	1.15932E+00	1.19179E+00	1.23951E+00	1.27951E+00	1.36316E+00	1.44970E+00	1.54690E+00
4.00000E+02	1.11126E+00	1.13544E+00	1.17389E+00	1.20585E+00	1.24468E+00	1.27955E+00	1.36335E+00	1.44970E+00	1.54690E+00
5.00000E+02	1.12502E+00	1.14920E+00	1.18989E+00	1.22172E+00	1.26099E+00	1.30222E+00	1.36316E+00	1.44970E+00	1.54690E+00
6.00000E+02	1.13778E+00	1.16196E+00	1.19477E+00	1.22660E+00	1.26587E+00	1.30644E+00	1.36316E+00	1.44970E+00	1.54690E+00
7.00000E+02	1.15064E+00	1.17482E+00	1.20997E+00	1.24171E+00	1.28198E+00	1.32345E+00	1.37475E+00	1.44970E+00	1.54690E+00
8.00000E+02	1.16359E+00	1.18777E+00	1.22461E+00	1.25644E+00	1.29671E+00	1.33818E+00	1.38948E+00	1.44970E+00	1.54690E+00
9.00000E+02	1.17663E+00	1.20081E+00	1.23965E+00	1.27148E+00	1.31175E+00	1.35322E+00	1.40452E+00	1.44970E+00	1.54690E+00
1.00000E+01	1.18967E+00	1.21385E+00	1.25469E+00	1.28652E+00	1.32679E+00	1.36826E+00	1.41956E+00	1.44970E+00	1.54690E+00
1.10000E+01	1.20271E+00	1.22689E+00	1.26973E+00	1.30156E+00	1.34183E+00	1.38330E+00	1.43460E+00	1.44970E+00	1.54690E+00
1.20000E+01	1.21575E+00	1.23993E+00	1.28377E+00	1.31560E+00	1.35587E+00	1.39734E+00	1.44864E+00	1.44970E+00	1.54690E+00
1.30000E+01	1.22879E+00	1.25297E+00	1.29681E+00	1.32864E+00	1.36891E+00	1.41038E+00	1.46168E+00	1.44970E+00	1.54690E+00
1.40000E+01	1.24183E+00	1.26601E+00	1.30985E+00	1.34168E+00	1.38195E+00	1.42342E+00	1.47472E+00	1.44970E+00	1.54690E+00
1.50000E+01	1.25487E+00	1.27905E+00	1.32289E+00	1.35472E+00	1.39500E+00	1.43647E+00	1.48777E+00	1.44970E+00	1.54690E+00
1.60000E+01	1.26791E+00	1.29209E+00	1.33593E+00	1.36776E+00	1.40803E+00	1.44950E+00	1.50080E+00	1.44970E+00	1.54690E+00
1.70000E+01	1.28095E+00	1.30513E+00	1.34897E+00	1.38080E+00	1.42107E+00	1.46254E+00	1.51384E+00	1.44970E+00	1.54690E+00
1.80000E+01	1.29399E+00	1.31817E+00	1.36191E+00	1.39374E+00	1.43414E+00	1.47661E+00	1.52688E+00	1.44970E+00	1.54690E+00
1.90000E+01	1.30703E+00	1.33121E+00	1.37495E+00	1.40678E+00	1.44645E+00	1.48892E+00	1.53918E+00	1.44970E+00	1.54690E+00
2.00000E+01	1.32007E+00	1.34425E+00	1.38799E+00	1.41981E+00	1.45952E+00	1.50020E+00	1.55148E+00	1.44970E+00	1.54690E+00
2.10000E+01	1.33311E+00	1.35729E+00	1.40103E+00	1.43286E+00	1.47413E+00	1.51660E+00	1.56609E+00	1.44970E+00	1.54690E+00
2.20000E+01	1.34615E+00	1.37033E+00	1.41407E+00	1.44590E+00	1.48717E+00	1.52914E+00	1.57863E+00	1.44970E+00	1.54690E+00
2.30000E+01	1.35919E+00	1.38337E+00	1.42711E+00	1.45894E+00	1.50020E+00	1.54167E+00	1.59116E+00	1.44970E+00	1.54690E+00
2.40000E+01	1.37223E+00	1.39641E+00	1.44015E+00	1.47198E+00	1.51325E+00	1.55472E+00	1.60421E+00	1.44970E+00	1.54690E+00
2.50000E+01	1.38527E+00	1.40945E+00	1.45319E+00	1.48481E+00	1.52630E+00	1.56719E+00	1.61725E+00	1.44970E+00	1.54690E+00
2.60000E+01	1.39831E+00	1.42249E+00	1.46623E+00	1.49785E+00	1.53934E+00	1.57963E+00	1.63030E+00	1.44970E+00	1.54690E+00
2.70000E+01	1.41135E+00	1.43553E+00	1.47927E+00	1.51069E+00	1.55238E+00	1.59385E+00	1.64335E+00	1.44970E+00	1.54690E+00
2.80000E+01	1.42439E+00	1.44857E+00	1.49231E+00	1.52373E+00	1.56542E+00	1.60690E+00	1.65639E+00	1.44970E+00	1.54690E+00
2.90000E+01	1.43743E+00	1.46161E+00	1.50535E+00	1.53675E+00	1.57846E+00	1.61995E+00	1.66938E+00	1.44970E+00	1.54690E+00
3.00000E+01	1.45047E+00	1.47465E+00	1.51839E+00	1.54981E+00	1.59136E+00	1.63300E+00	1.68237E+00	1.44970E+00	1.54690E+00
3.10000E+01	1.46351E+00	1.48769E+00	1.53143E+00	1.56283E+00	1.60440E+00	1.64605E+00	1.69554E+00	1.44970E+00	1.54690E+00
3.20000E+01	1.47655E+00	1.50073E+00	1.54447E+00	1.57585E+00	1.61744E+00	1.65910E+00	1.70860E+00	1.44970E+00	1.54690E+00
3.30000E+01	1.48959E+00	1.51377E+00	1.55751E+00	1.58883E+00	1.63048E+00	1.67215E+00	1.72165E+00	1.44970E+00	1.54690E+00
3.40000E+01	1.50263E+00	1.52681E+00	1.57055E+00	1.60187E+00	1.64352E+00	1.68610E+00	1.73465E+00	1.44970E+00	1.54690E+00
3.50000E+01	1.51567E+00	1.53985E+00	1.58359E+00	1.61491E+00	1.65656E+00	1.70016E+00	1.74765E+00	1.44970E+00	1.54690E+00
3.60000E+01	1.52871E+00	1.55289E+00	1.59663E+00	1.62795E+00	1.66960E+00	1.71320E+00	1.76065E+00	1.44970E+00	1.54690E+00
3.70000E+01	1.54175E+00	1.56593E+00	1.60967E+00	1.64099E+00	1.68264E+00	1.72624E+00	1.77365E+00	1.44970E+00	1.54690E+00
3.80000E+01	1.55479E+00	1.57897E+00	1.62271E+00	1.65403E+00	1.69568E+00	1.73928E+00	1.78665E+00	1.44970E+00	1.54690E+00
3.90000E+01	1.56783E+00	1.59201E+00	1.63575E+00	1.66707E+00	1.70872E+00	1.75232E+00	1.79973E+00	1.44970E+00	1.54690E+00
4.00000E+01	1.58087E+00	1.60505E+00	1.64849E+00	1.68011E+00	1.72176E+00	1.76540E+00	1.81273E+00	1.44970E+00	1.54690E+00
4.10000E+01	1.59391E+00	1.61809E+00	1.66153E+00	1.69315E+00	1.73480E+00	1.77844E+00	1.82573E+00	1.44970E+00	1.54690E+00
4.20000E+01	1.60695E+00	1.63113E+00	1.67447E+00	1.70607E+00	1.74784E+00	1.79148E+00	1.83813E+00	1.44970E+00	1.54690E+00
4.30000E+01	1.61999E+00	1.64417E+00	1.68761E+00	1.71907E+00	1.75988E+00	1.80452E+00	1.85098E+00	1.44970E+00	1.54690E+00
4.40000E+01	1.63303E+00	1.65721E+00	1.70065E+00	1.73265E+00	1.77380E+00	1.81744E+00	1.86390E+00	1.44970E+00	1.54690E+00
4.50000E+01	1.64607E+00	1.67025E+00	1.71369E+00	1.74569E+00	1.78684E+00	1.83048E+00	1.87694E+00	1.44970E+00	1.54690E+00
4.60000E+01	1.65911E+00	1.68329E+00	1.72673E+00	1.75873E+00	1.79988E+00	1.84352E+00	1.89000E+00	1.44970E+00	1.54690E+00
4.70000E+01	1.67215E+00	1.69633E+00	1.73977E+00	1.77177E+00	1.81292E+00	1.85656E+00	1.90300E+00	1.44970E+00	1.54690E+00
4.80000E+01	1.68519E+00	1.70937E+00	1.75281E+00	1.78481E+00	1.82596E+00	1.86960E+00	1.91600E+00	1.44970E+00	1.54690E+00
4.90000E+01	1.69823E+00	1.72241E+00	1.76585E+00	1.79785E+00	1.83890E+00	1.88254E+00	1.92800E+00	1.44970E+00	1.54690E+00
5.00000E+01	1.71127E+00	1.73545E+00	1.77889E+00	1.81089E+00	1.85194E+00	1.89558E+00	1.94200E+00	1.44970E+00	1.54690E+00
5.10000E+01	1.72431E+00	1.74849E+00	1.79193E+00	1.82393E+00	1.86500E+00	1.90864E+00	1.95500E+00	1.44970E+00	1.54690E+00
5.20000E+01	1.73735E+00	1.76153E+00	1.80497E+00	1.83697E+00	1.87702E+00	1.92066E+00	1.96700E+00	1.44970E+00	1.54690E+00
5.30000E+01	1.75039E+00	1.77457E+00	1.81801E+00	1.84991E+00	1.89096E+00	1.93460E+00	1.98000E+00	1.44970E+00	1.54690E+00
5.40000E+01	1.76343E+00	1.78761E+00	1.83105E+00	1.86295E+00	1.90390E+00	1.94754E+00	1.99300E+00	1.44970E+00	1.54690E+00
5.50000E+01	1.77647E+00	1.80065E+00	1.84409E+00	1.87599E+00	1.91694E+00	1.96058E+00	2.00700E+00	1.44970E+00	1.54690E+00
5.60000E+01	1.78951E+00	1.81369E+00	1.85713E+00	1.88903E+00	1.92998E+00	1.97362E+00	2.01900E+00	1.44970E+00	1.54690E+00
5.70000E+01	1.80255E+00	1.82673E+00	1.87017E+00	1.90207E+00	1.94302E+00	1.98666E+00	2.03400E+00	1.44970E+00	1.54690E+00
5.80000E+01	1.81559E+00	1.83977E+00	1.88321E+00	1.91511E+00	1.95606E+00	1.99970E+00	2.04700E+00	1.44970E+00	1.54690E+00
5.90000E+01	1.82863E+00	1.85281E+00	1.89625E+00	1.92815E+00	1.96910E+00	2.01334E+00	2.06000E+00	1.44970E+00	1.54690E+00
6.00000E+01	1.84167E+00	1.86585E+00	1.90929E+00	1.94119E+00	1.98214E+00	2.02638E+00	2.07300E+00	1.44970E+00	1.54690E+00
6.10000E+01	1.85471E+00	1.87889E+00	1.92233E+00	1.95423E+00	1.99518E+00	2.03942E+00	2.08600E+00	1.44970E+00	1.54690E+00
6.20000E+01	1.86775E+00	1.89193E+00	1.93537E+00	1.96727E+00	2.00812E+00	2.05246E+00	2.10000E+00	1.44970E+00	1.54690E+00
6.30000E+01	1.88079E+00	1.90497E+00	1.94841E+00	1.98031E+00	2.02116E+00	2.06550E+00	2.11300E+00	1.44970E+00	1.54690E+00
6.40000E+01	1.89383E+00	1.91801E+00	1.96185E+00	1.99375E+00	2.03420E+00	2.07854E+00	2.12600E+00	1.44970E+00	1.54690E+00
6.50000E+01	1.90687E+00	1.93105E+00	1.97529E+00	2.00719E+00	2.04724E+00	2.09158E+00	2.13900E+00	1.44970E+00	1.54690E+00
6.60000E+01	1.91991E+00	1.94409E+00	1.98833E+00	2.01999E+00	2.06028E+00	2.10462E+00	2.15200E+00	1.44970E+00	1.54690E+00
6.70000E+01	1.93295E+00	1.95713E+00	2.00127E+00	2.03279E+00	2.07332E+00	2.11766E+00	2.16500E+00	1.44970E+00	1.54690E+00
6.80000E+01	1.94599E+00	1.97017E+00	2.01431E+00	2.04559E+00	2.08636E+00	2.13070E+00	2.17800E+00	1.44970E+00	1.54690E+00
6.90000E+01	1.95903E+00	1.98321E+00	2.02735E+00	2.05839E+00	2.09940E+00	2.14374E+00	2.19100E+00	1.44970E+00	1.54690E+00
7.00000E+01	1.								

$$GAMMA = 1 + ((1-k) * ((25W/(1-k)) * (RHEG/RHL) - 1) * ((1-k) * RHE/RHCG) ** 2) + W * (25W - 2)$$

SR = 1.30

RHCG = 2.43

SR = 1.76

RHE = 1.80000E+00 1.90000E+00 2.00000E+00 2.10000E+00 2.20000E+00 2.30000E+00 2.40000E+00

%	R						
1.00000E-02	1.54965E+00	1.66421E+00	1.79423E+00	1.94051E+00	2.10372E+00	2.28444E+00	2.48213E+00
2.00000E-02	1.54841E+00	1.66449E+00	1.79429E+00	1.94140E+00	2.10404E+00	2.28469E+00	2.48241E+00
3.00000E-02	1.53743E+00	1.65961E+00	1.78556E+00	1.88942E+00	2.03897E+00	2.20476E+00	2.38727E+00
4.00000E-02	1.52449E+00	1.64944E+00	1.77379E+00	1.86394E+00	2.00897E+00	2.16762E+00	2.34238E+00
5.00000E-02	1.51176E+00	1.64111E+00	1.72154E+00	1.84340E+00	1.98051E+00	2.14224E+00	2.29548E+00
6.00000E-02	1.51153E+00	1.60276E+00	1.70028E+00	1.82217E+00	1.95356E+00	2.09058E+00	2.27559E+00
7.00000E-02	1.50668E+00	1.59337E+00	1.69206E+00	1.80342E+00	1.92808E+00	2.06661E+00	2.24540E+00
8.00000E-02	1.50279E+00	1.58407E+00	1.67849E+00	1.78512E+00	1.90406E+00	2.03629E+00	2.18230E+00
9.00000E-02	1.49864E+00	1.57721E+00	1.66685E+00	1.76804E+00	1.88144E+00	2.00759E+00	2.14656E+00
1.00000E-01	1.49570E+00	1.57051E+00	1.65579E+00	1.75216E+00	1.86021E+00	1.98047E+00	2.11341E+00
1.10000E-01	1.49347E+00	1.56460E+00	1.64572E+00	1.73744E+00	1.84033E+00	1.95490E+00	2.08162E+00
1.20000E-01	1.49139E+00	1.55926E+00	1.63663E+00	1.72386E+00	1.82176E+00	1.93024E+00	2.05155E+00
1.30000E-01	1.49105E+00	1.55523E+00	1.62840E+00	1.71139E+00	1.80448E+00	1.90825E+00	2.02318E+00
1.40000E-01	1.49062E+00	1.55171E+00	1.62126E+00	1.70000E+00	1.78846E+00	1.88711E+00	1.99642E+00
1.50000E-01	1.49121E+00	1.54896E+00	1.61493E+00	1.68966E+00	1.77366E+00	1.86730E+00	1.97127E+00
1.60000E-01	1.49222E+00	1.54694E+00	1.60948E+00	1.68035E+00	1.76005E+00	1.84702E+00	1.94770E+00
1.70000E-01	1.49343E+00	1.54544E+00	1.60408E+00	1.67204E+00	1.74760E+00	1.83200E+00	1.92565E+00
1.80000E-01	1.49601E+00	1.54503E+00	1.60111E+00	1.66471E+00	1.73629E+00	1.81629E+00	1.90510E+00
1.90000E-01	1.49875E+00	1.54516E+00	1.59813E+00	1.65831E+00	1.72608E+00	1.80164E+00	1.88600E+00
2.00000E-01	1.50204E+00	1.54562E+00	1.59594E+00	1.65284E+00	1.71694E+00	1.78863E+00	1.86831E+00
2.10000E-01	1.50585E+00	1.54716E+00	1.59451E+00	1.64826E+00	1.70884E+00	1.77662E+00	1.85200E+00
2.20000E-01	1.51018E+00	1.54915E+00	1.59381E+00	1.64454E+00	1.70175E+00	1.76580E+00	1.83704E+00
2.30000E-01	1.51500E+00	1.55173E+00	1.59382E+00	1.64167E+00	1.69564E+00	1.75610E+00	1.82338E+00
2.40000E-01	1.52030E+00	1.55488E+00	1.59453E+00	1.63961E+00	1.69049E+00	1.74751E+00	1.81058E+00
2.50000E-01	1.52607E+00	1.55859E+00	1.59590E+00	1.63835E+00	1.68626E+00	1.73998E+00	1.79822E+00
2.60000E-01	1.53228E+00	1.56259E+00	1.59771E+00	1.63785E+00	1.68293E+00	1.73350E+00	1.78986E+00
2.70000E-01	1.53893E+00	1.56703E+00	1.60058E+00	1.63809E+00	1.68047E+00	1.72803E+00	1.78105E+00
2.80000E-01	1.54599E+00	1.57242E+00	1.60383E+00	1.63905E+00	1.67805E+00	1.72353E+00	1.77337E+00
2.90000E-01	1.55346E+00	1.57849E+00	1.60768E+00	1.64070E+00	1.67804E+00	1.71948E+00	1.76677E+00
3.00000E-01	1.56132E+00	1.58494E+00	1.61209E+00	1.64302E+00	1.67802E+00	1.71734E+00	1.76124E+00
3.10000E-01	1.56956E+00	1.59165E+00	1.61704E+00	1.64600E+00	1.67876E+00	1.71559E+00	1.75672E+00
3.20000E-01	1.57816E+00	1.59866E+00	1.62253E+00	1.64959E+00	1.68023E+00	1.71469E+00	1.75318E+00
3.30000E-01	1.58711E+00	1.60603E+00	1.62852E+00	1.65379E+00	1.68242E+00	1.71461E+00	1.75061E+00
3.40000E-01	1.59640E+00	1.61434E+00	1.63500E+00	1.65857E+00	1.68528E+00	1.71534E+00	1.74895E+00
3.50000E-01	1.60601E+00	1.62271E+00	1.64195E+00	1.66391E+00	1.68880E+00	1.71683E+00	1.74817E+00
3.60000E-01	1.61592E+00	1.63146E+00	1.64935E+00	1.66979E+00	1.69296E+00	1.71906E+00	1.74826E+00

$$\text{GAMMA} = 1 + ((1 - \text{H})^{1/2} \text{SR} / (1 - \text{H})) ((\text{REC} / \text{ARC}) - 1) ((1 - \text{H}) / \text{RC} / \text{REC})^{1/2} + \text{H} (2 \text{SR} - 2)$$

	ARC	1.00000E+00	1.10000E+00	1.20000E+00	SK = 1.30	WHC = 2.50	SK = 1.76	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	1.06876E+00	1.12247E+00	1.16019E+00	1.18696E+00	1.20051E+00	1.20644E+00	1.21254E+00	1.21894E+00	1.22564E+00	1.23254E+00	1.23954E+00
2.00000E-02	1.10368E+00	1.13255E+00	1.14901E+00	1.16096E+00	1.17171E+00	1.17610E+00	1.18301E+00	1.19016E+00	1.19754E+00	1.20514E+00	1.21294E+00
3.00000E-02	1.11255E+00	1.12790E+00	1.13533E+00	1.14290E+00	1.14964E+00	1.15551E+00	1.16144E+00	1.16744E+00	1.17354E+00	1.17964E+00	1.18574E+00
4.00000E-02	1.11735E+00	1.13260E+00	1.13926E+00	1.14592E+00	1.15258E+00	1.15834E+00	1.16414E+00	1.16994E+00	1.17574E+00	1.18154E+00	1.18734E+00
5.00000E-02	1.11938E+00	1.13463E+00	1.14129E+00	1.14795E+00	1.15461E+00	1.16037E+00	1.16613E+00	1.17189E+00	1.17765E+00	1.18341E+00	1.18917E+00
6.00000E-02	1.12078E+00	1.13603E+00	1.14269E+00	1.14935E+00	1.15601E+00	1.16177E+00	1.16753E+00	1.17329E+00	1.17905E+00	1.18481E+00	1.19057E+00
7.00000E-02	1.12178E+00	1.13703E+00	1.14369E+00	1.15035E+00	1.15701E+00	1.16277E+00	1.16853E+00	1.17429E+00	1.18005E+00	1.18581E+00	1.19157E+00
8.00000E-02	1.12247E+00	1.13772E+00	1.14438E+00	1.15104E+00	1.15770E+00	1.16346E+00	1.16922E+00	1.17498E+00	1.18074E+00	1.18650E+00	1.19226E+00
9.00000E-02	1.12292E+00	1.13817E+00	1.14483E+00	1.15149E+00	1.15815E+00	1.16391E+00	1.16967E+00	1.17543E+00	1.18119E+00	1.18695E+00	1.19271E+00
1.00000E-01	1.12342E+00	1.13867E+00	1.14533E+00	1.15199E+00	1.15865E+00	1.16441E+00	1.17017E+00	1.17593E+00	1.18169E+00	1.18745E+00	1.19321E+00
1.10000E-01	1.12392E+00	1.13917E+00	1.14583E+00	1.15249E+00	1.15915E+00	1.16491E+00	1.17067E+00	1.17643E+00	1.18219E+00	1.18795E+00	1.19371E+00
1.20000E-01	1.12442E+00	1.13967E+00	1.14633E+00	1.15299E+00	1.15965E+00	1.16541E+00	1.17117E+00	1.17693E+00	1.18269E+00	1.18845E+00	1.19421E+00
1.30000E-01	1.12492E+00	1.14017E+00	1.14683E+00	1.15349E+00	1.16015E+00	1.16591E+00	1.17167E+00	1.17743E+00	1.18319E+00	1.18895E+00	1.19471E+00
1.40000E-01	1.12542E+00	1.14067E+00	1.14733E+00	1.15399E+00	1.16065E+00	1.16641E+00	1.17217E+00	1.17793E+00	1.18369E+00	1.18945E+00	1.19521E+00
1.50000E-01	1.12592E+00	1.14117E+00	1.14783E+00	1.15449E+00	1.16115E+00	1.16691E+00	1.17267E+00	1.17843E+00	1.18419E+00	1.18995E+00	1.19571E+00
1.60000E-01	1.12642E+00	1.14167E+00	1.14833E+00	1.15499E+00	1.16165E+00	1.16741E+00	1.17317E+00	1.17893E+00	1.18469E+00	1.19045E+00	1.19621E+00
1.70000E-01	1.12692E+00	1.14217E+00	1.14883E+00	1.15549E+00	1.16215E+00	1.16791E+00	1.17367E+00	1.17943E+00	1.18519E+00	1.19095E+00	1.19671E+00
1.80000E-01	1.12742E+00	1.14267E+00	1.14933E+00	1.15599E+00	1.16265E+00	1.16841E+00	1.17417E+00	1.17993E+00	1.18569E+00	1.19145E+00	1.19721E+00
1.90000E-01	1.12792E+00	1.14317E+00	1.14983E+00	1.15649E+00	1.16315E+00	1.16891E+00	1.17467E+00	1.18043E+00	1.18619E+00	1.19195E+00	1.19771E+00
2.00000E-01	1.12842E+00	1.14367E+00	1.15033E+00	1.15699E+00	1.16365E+00	1.16941E+00	1.17517E+00	1.18093E+00	1.18669E+00	1.19245E+00	1.19821E+00
2.10000E-01	1.12892E+00	1.14417E+00	1.15083E+00	1.15749E+00	1.16415E+00	1.16991E+00	1.17567E+00	1.18143E+00	1.18719E+00	1.19295E+00	1.19871E+00
2.20000E-01	1.12942E+00	1.14467E+00	1.15133E+00	1.15799E+00	1.16465E+00	1.17041E+00	1.17617E+00	1.18193E+00	1.18769E+00	1.19345E+00	1.19921E+00
2.30000E-01	1.12992E+00	1.14517E+00	1.15183E+00	1.15849E+00	1.16515E+00	1.17091E+00	1.17667E+00	1.18243E+00	1.18819E+00	1.19395E+00	1.19971E+00
2.40000E-01	1.13042E+00	1.14567E+00	1.15233E+00	1.15899E+00	1.16565E+00	1.17141E+00	1.17717E+00	1.18293E+00	1.18869E+00	1.19445E+00	1.20021E+00
2.50000E-01	1.13092E+00	1.14617E+00	1.15283E+00	1.15949E+00	1.16615E+00	1.17191E+00	1.17767E+00	1.18343E+00	1.18919E+00	1.19495E+00	1.20071E+00
2.60000E-01	1.13142E+00	1.14667E+00	1.15333E+00	1.15999E+00	1.16665E+00	1.17241E+00	1.17817E+00	1.18393E+00	1.18969E+00	1.19545E+00	1.20121E+00
2.70000E-01	1.13192E+00	1.14717E+00	1.15383E+00	1.16049E+00	1.16715E+00	1.17291E+00	1.17867E+00	1.18443E+00	1.19019E+00	1.19595E+00	1.20171E+00
2.80000E-01	1.13242E+00	1.14767E+00	1.15433E+00	1.16099E+00	1.16765E+00	1.17341E+00	1.17917E+00	1.18493E+00	1.19069E+00	1.19645E+00	1.20221E+00
2.90000E-01	1.13292E+00	1.14817E+00	1.15483E+00	1.16149E+00	1.16815E+00	1.17391E+00	1.17967E+00	1.18543E+00	1.19119E+00	1.19695E+00	1.20271E+00
3.00000E-01	1.13342E+00	1.14867E+00	1.15533E+00	1.16199E+00	1.16865E+00	1.17441E+00	1.18017E+00	1.18593E+00	1.19169E+00	1.19745E+00	1.20321E+00
3.10000E-01	1.13392E+00	1.14917E+00	1.15583E+00	1.16249E+00	1.16915E+00	1.17491E+00	1.18067E+00	1.18643E+00	1.19219E+00	1.19795E+00	1.20371E+00
3.20000E-01	1.13442E+00	1.14967E+00	1.15633E+00	1.16299E+00	1.16965E+00	1.17541E+00	1.18117E+00	1.18693E+00	1.19269E+00	1.19845E+00	1.20421E+00
3.30000E-01	1.13492E+00	1.15017E+00	1.15683E+00	1.16349E+00	1.17015E+00	1.17591E+00	1.18167E+00	1.18743E+00	1.19319E+00	1.19895E+00	1.20471E+00
3.40000E-01	1.13542E+00	1.15067E+00	1.15733E+00	1.16399E+00	1.17065E+00	1.17641E+00	1.18217E+00	1.18793E+00	1.19369E+00	1.19945E+00	1.20521E+00
3.50000E-01	1.13592E+00	1.15117E+00	1.15783E+00	1.16449E+00	1.17115E+00	1.17691E+00	1.18267E+00	1.18843E+00	1.19419E+00	1.19995E+00	1.20571E+00
3.60000E-01	1.13642E+00	1.15167E+00	1.15833E+00	1.16499E+00	1.17165E+00	1.17741E+00	1.18317E+00	1.18893E+00	1.19469E+00	1.20045E+00	1.20621E+00

$$\text{GAMMA} = 1 + [(1-w)[(2SR/(1-w))[(R- LG/RHC)-1]][(1-w)RHC/RFCG]**5 + w(2Sn-2)$$

SR =1.3L RHC =2.50 Sn =1.76

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.49751E+00	1.60139E+00	1.71446E+00	1.85249E+00	2.00114E+00	2.16602E+00	2.34762E+00	2.54629E+00
2.00000E-02	*	1.49076E+00	1.58987E+00	1.70277E+00	1.83002E+00	1.97231E+00	2.13022E+00	2.30624E+00	2.49475E+00
3.00000E-02	*	1.48444E+00	1.57926E+00	1.67177E+00	1.80824E+00	1.94496E+00	2.09616E+00	2.26276E+00	2.44534E+00
4.00000E-02	*	1.47906E+00	1.56966E+00	1.67269E+00	1.78691E+00	1.91405E+00	2.06363E+00	2.22315E+00	2.35801E+00
5.00000E-02	*	1.47442E+00	1.56081E+00	1.65917E+00	1.77021E+00	1.89455E+00	2.03278E+00	2.18537E+00	2.35274E+00
6.00000E-02	*	1.47051E+00	1.55286E+00	1.64672E+00	1.75270E+00	1.87144E+00	2.00351E+00	2.14938E+00	2.30948E+00
7.00000E-02	*	1.46730E+00	1.54561E+00	1.63527E+00	1.73637E+00	1.84969E+00	1.97578E+00	2.11515E+00	2.26820E+00
8.00000E-02	*	1.46479E+00	1.53950E+00	1.62481E+00	1.72117E+00	1.82225E+00	1.94458E+00	2.08265E+00	2.22886E+00
9.00000E-02	*	1.46295E+00	1.53411E+00	1.61529E+00	1.70716E+00	1.81011E+00	1.92486E+00	2.05183E+00	2.19141E+00
1.00000E-01	*	1.46176E+00	1.52945E+00	1.60671E+00	1.69411E+00	1.79224E+00	1.90160E+00	2.02260E+00	2.15583E+00
1.10000E-01	*	1.46121E+00	1.52556E+00	1.59903E+00	1.68219E+00	1.77560E+00	1.87475E+00	1.99210E+00	2.12207E+00
1.20000E-01	*	1.46128E+00	1.52241E+00	1.59224E+00	1.67131E+00	1.76016E+00	1.85728E+00	1.96513E+00	2.05010E+00
1.30000E-01	*	1.46135E+00	1.51999E+00	1.58631E+00	1.66144E+00	1.74590E+00	1.84017E+00	1.94400E+00	2.05987E+00
1.40000E-01	*	1.46322E+00	1.51828E+00	1.58122E+00	1.65256E+00	1.73279E+00	1.82238E+00	1.92177E+00	2.03134E+00
1.50000E-01	*	1.46505E+00	1.51725E+00	1.57649E+00	1.64463E+00	1.72080E+00	1.80588E+00	1.90032E+00	2.00448E+00
1.60000E-01	*	1.46744E+00	1.51669E+00	1.57347E+00	1.63764E+00	1.70989E+00	1.79064E+00	1.88030E+00	1.97925E+00
1.70000E-01	*	1.47037E+00	1.51718E+00	1.57076E+00	1.63156E+00	1.70004E+00	1.77661E+00	1.86166E+00	1.95561E+00
1.80000E-01	*	1.47382E+00	1.51810E+00	1.56881E+00	1.62637E+00	1.69123E+00	1.76378E+00	1.84443E+00	1.93352E+00
1.90000E-01	*	1.47778E+00	1.51646E+00	1.56758E+00	1.62254E+00	1.68342E+00	1.75211E+00	1.82850E+00	1.91293E+00
2.00000E-01	*	1.48223E+00	1.52177E+00	1.56707E+00	1.61845E+00	1.67658E+00	1.74157E+00	1.81387E+00	1.89322E+00
2.10000E-01	*	1.48716E+00	1.52447E+00	1.56724E+00	1.61585E+00	1.67069E+00	1.73212E+00	1.80050E+00	1.87615E+00
2.20000E-01	*	1.49256E+00	1.52774E+00	1.56802E+00	1.61335E+00	1.66573E+00	1.72375E+00	1.78835E+00	1.85987E+00
2.30000E-01	*	1.49840E+00	1.53154E+00	1.56957E+00	1.61202E+00	1.66165E+00	1.71640E+00	1.77740E+00	1.84444E+00
2.40000E-01	*	1.50468E+00	1.53588E+00	1.57168E+00	1.61243E+00	1.65845E+00	1.71007E+00	1.76760E+00	1.83134E+00
2.50000E-01	*	1.51137E+00	1.54072E+00	1.57440E+00	1.61275E+00	1.65608E+00	1.70471E+00	1.75892E+00	1.81401E+00
2.60000E-01	*	1.51847E+00	1.54605E+00	1.57771E+00	1.61377E+00	1.65453E+00	1.70029E+00	1.75133E+00	1.80794E+00
2.70000E-01	*	1.52597E+00	1.55185E+00	1.58158E+00	1.61568E+00	1.65377E+00	1.69679E+00	1.74488E+00	1.79806E+00
2.80000E-01	*	1.53384E+00	1.55811E+00	1.58601E+00	1.61781E+00	1.65377E+00	1.69418E+00	1.73930E+00	1.78936E+00
2.90000E-01	*	1.54208E+00	1.56462E+00	1.59097E+00	1.62078E+00	1.65451E+00	1.69245E+00	1.73478E+00	1.78180E+00
3.00000E-01	*	1.55067E+00	1.57196E+00	1.59644E+00	1.62436E+00	1.65597E+00	1.69151E+00	1.73122E+00	1.77533E+00
3.10000E-01	*	1.55960E+00	1.57930E+00	1.60240E+00	1.62853E+00	1.65811E+00	1.69139E+00	1.72859E+00	1.76993E+00
3.20000E-01	*	1.56886E+00	1.58745E+00	1.60884E+00	1.63326E+00	1.66042E+00	1.69205E+00	1.72686E+00	1.76556E+00
3.30000E-01	*	1.57843E+00	1.59578E+00	1.61574E+00	1.63854E+00	1.66437E+00	1.69346E+00	1.72599E+00	1.76217E+00
3.40000E-01	*	1.58831E+00	1.60447E+00	1.62308E+00	1.64434E+00	1.66845E+00	1.69559E+00	1.72556E+00	1.75975E+00
3.50000E-01	*	1.59848E+00	1.61152E+00	1.63085E+00	1.65065E+00	1.67311E+00	1.69841E+00	1.72673E+00	1.75826E+00
3.60000E-01	*	1.60893E+00	1.62241E+00	1.63903E+00	1.65745E+00	1.67835E+00	1.70191E+00	1.72826E+00	1.75765E+00

$$\text{GAMMA} = 1 + (1-N) \{ (25R/(1-N)) (1) (RHC/G/R/C) - 1 \} (1-N) \text{HMC/R/C} + 5 + W(25N-2)$$

SR = 1.30 HMC = 2.60 SW = 1.76

NHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	1.06136E+00	1.08136E+00	1.10764E+00	1.14031E+00	1.18044E+00	1.22899E+00	1.28671E+00	1.35400E+00
2.00000E-02	1.07437E+00	1.09337E+00	1.11844E+00	1.14960E+00	1.18767E+00	1.23414E+00	1.28927E+00	1.35400E+00
3.00000E-02	1.08735E+00	1.10535E+00	1.12947E+00	1.15911E+00	1.19599E+00	1.23971E+00	1.29222E+00	1.35413E+00
4.00000E-02	1.10060E+00	1.11811E+00	1.14360E+00	1.16884E+00	1.20358E+00	1.24563E+00	1.29571E+00	1.35413E+00
5.00000E-02	1.11364E+00	1.13049E+00	1.15486E+00	1.17877E+00	1.21185E+00	1.25189E+00	1.29959E+00	1.35595E+00
6.00000E-02	1.12715E+00	1.14358E+00	1.16634E+00	1.18830E+00	1.22238E+00	1.26050E+00	1.30397E+00	1.35997E+00
7.00000E-02	1.14054E+00	1.15596E+00	1.17933E+00	1.19923E+00	1.22717E+00	1.26433E+00	1.30734E+00	1.35997E+00
8.00000E-02	1.15400E+00	1.16828E+00	1.18666E+00	1.20906E+00	1.23621E+00	1.27025E+00	1.31251E+00	1.36223E+00
9.00000E-02	1.16734E+00	1.18167E+00	1.20094E+00	1.22315E+00	1.25011E+00	1.28428E+00	1.32551E+00	1.36223E+00
1.00000E-01	1.18112E+00	1.19539E+00	1.21226E+00	1.23243E+00	1.25675E+00	1.28691E+00	1.32441E+00	1.36223E+00
1.20000E-01	1.19479E+00	1.20852E+00	1.22694E+00	1.24773E+00	1.26904E+00	1.29691E+00	1.33451E+00	1.38023E+00
1.40000E-01	1.20852E+00	1.22231E+00	1.23954E+00	1.25983E+00	1.28124E+00	1.30791E+00	1.34121E+00	1.38023E+00
1.60000E-01	1.22315E+00	1.23954E+00	1.25983E+00	1.28124E+00	1.30791E+00	1.34121E+00	1.37642E+00	1.40691E+00
1.80000E-01	1.23954E+00	1.25983E+00	1.28124E+00	1.30791E+00	1.34121E+00	1.37642E+00	1.40691E+00	1.44207E+00
2.00000E-01	1.25983E+00	1.28124E+00	1.30791E+00	1.34121E+00	1.37642E+00	1.40691E+00	1.44207E+00	1.48207E+00
2.20000E-01	1.28124E+00	1.30791E+00	1.34121E+00	1.37642E+00	1.40691E+00	1.44207E+00	1.48207E+00	1.52207E+00
2.40000E-01	1.30791E+00	1.34121E+00	1.37642E+00	1.40691E+00	1.44207E+00	1.48207E+00	1.52207E+00	1.56207E+00
2.60000E-01	1.34121E+00	1.37642E+00	1.40691E+00	1.44207E+00	1.48207E+00	1.52207E+00	1.56207E+00	1.60207E+00
2.80000E-01	1.37642E+00	1.40691E+00	1.44207E+00	1.48207E+00	1.52207E+00	1.56207E+00	1.60207E+00	1.64207E+00
3.00000E-01	1.40691E+00	1.44207E+00	1.48207E+00	1.52207E+00	1.56207E+00	1.60207E+00	1.64207E+00	1.68207E+00
3.20000E-01	1.44207E+00	1.48207E+00	1.52207E+00	1.56207E+00	1.60207E+00	1.64207E+00	1.68207E+00	1.72207E+00
3.40000E-01	1.48207E+00	1.52207E+00	1.56207E+00	1.60207E+00	1.64207E+00	1.68207E+00	1.72207E+00	1.76207E+00
3.60000E-01	1.52207E+00	1.56207E+00	1.60207E+00	1.64207E+00	1.68207E+00	1.72207E+00	1.76207E+00	1.80207E+00
3.80000E-01	1.56207E+00	1.60207E+00	1.64207E+00	1.68207E+00	1.72207E+00	1.76207E+00	1.80207E+00	1.84207E+00
4.00000E-01	1.60207E+00	1.64207E+00	1.68207E+00	1.72207E+00	1.76207E+00	1.80207E+00	1.84207E+00	1.88207E+00
4.20000E-01	1.64207E+00	1.68207E+00	1.72207E+00	1.76207E+00	1.80207E+00	1.84207E+00	1.88207E+00	1.92207E+00
4.40000E-01	1.68207E+00	1.72207E+00	1.76207E+00	1.80207E+00	1.84207E+00	1.88207E+00	1.92207E+00	1.96207E+00
4.60000E-01	1.72207E+00	1.76207E+00	1.80207E+00	1.84207E+00	1.88207E+00	1.92207E+00	1.96207E+00	2.00207E+00
4.80000E-01	1.76207E+00	1.80207E+00	1.84207E+00	1.88207E+00	1.92207E+00	1.96207E+00	2.00207E+00	2.04207E+00
5.00000E-01	1.80207E+00	1.84207E+00	1.88207E+00	1.92207E+00	1.96207E+00	2.00207E+00	2.04207E+00	2.08207E+00
5.20000E-01	1.84207E+00	1.88207E+00	1.92207E+00	1.96207E+00	2.00207E+00	2.04207E+00	2.08207E+00	2.12207E+00
5.40000E-01	1.88207E+00	1.92207E+00	1.96207E+00	2.00207E+00	2.04207E+00	2.08207E+00	2.12207E+00	2.16207E+00
5.60000E-01	1.92207E+00	1.96207E+00	2.00207E+00	2.04207E+00	2.08207E+00	2.12207E+00	2.16207E+00	2.20207E+00
5.80000E-01	1.96207E+00	2.00207E+00	2.04207E+00	2.08207E+00	2.12207E+00	2.16207E+00	2.20207E+00	2.24207E+00
6.00000E-01	2.00207E+00	2.04207E+00	2.08207E+00	2.12207E+00	2.16207E+00	2.20207E+00	2.24207E+00	2.28207E+00
6.20000E-01	2.04207E+00	2.08207E+00	2.12207E+00	2.16207E+00	2.20207E+00	2.24207E+00	2.28207E+00	2.32207E+00
6.40000E-01	2.08207E+00	2.12207E+00	2.16207E+00	2.20207E+00	2.24207E+00	2.28207E+00	2.32207E+00	2.36207E+00
6.60000E-01	2.12207E+00	2.16207E+00	2.20207E+00	2.24207E+00	2.28207E+00	2.32207E+00	2.36207E+00	2.40207E+00
6.80000E-01	2.16207E+00	2.20207E+00	2.24207E+00	2.28207E+00	2.32207E+00	2.36207E+00	2.40207E+00	2.44207E+00
7.00000E-01	2.20207E+00	2.24207E+00	2.28207E+00	2.32207E+00	2.36207E+00	2.40207E+00	2.44207E+00	2.48207E+00
7.20000E-01	2.24207E+00	2.28207E+00	2.32207E+00	2.36207E+00	2.40207E+00	2.44207E+00	2.48207E+00	2.52207E+00
7.40000E-01	2.28207E+00	2.32207E+00	2.36207E+00	2.40207E+00	2.44207E+00	2.48207E+00	2.52207E+00	2.56207E+00
7.60000E-01	2.32207E+00	2.36207E+00	2.40207E+00	2.44207E+00	2.48207E+00	2.52207E+00	2.56207E+00	2.60207E+00
7.80000E-01	2.36207E+00	2.40207E+00	2.44207E+00	2.48207E+00	2.52207E+00	2.56207E+00	2.60207E+00	2.64207E+00
8.00000E-01	2.40207E+00	2.44207E+00	2.48207E+00	2.52207E+00	2.56207E+00	2.60207E+00	2.64207E+00	2.68207E+00
8.20000E-01	2.44207E+00	2.48207E+00	2.52207E+00	2.56207E+00	2.60207E+00	2.64207E+00	2.68207E+00	2.72207E+00
8.40000E-01	2.48207E+00	2.52207E+00	2.56207E+00	2.60207E+00	2.64207E+00	2.68207E+00	2.72207E+00	2.76207E+00
8.60000E-01	2.52207E+00	2.56207E+00	2.60207E+00	2.64207E+00	2.68207E+00	2.72207E+00	2.76207E+00	2.80207E+00
8.80000E-01	2.56207E+00	2.60207E+00	2.64207E+00	2.68207E+00	2.72207E+00	2.76207E+00	2.80207E+00	2.84207E+00
9.00000E-01	2.60207E+00	2.64207E+00	2.68207E+00	2.72207E+00	2.76207E+00	2.80207E+00	2.84207E+00	2.88207E+00
9.20000E-01	2.64207E+00	2.68207E+00	2.72207E+00	2.76207E+00	2.80207E+00	2.84207E+00	2.88207E+00	2.92207E+00
9.40000E-01	2.68207E+00	2.72207E+00	2.76207E+00	2.80207E+00	2.84207E+00	2.88207E+00	2.92207E+00	2.96207E+00
9.60000E-01	2.72207E+00	2.76207E+00	2.80207E+00	2.84207E+00	2.88207E+00	2.92207E+00	2.96207E+00	3.00207E+00
9.80000E-01	2.76207E+00	2.80207E+00	2.84207E+00	2.88207E+00	2.92207E+00	2.96207E+00	3.00207E+00	3.04207E+00
1.00000E+00	2.80207E+00	2.84207E+00	2.88207E+00	2.92207E+00	2.96207E+00	3.00207E+00	3.04207E+00	3.08207E+00

$$\text{GAMMA} = 1 + ((1-W) \{ (2SR/(1-W)) \{ RHC/RHL \} - 1 \} ((1-W) RHC/R + CG) * \#5 + W(2SK-21$$

SR =1.30 RHL =2.60 SW =1.76

W	RHC	* 1.40000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.43347E+00	1.52413E+00	1.62735E+00	1.74386E+00	1.87432E+00	2.01933E+00	2.17939E+00	2.35494E+00
2.00000E-02	*	1.42940E+00	1.51612E+00	1.61669E+00	1.72610E+00	1.85092E+00	1.98973E+00	2.14303E+00	2.31126E+00
3.00000E-02	*	1.42602E+00	1.50873E+00	1.60299E+00	1.70948E+00	1.82883E+00	1.96162E+00	2.10836E+00	2.26949E+00
4.00000E-02	*	1.42331E+00	1.50225E+00	1.59224E+00	1.69330E+00	1.80802E+00	1.93498E+00	2.07546E+00	2.22959E+00
5.00000E-02	*	1.42125E+00	1.49654E+00	1.58242E+00	1.67952E+00	1.78546E+00	1.90978E+00	2.04400E+00	2.19153E+00
6.00000E-02	*	1.41982E+00	1.49166E+00	1.57345E+00	1.66614E+00	1.77012E+00	1.88599E+00	2.01423E+00	2.15527E+00
7.00000E-02	*	1.41902E+00	1.48740E+00	1.56545E+00	1.65379E+00	1.75299E+00	1.86357E+00	1.98603E+00	2.12078E+00
8.00000E-02	*	1.41862E+00	1.48392E+00	1.55827E+00	1.64245E+00	1.73702E+00	1.84250E+00	1.95936E+00	2.08802E+00
9.00000E-02	*	1.41920E+00	1.48116E+00	1.55193E+00	1.63216E+00	1.72202E+00	1.82275E+00	1.93419E+00	2.05696E+00
1.00000E-01	*	1.42016E+00	1.47908E+00	1.54641E+00	1.62271E+00	1.70850E+00	1.80427E+00	1.91049E+00	2.02755E+00
1.10000E-01	*	1.42168E+00	1.47767E+00	1.54168E+00	1.61425E+00	1.69588E+00	1.78706E+00	1.88822E+00	1.99977E+00
1.20000E-01	*	1.42374E+00	1.47652E+00	1.53773E+00	1.60671E+00	1.68433E+00	1.77107E+00	1.86735E+00	1.97357E+00
1.30000E-01	*	1.42633E+00	1.47610E+00	1.53454E+00	1.60006E+00	1.67302E+00	1.75627E+00	1.84785E+00	1.94893E+00
1.40000E-01	*	1.42943E+00	1.47731E+00	1.53208E+00	1.59427E+00	1.66431E+00	1.74264E+00	1.82968E+00	1.92579E+00
1.50000E-01	*	1.43303E+00	1.47840E+00	1.53034E+00	1.58933E+00	1.65579E+00	1.73015E+00	1.81261E+00	1.90046E+00
1.60000E-01	*	1.43712E+00	1.48008E+00	1.52930E+00	1.58520E+00	1.64622E+00	1.71876E+00	1.79721E+00	1.88393E+00
1.70000E-01	*	1.44167E+00	1.48233E+00	1.52893E+00	1.58188E+00	1.64159E+00	1.70346E+00	1.78285E+00	1.86513E+00
1.80000E-01	*	1.44668E+00	1.48514E+00	1.52922E+00	1.57933E+00	1.63586E+00	1.69920E+00	1.76965E+00	1.84769E+00
1.90000E-01	*	1.45214E+00	1.48804E+00	1.53015E+00	1.57754E+00	1.63102E+00	1.69096E+00	1.75771E+00	1.83160E+00
2.00000E-01	*	1.45802E+00	1.49233E+00	1.53169E+00	1.57647E+00	1.62703E+00	1.68372E+00	1.74687E+00	1.81680E+00
2.10000E-01	*	1.46432E+00	1.49670E+00	1.53384E+00	1.57612E+00	1.62367E+00	1.67744E+00	1.73713E+00	1.80327E+00
2.20000E-01	*	1.47103E+00	1.50154E+00	1.53658E+00	1.57666E+00	1.62153E+00	1.67209E+00	1.72848E+00	1.79097E+00
2.30000E-01	*	1.47812E+00	1.50666E+00	1.53967E+00	1.57747E+00	1.61996E+00	1.66766E+00	1.72087E+00	1.77987E+00
2.40000E-01	*	1.48559E+00	1.51264E+00	1.54372E+00	1.57912E+00	1.61915E+00	1.66411E+00	1.71428E+00	1.76993E+00
2.50000E-01	*	1.49343E+00	1.51866E+00	1.54809E+00	1.58140E+00	1.61908E+00	1.66142E+00	1.70867E+00	1.76112E+00
2.60000E-01	*	1.50162E+00	1.52551E+00	1.55298E+00	1.58429E+00	1.61973E+00	1.65955E+00	1.70403E+00	1.75341E+00
2.70000E-01	*	1.51015E+00	1.53257E+00	1.55836E+00	1.58777E+00	1.62106E+00	1.65849E+00	1.70031E+00	1.74675E+00
2.80000E-01	*	1.51901E+00	1.54004E+00	1.56422E+00	1.59181E+00	1.62306E+00	1.65820E+00	1.69748E+00	1.74113E+00
2.90000E-01	*	1.52819E+00	1.54768E+00	1.57054E+00	1.59641E+00	1.62571E+00	1.65867E+00	1.69553E+00	1.73650E+00
3.00000E-01	*	1.53767E+00	1.55610E+00	1.57731E+00	1.60153E+00	1.62898E+00	1.65986E+00	1.69441E+00	1.73284E+00
3.10000E-01	*	1.54745E+00	1.56448E+00	1.58451E+00	1.60717E+00	1.63285E+00	1.66176E+00	1.69411E+00	1.73010E+00
3.20000E-01	*	1.55752E+00	1.57360E+00	1.59213E+00	1.61330E+00	1.63730E+00	1.66433E+00	1.69446E+00	1.72827E+00
3.30000E-01	*	1.56785E+00	1.58266E+00	1.60014E+00	1.61990E+00	1.64231E+00	1.66756E+00	1.69584E+00	1.72731E+00
3.40000E-01	*	1.57845E+00	1.59243E+00	1.60854E+00	1.62696E+00	1.64786E+00	1.67142E+00	1.69781E+00	1.72719E+00
3.50000E-01	*	1.58931E+00	1.60231E+00	1.61731E+00	1.63446E+00	1.65393E+00	1.67588E+00	1.70049E+00	1.72788E+00
3.60000E-01	*	1.60040E+00	1.61249E+00	1.62644E+00	1.64239E+00	1.66050E+00	1.68093E+00	1.70383E+00	1.72936E+00

$$\text{GAMMA} = 1 + (1-W)((2SR/(1-W))(RHC/RHL)-1)((1-W)RHC/RHCG)**5 + W(2SW-2)$$

SR =1.3C   RHCG =2.60   SW =1.76

RHC * 2.60000E+00

W *

1.00000E-02	*	2.54629E+0C
2.00000E-02	*	2.49475E+0C
3.00000E-02	*	2.44534E+00
4.00000E-02	*	2.39801E+00
5.00000E-02	*	2.35274E+00
6.00000E-02	*	2.30948E+00
7.00000E-02	*	2.26620E+00
8.00000E-02	*	2.22886E+00
9.00000E-02	*	2.19141E+00
1.00000E-01	*	2.15583E+00
1.10000E-01	*	2.12207E+00
1.20000E-01	*	2.09010E+00
1.30000E-01	*	2.05987E+00
1.40000E-01	*	2.03134E+00
1.50000E-01	*	2.00448E+00
1.60000E-01	*	1.97925E+00
1.70000E-01	*	1.95561E+00
1.80000E-01	*	1.93352E+00
1.90000E-01	*	1.91293E+00
2.00000E-01	*	1.89382E+00
2.10000E-01	*	1.87615E+00
2.20000E-01	*	1.85987E+00
2.30000E-01	*	1.84494E+00
2.40000E-01	*	1.83134E+00
2.50000E-01	*	1.81901E+00
2.60000E-01	*	1.80794E+00
2.70000E-01	*	1.79806E+00
2.80000E-01	*	1.78936E+0C
2.90000E-01	*	1.78180E+00
3.00000E-01	*	1.77533E+00
3.10000E-01	*	1.76993E+0C
3.20000E-01	*	1.76556E+00
3.30000E-01	*	1.76217E+00
3.40000E-01	*	1.75975E+00
3.50000E-01	*	1.75826E+0C
3.60000E-01	*	1.75705E+00

1.000000E-02	*	1.05813E+00	1.0770CE+00	1.12024E+00	1.13165E+00	1.13696E+00	1.16906E+00	1.21432E+00	1.26824E+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
2.000000E-02	*	1.07118E+00	1.08946E+00	1.11235E+00	1.1434E+00	1.17702E+00	1.22019E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00	
3.000000E-02	*	1.08450E+00	1.10122E+00	1.12362E+00	1.15124E+00	1.18524E+00	1.22524E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00	
4.000000E-02	*	1.09780E+00	1.11459E+00	1.13704E+00	1.1634E+00	1.19373E+00	1.23294E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00	
5.000000E-02	*	1.11117E+00	1.12866E+00	1.14660E+00	1.1634E+00	1.19373E+00	1.23294E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00	
6.000000E-02	*	1.12461E+00	1.14395E+00	1.15830E+00	1.17165E+00	1.20247E+00	1.24493E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00	
7.000000E-02	*	1.13813E+00	1.15213E+00	1.17014E+00	1.18211E+00	1.21145E+00	1.25449E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00	
8.000000E-02	*	1.15171E+00	1.1653CE+00	1.18211E+00	1.19373E+00	1.23294E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00		
9.000000E-02	*	1.16535E+00	1.17737E+00	1.19421E+00	1.20582E+00	1.24493E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00		
1.000000E-01	*	1.17907E+00	1.1913CE+00	1.20647E+00	1.22178E+00	1.25987E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00		
1.200000E-01	*	1.19284E+00	1.20448E+00	1.22178E+00	1.2316E+00	1.25987E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00		
1.300000E-01	*	1.20647E+00	1.2174E+00	1.2316E+00	1.24493E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00			
1.400000E-01	*	1.22024E+00	1.2316E+00	1.24493E+00	1.25987E+00	1.2710CE+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00			
1.500000E-01	*	1.23451E+00	1.24493E+00	1.25987E+00	1.2710CE+00	1.28467E+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00			
1.600000E-01	*	1.24867E+00	1.25987E+00	1.2710CE+00	1.28467E+00	1.30339E+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00			
1.700000E-01	*	1.26294E+00	1.2710CE+00	1.28467E+00	1.30339E+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00				
1.800000E-01	*	1.27667E+00	1.28467E+00	1.30339E+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00					
1.900000E-01	*	1.29022E+00	1.29847E+00	1.30834E+00	1.32154E+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00				
2.000000E-01	*	1.30339E+00	1.31223E+00	1.32154E+00	1.33167E+00	1.3710CE+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00					
2.200000E-01	*	1.33991E+00	1.35391E+00	1.3710CE+00	1.38855E+00	1.39733E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00					
2.300000E-01	*	1.36228E+00	1.37679E+00	1.38855E+00	1.39733E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00						
2.400000E-01	*	1.38200E+00	1.39885E+00	1.40000E+00	1.42395E+00	1.43339E+00	1.44493E+00	1.45989E+00	1.47477E+00	1.48943E+00	1.50000E+00	1.60000E+00	1.70000E+00		
2.500000E-01	*	1.39115E+00	1.40255E+00	1.4103CE+00	1.42395E+00	1.43339E+00	1.44493E+00	1.45989E+00	1.47477E+00	1.48943E+00	1.50000E+00	1.60000E+00	1.70000E+00		
2.600000E-01	*	1.40547E+00	1.41703E+00	1.42395E+00	1.43339E+00	1.44493E+00	1.45989E+00	1.47477E+00	1.48943E+00	1.50000E+00	1.60000E+00	1.70000E+00			
2.700000E-01	*	1.42017E+00	1.43245E+00	1.43733E+00	1.44493E+00	1.45989E+00	1.47477E+00	1.48943E+00	1.50000E+00	1.60000E+00	1.70000E+00				
2.800000E-01	*	1.43474E+00	1.44493E+00	1.45989E+00	1.47477E+00	1.48943E+00	1.50000E+00	1.60000E+00	1.70000E+00						
2.900000E-01	*	1.44933E+00	1.45989E+00	1.47477E+00	1.48943E+00	1.50000E+00	1.60000E+00	1.70000E+00							
3.000000E-01	*	1.46396E+00	1.47477E+00	1.48943E+00	1.50000E+00	1.60000E+00	1.70000E+00								
3.200000E-01	*	1.47862E+00	1.48943E+00	1.50000E+00	1.60000E+00	1.70000E+00									
3.300000E-01	*	1.49331E+00	1.50000E+00	1.60000E+00	1.70000E+00										
3.500000E-01	*	1.50798E+00	1.51464E+00	1.52123E+00	1.52782E+00	1.53441E+00	1.54100E+00	1.54759E+00	1.55418E+00	1.56077E+00	1.56736E+00	1.57395E+00	1.58054E+00	1.58713E+00	1.59372E+00
3.700000E-01	*	1.52267E+00	1.52926E+00	1.53585E+00	1.54244E+00	1.54903E+00	1.55562E+00	1.56221E+00	1.56880E+00	1.57539E+00	1.58198E+00	1.58857E+00	1.59516E+00	1.60175E+00	1.60834E+00
3.900000E-01	*	1.53734E+00	1.54393E+00	1.55052E+00	1.55711E+00	1.56370E+00	1.57029E+00	1.57688E+00	1.58347E+00	1.59006E+00	1.59665E+00	1.60324E+00	1.60983E+00	1.61642E+00	1.62301E+00
4.000000E-01	*	1.55201E+00	1.55860E+00	1.56519E+00	1.57178E+00	1.57837E+00	1.58496E+00	1.59155E+00	1.59814E+00	1.60473E+00	1.61132E+00	1.61791E+00	1.62450E+00	1.63109E+00	1.63768E+00
4.200000E-01	*	1.56668E+00	1.57327E+00	1.57986E+00	1.58645E+00	1.59304E+00	1.59963E+00	1.60622E+00	1.61281E+00	1.61940E+00	1.62599E+00	1.63258E+00	1.63917E+00	1.64576E+00	1.65235E+00
4.400000E-01	*	1.58135E+00	1.58794E+00	1.59453E+00	1.60112E+00	1.60771E+00	1.61430E+00	1.62089E+00	1.62748E+00	1.63407E+00	1.64066E+00	1.64725E+00	1.65384E+00	1.66043E+00	1.66702E+00
4.600000E-01	*	1.59602E+00	1.60261E+00	1.60920E+00	1.61579E+00	1.62238E+00	1.62897E+00	1.63556E+00	1.64215E+00	1.64874E+00	1.65533E+00	1.66192E+00	1.66851E+00	1.67510E+00	1.68169E+00
4.800000E-01	*	1.61069E+00	1.61728E+00	1.62387E+00	1.63046E+00	1.63705E+00	1.64364E+00	1.65023E+00	1.65682E+00	1.66341E+00	1.67000E+00	1.67659E+00	1.68318E+00	1.68977E+00	1.69636E+00
5.000000E-01	*	1.62536E+00	1.63195E+00	1.63854E+00	1.64513E+00	1.65172E+00	1.65831E+00	1.66490E+00	1.67149E+00	1.67808E+00	1.68467E+00	1.69126E+00	1.69785E+00	1.70444E+00	1.71103E+00
5.200000E-01	*	1.64003E+00	1.64662E+00	1.65321E+00	1.65980E+00	1.66639E+00	1.67298E+00	1.67957E+00	1.68616E+00	1.69275E+00	1.69934E+00	1.70593E+00	1.71252E+00	1.71911E+00	1.72570E+00
5.400000E-01	*	1.65470E+00	1.66129E+00	1.66788E+00	1.67447E+00	1.68106E+00	1.68765E+00	1.69424E+00	1.70083E+00	1.70742E+00	1.71401E+00	1.72060E+00	1.72719E+00	1.73378E+00	1.74037E+00
5.600000E-01	*	1.66937E+00	1.67596E+00	1.68255E+00	1.68914E+00	1.69573E+00	1.70232E+00	1.70891E+00	1.71550E+00	1.72209E+00	1.72868E+00	1.73527E+00	1.74186E+00	1.74845E+00	1.75504E+00
5.800000E-01	*	1.68404E+00	1.69063E+00	1.69722E+00	1.70381E+00	1.71040E+00	1.71699E+00	1.72358E+00	1.73017E+00	1.73676E+00	1.74335E+00	1.74994E+00	1.75653E+00	1.76312E+00	1.76971E+00
6.000000E-01	*	1.69871E+00	1.70530E+00	1.71189E+00	1.71848E+00	1.72507E+00	1.73166E+00	1.73825E+00	1.74484E+00	1.75143E+00	1.75802E+00	1.76461E+00	1.77120E+00	1.77779E+00	1.78438E+00
6.200000E-01	*	1.71338E+00	1.72000E+00	1.72661E+00	1.73322E+00	1.73983E+00	1.74644E+00	1.75305E+00	1.75966E+00	1.76627E+00	1.77288E+00	1.77949E+00	1.78610E+00	1.79271E+00	1.79932E+00
6.400000E-01	*	1.72805E+00	1.73466E+00	1.74127E+00	1.74788E+00	1.75449E+00	1.76110E+00	1.76771E+00	1.77432E+00	1.78093E+00	1.78754E+00	1.79415E+00	1.80076E+00	1.80737E+00	1.81398E+00
6.600000E-01	*	1.74272E+00	1.74933E+00	1.75594E+00	1.76255E+00	1.76916E+00	1.77577E+00	1.78238E+00	1.78899E+00	1.79560E+00	1.80221E+00	1.80882E+00	1.81543E+00	1.82204E+00	1.82865E+00
6.800000E-01	*	1.75739E+00	1.76400E+00	1.77061E+00	1.77722E+00	1.78383E+00	1.79044E+00	1.79705E+00	1.80366E+00	1.81027E+00	1.81688E+00	1.82349E+00	1.83010E+00	1.83671E+00	1.84332E+00
7.000000E-01	*	1.77206E+00	1.77867E+00	1.78528E+00	1.79189E+00	1.79850E+00	1.80511E+00	1.81172E+00	1.81833E+00	1.82494E+00	1.83155E+00	1.83816E+00	1.84477E+00	1.85138E+00	1.85799E+00
7.200000E-01	*	1.78673E+00	1.79334E+00	1.80000E+00	1.80661E+00	1.81322E+00	1.81983E+00	1.82644E+00	1.83305E+00	1.83966E+00	1.84627E+00	1.85288E+00	1.85949E+00	1.86610E+00	1.87271E+00
7.400000E-01	*	1.80140E+00	1.80801E+00	1.81462E+00	1.82123E+00	1.82784E+00	1.83445E+00	1.84106E+00	1.84767E+00	1.85428E+00	1.86089E+00	1.86750E+00	1.87411E+00	1.88072E+00	1.88733E+00
7.600000E-01	*	1.81607E+00	1.82268E+00	1.82929E+00	1.83590E+00	1.84251E+00	1.84912E+00	1.85573E+00	1.86234E+00	1.86895E+00	1.87556E+00	1.88217E+00	1.88878E+00	1.89539E+00	1.90200E+00
7.800000E-01	*	1.83074E+00	1.83735E+00	1.84396E+00	1.85057E+00	1.85718E+00	1.86379E+00	1.87040E+00	1.87701E+00	1.88362E+00	1.89023E+00	1.89684E+00	1.90345E+00	1.91006E+00	1.91667E+00
8.000000E-01	*	1.84541E+00	1.85202E+00	1.85863E+00	1.86524E+00	1.87185E+00	1.87846E+00	1.88507E+00	1.89168E+00	1.89829E+00	1.90490E+00	1.91151E+00	1.91812E+00	1.92473E+00	1.93134E+00
8.200000E-01	*	1.86008E+00	1.86669E+00	1.87330E+00	1.87991E+00	1.88652E+00	1.89313E+00								

$$\text{GAMMA} = 1 + (1 - h) \{ (2SR / (1 - h)) \} (RHC / RHC) - 1 \{ (1 - h) RHC / RHC \} ** 5 + h (2SW - 2)$$

SK = 1.3C KHC = 2.05 SW = 1.76

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.40540E+00	1.43022E+00	1.58687E+00	1.69606E+00	1.81843E+00	1.95458E+00	2.10502E+00	2.27018E+00
2.00000E-02	*	1.40259E+00	1.48362E+00	1.57599E+00	1.68039E+00	1.79744E+00	1.92774E+00	2.07178E+00	2.23002E+00
3.00000E-02	*	1.40043E+00	1.47719E+00	1.56602E+00	1.66518E+00	1.77769E+00	1.90231E+00	2.04016E+00	2.19167E+00
4.00000E-02	*	1.39889E+00	1.47271E+00	1.55654E+00	1.65221E+00	1.75913E+00	1.87627E+00	2.01011E+00	2.15509E+00
5.00000E-02	*	1.39746E+00	1.46837E+00	1.54873E+00	1.63906E+00	1.74176E+00	1.85958E+00	1.98160E+00	2.12025E+00
6.00000E-02	*	1.39763E+00	1.46474E+00	1.54136E+00	1.62811E+00	1.72955E+00	1.83422E+00	1.95460E+00	2.08712E+00
7.00000E-02	*	1.39788E+00	1.46121E+00	1.53482E+00	1.61752E+00	1.71046E+00	1.81415E+00	1.92908E+00	2.05566E+00
8.00000E-02	*	1.39870E+00	1.45955E+00	1.52904E+00	1.60769E+00	1.69947E+00	1.79536E+00	1.90500E+00	2.02584E+00
9.00000E-02	*	1.40006E+00	1.45746E+00	1.52415E+00	1.59918E+00	1.68356E+00	1.77780E+00	1.88235E+00	1.99761E+00
1.00000E-01	*	1.40197E+00	1.45702E+00	1.51998E+00	1.59137E+00	1.67170E+00	1.76145E+00	1.86107E+00	1.97096E+00
1.10000E-01	*	1.40439E+00	1.45618E+00	1.51655E+00	1.58444E+00	1.66087E+00	1.74629E+00	1.84115E+00	1.94583E+00
1.20000E-01	*	1.40733E+00	1.45700E+00	1.51385E+00	1.57837E+00	1.65103E+00	1.73228E+00	1.82254E+00	1.92220E+00
1.30000E-01	*	1.41075E+00	1.45789E+00	1.51186E+00	1.57314E+00	1.64217E+00	1.71939E+00	1.80522E+00	1.90004E+00
1.40000E-01	*	1.41466E+00	1.45937E+00	1.51056E+00	1.56871E+00	1.63425E+00	1.70760E+00	1.78510E+00	1.87530E+00
1.50000E-01	*	1.41904E+00	1.46140E+00	1.50994E+00	1.56508E+00	1.62726E+00	1.69688E+00	1.77433E+00	1.85996E+00
1.60000E-01	*	1.42387E+00	1.46396E+00	1.50956E+00	1.56222E+00	1.62117E+00	1.68720E+00	1.76069E+00	1.84197E+00
1.70000E-01	*	1.42914E+00	1.46710E+00	1.50626E+00	1.56011E+00	1.61956E+00	1.67854E+00	1.74821E+00	1.82531E+00
1.80000E-01	*	1.43483E+00	1.47073E+00	1.50190E+00	1.55873E+00	1.61159E+00	1.67085E+00	1.73660E+00	1.80995E+00
1.90000E-01	*	1.44094E+00	1.47466E+00	1.50137E+00	1.55805E+00	1.60805E+00	1.66541E+00	1.72662E+00	1.79584E+00
2.00000E-01	*	1.44745E+00	1.47947E+00	1.50162E+00	1.55806E+00	1.60932E+00	1.66583E+00	1.71745E+00	1.78245E+00
2.10000E-01	*	1.45435E+00	1.48456E+00	1.50424E+00	1.55873E+00	1.60337E+00	1.65946E+00	1.70932E+00	1.77125E+00
2.20000E-01	*	1.46163E+00	1.49010E+00	1.50280E+00	1.56006E+00	1.60217E+00	1.64945E+00	1.70221E+00	1.76072E+00
2.30000E-01	*	1.46927E+00	1.49609E+00	1.50260E+00	1.56200E+00	1.60171E+00	1.64630E+00	1.69608E+00	1.75130E+00
2.40000E-01	*	1.47727E+00	1.50250E+00	1.50350E+00	1.56456E+00	1.60196E+00	1.64398E+00	1.69090E+00	1.74298E+00
2.50000E-01	*	1.48560E+00	1.50932E+00	1.50660E+00	1.56770E+00	1.60289E+00	1.64246E+00	1.68665E+00	1.73572E+00
2.60000E-01	*	1.49427E+00	1.51655E+00	1.50421E+00	1.57141E+00	1.60450E+00	1.64171E+00	1.68329E+00	1.72494E+00
2.70000E-01	*	1.50329E+00	1.52416E+00	1.50482E+00	1.57567E+00	1.60750E+00	1.64172E+00	1.68081E+00	1.72425E+00
2.80000E-01	*	1.51255E+00	1.53215E+00	1.50471E+00	1.58046E+00	1.60703E+00	1.64246E+00	1.67917E+00	1.71998E+00
2.90000E-01	*	1.52213E+00	1.54049E+00	1.50613E+00	1.58576E+00	1.61311E+00	1.64390E+00	1.67834E+00	1.71605E+00
3.00000E-01	*	1.53201E+00	1.54919E+00	1.50689E+00	1.59150E+00	1.61718E+00	1.64602E+00	1.67730E+00	1.71427E+00
3.10000E-01	*	1.54216E+00	1.55821E+00	1.50767E+00	1.59784E+00	1.62161E+00	1.64860E+00	1.67902E+00	1.71266E+00
3.20000E-01	*	1.55257E+00	1.56756E+00	1.50848E+00	1.60458E+00	1.62609E+00	1.65222E+00	1.68048E+00	1.71145E+00
3.30000E-01	*	1.56324E+00	1.57722E+00	1.50933E+00	1.61176E+00	1.63267E+00	1.65624E+00	1.68265E+00	1.71005E+00
3.40000E-01	*	1.57416E+00	1.58718E+00	1.60220E+00	1.61938E+00	1.63807E+00	1.66086E+00	1.68550E+00	1.71295E+00
3.50000E-01	*	1.58531E+00	1.59743E+00	1.61141E+00	1.62740E+00	1.64556E+00	1.66604E+00	1.68900E+00	1.71460E+00
3.60000E-01	*	1.59669E+00	1.60745E+00	1.62095E+00	1.63582E+00	1.65271E+00	1.67177E+00	1.69315E+00	1.71698E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SR/(1-W)) (RHEG/RHC) - 1 \} \{ (1-W) RHC / (R+CG) \}^{**5} + W (2SW-2)$$

SR =1.30   RHEG =2.65   SW =1.76

RHC * 2.60000E+00

W *

```

-----
1.00000E-02 * 2.45043E+00
2.00000E-02 * 2.40281E+00
3.00000E-02 * 2.35721E+00
4.00000E-02 * 2.31360E+00
5.00000E-02 * 2.27193E+00
6.00000E-02 * 2.23217E+00
7.00000E-02 * 2.19428E+00
8.00000E-02 * 2.15823E+00
9.00000E-02 * 2.12397E+00
1.00000E-01 * 2.09148E+00
1.10000E-01 * 2.06071E+00
1.20000E-01 * 2.03183E+00
1.30000E-01 * 2.00419E+00
1.40000E-01 * 1.97837E+00
1.50000E-01 * 1.95411E+00
1.60000E-01 * 1.93140E+00
1.70000E-01 * 1.91018E+00
1.80000E-01 * 1.89042E+00
1.90000E-01 * 1.87208E+00
2.00000E-01 * 1.85514E+00
2.10000E-01 * 1.83954E+00
2.20000E-01 * 1.82525E+00
2.30000E-01 * 1.81225E+00
2.40000E-01 * 1.80048E+00
2.50000E-01 * 1.78992E+00
2.60000E-01 * 1.78053E+00
2.70000E-01 * 1.77227E+00
2.80000E-01 * 1.76511E+00
2.90000E-01 * 1.75902E+00
3.00000E-01 * 1.75396E+00
3.10000E-01 * 1.74990E+00
3.20000E-01 * 1.74680E+00
3.30000E-01 * 1.74464E+00
3.40000E-01 * 1.74337E+00
3.50000E-01 * 1.74298E+00
3.60000E-01 * 1.74342E+00

```

$$\text{GAMMA} = 1 + \{1-W\} \{ (2SR / (1-W)) (RHC / RHC) - 1 \} \{ (1-W) RHC / RHC \} ** 5 + W (2SN - 2)$$

SR = 1.30 RHC = 2.70 SN = 1.76

N	RHD	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.05516E+00	1.07275E+00	1.09535E+00	1.12372E+00	1.15865E+00	1.20091E+00	1.25131E+00	1.31063E+00
2.00000E-02	*	1.06845E+00	1.08520E+00	1.10674E+00	1.13378E+00	1.16708E+00	1.20740E+00	1.25549E+00	1.31210E+00
3.00000E-02	*	1.08161E+00	1.09776E+00	1.11827E+00	1.14404E+00	1.17577E+00	1.21420E+00	1.26006E+00	1.31407E+00
4.00000E-02	*	1.09524E+00	1.11042E+00	1.12994E+00	1.15448E+00	1.18471E+00	1.22132E+00	1.26503E+00	1.31652E+00
5.00000E-02	*	1.10873E+00	1.12317E+00	1.14175E+00	1.16510E+00	1.19388E+00	1.22874E+00	1.27038E+00	1.31944E+00
6.00000E-02	*	1.12230E+00	1.13603E+00	1.15369E+00	1.17590E+00	1.20328E+00	1.23646E+00	1.27609E+00	1.32282E+00
7.00000E-02	*	1.13593E+00	1.14847E+00	1.16576E+00	1.18687E+00	1.21249E+00	1.24446E+00	1.28218E+00	1.32665E+00
8.00000E-02	*	1.14962E+00	1.16200E+00	1.17795E+00	1.19800E+00	1.22274E+00	1.25275E+00	1.28861E+00	1.33091E+00
9.00000E-02	*	1.16337E+00	1.17513E+00	1.19026E+00	1.20930E+00	1.23280E+00	1.26130E+00	1.29538E+00	1.33560E+00
1.00000E-01	*	1.17719E+00	1.18833E+00	1.20269E+00	1.22076E+00	1.24306E+00	1.27012E+00	1.30245E+00	1.34070E+00
1.10000E-01	*	1.19106E+00	1.20162E+00	1.21523E+00	1.23237E+00	1.25352E+00	1.27920E+00	1.30992E+00	1.34620E+00
1.20000E-01	*	1.20498E+00	1.21449E+00	1.22788E+00	1.24412E+00	1.26418E+00	1.28853E+00	1.31767E+00	1.35209E+00
1.30000E-01	*	1.21896E+00	1.22843E+00	1.24064E+00	1.25602E+00	1.27502E+00	1.29810E+00	1.32572E+00	1.35835E+00
1.40000E-01	*	1.23300E+00	1.24146E+00	1.25311E+00	1.26806E+00	1.28605E+00	1.30790E+00	1.33407E+00	1.36499E+00
1.50000E-01	*	1.24708E+00	1.25555E+00	1.26647E+00	1.28024E+00	1.29726E+00	1.31794E+00	1.34270E+00	1.37198E+00
1.60000E-01	*	1.26121E+00	1.26921E+00	1.27953E+00	1.29255E+00	1.30863E+00	1.32819E+00	1.35162E+00	1.37933E+00
1.70000E-01	*	1.27539E+00	1.28245E+00	1.29269E+00	1.30498E+00	1.32018E+00	1.33866E+00	1.36080E+00	1.38700E+00
1.80000E-01	*	1.28962E+00	1.29674E+00	1.30594E+00	1.31754E+00	1.33188E+00	1.34933E+00	1.37025E+00	1.39501E+00
1.90000E-01	*	1.30389E+00	1.31061E+00	1.31927E+00	1.33021E+00	1.34375E+00	1.36021E+00	1.37966E+00	1.40333E+00
2.00000E-01	*	1.31820E+00	1.32453E+00	1.33270E+00	1.34300E+00	1.35576E+00	1.37129E+00	1.38991E+00	1.41196E+00
2.10000E-01	*	1.33296E+00	1.33851E+00	1.34620E+00	1.35541E+00	1.36792E+00	1.38255E+00	1.40009E+00	1.42088E+00
2.20000E-01	*	1.34696E+00	1.35255E+00	1.35978E+00	1.36892E+00	1.38022E+00	1.39394E+00	1.41051E+00	1.43009E+00
2.30000E-01	*	1.36139E+00	1.36665E+00	1.37345E+00	1.38203E+00	1.39266E+00	1.40561E+00	1.42116E+00	1.43958E+00
2.40000E-01	*	1.37586E+00	1.38080E+00	1.38718E+00	1.39524E+00	1.40523E+00	1.41740E+00	1.43201E+00	1.44934E+00
2.50000E-01	*	1.39037E+00	1.39500E+00	1.40099E+00	1.40859E+00	1.41793E+00	1.42936E+00	1.44208E+00	1.45935E+00
2.60000E-01	*	1.40491E+00	1.40925E+00	1.41486E+00	1.42196E+00	1.43075E+00	1.44147E+00	1.45435E+00	1.46962E+00
2.70000E-01	*	1.41949E+00	1.42355E+00	1.42881E+00	1.43545E+00	1.44369E+00	1.45374E+00	1.46581E+00	1.48013E+00
2.80000E-01	*	1.43410E+00	1.43790E+00	1.44281E+00	1.44903E+00	1.45674E+00	1.46615E+00	1.47746E+00	1.49088E+00
2.90000E-01	*	1.44873E+00	1.45229E+00	1.45680E+00	1.46270E+00	1.46991E+00	1.47871E+00	1.48925E+00	1.50185E+00
3.00000E-01	*	1.46340E+00	1.46672E+00	1.47101E+00	1.47644E+00	1.48318E+00	1.49140E+00	1.50129E+00	1.51303E+00
3.10000E-01	*	1.47810E+00	1.48119E+00	1.48520E+00	1.49026E+00	1.49655E+00	1.50423E+00	1.51346E+00	1.52443E+00
3.20000E-01	*	1.49282E+00	1.49570E+00	1.49944E+00	1.50416E+00	1.51002E+00	1.51718E+00	1.52575E+00	1.53603E+00
3.30000E-01	*	1.50757E+00	1.51026E+00	1.51373E+00	1.51812E+00	1.52358E+00	1.53025E+00	1.53828E+00	1.54782E+00
3.40000E-01	*	1.52235E+00	1.52484E+00	1.52807E+00	1.53216E+00	1.53724E+00	1.54344E+00	1.55091E+00	1.55979E+00
3.50000E-01	*	1.53715E+00	1.53946E+00	1.54246E+00	1.54626E+00	1.55098E+00	1.55675E+00	1.56365E+00	1.57155E+00
3.60000E-01	*	1.55197E+00	1.55412E+00	1.55695E+00	1.56043E+00	1.56480E+00	1.57016E+00	1.57661E+00	1.58427E+00

$$\text{GAMMA} = 1 + (1-W)((2SR/(1-W))(RHC/RHC)-1)((1-W)RHC/RHC)**5 + W(2SW-2)$$

SR =1.3C RHC =2.7C SW =1.76

W	RHC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.37963E+00	1.45906E+00	1.54965E+00	1.65207E+00	1.76695E+00	1.89487E+00	2.03636E+00	2.19186E+00
2.00000E-02	*	1.37798E+00	1.45386E+00	1.54641E+00	1.63832E+00	1.74819E+00	1.87059E+00	2.00604E+00	2.15477E+00
3.00000E-02	*	1.37694E+00	1.44937E+00	1.53203E+00	1.62557E+00	1.73059E+00	1.84764E+00	1.97723E+00	2.11980E+00
4.00000E-02	*	1.37648E+00	1.44559E+00	1.52449E+00	1.61381E+00	1.71413E+00	1.82600E+00	1.94991E+00	2.08631E+00
5.00000E-02	*	1.37600E+00	1.44249E+00	1.51776E+00	1.60300E+00	1.69478E+00	1.80564E+00	1.92405E+00	2.05446E+00
6.00000E-02	*	1.37727E+00	1.44007E+00	1.51183E+00	1.59313E+00	1.68452E+00	1.78653E+00	1.89962E+00	2.02423E+00
7.00000E-02	*	1.37849E+00	1.43831E+00	1.50668E+00	1.58418E+00	1.67133E+00	1.76884E+00	1.87658E+00	1.95556E+00
8.00000E-02	*	1.38024E+00	1.43718E+00	1.50229E+00	1.57611E+00	1.65917E+00	1.75195E+00	1.85432E+00	1.96848E+00
9.00000E-02	*	1.38251E+00	1.43668E+00	1.49864E+00	1.56892E+00	1.64802E+00	1.73643E+00	1.83458E+00	1.94289E+00
1.00000E-01	*	1.38528E+00	1.43678E+00	1.49570E+00	1.56257E+00	1.63786E+00	1.72205E+00	1.81555E+00	1.91878E+00
1.10000E-01	*	1.38854E+00	1.43747E+00	1.49347E+00	1.55705E+00	1.62867E+00	1.70878E+00	1.79780E+00	1.89612E+00
1.20000E-01	*	1.39228E+00	1.43873E+00	1.49113E+00	1.55234E+00	1.62042E+00	1.69660E+00	1.78129E+00	1.87487E+00
1.30000E-01	*	1.39648E+00	1.44055E+00	1.49105E+00	1.54841E+00	1.61308E+00	1.68547E+00	1.76599E+00	1.85500E+00
1.40000E-01	*	1.40113E+00	1.44292E+00	1.49082E+00	1.54525E+00	1.60663E+00	1.67538E+00	1.75188E+00	1.83648E+00
1.50000E-01	*	1.40621E+00	1.44581E+00	1.49121E+00	1.54283E+00	1.60106E+00	1.66630E+00	1.73852E+00	1.81927E+00
1.60000E-01	*	1.41172E+00	1.44922E+00	1.49222E+00	1.54113E+00	1.59632E+00	1.65819E+00	1.72708E+00	1.80335E+00
1.70000E-01	*	1.41765E+00	1.45313E+00	1.49303E+00	1.54013E+00	1.59241E+00	1.65103E+00	1.71634E+00	1.78867E+00
1.80000E-01	*	1.42397E+00	1.45751E+00	1.49601E+00	1.53982E+00	1.59430E+00	1.64481E+00	1.70667E+00	1.77521E+00
1.90000E-01	*	1.43068E+00	1.46237E+00	1.49875E+00	1.54017E+00	1.58697E+00	1.63948E+00	1.69804E+00	1.76293E+00
2.00000E-01	*	1.43777E+00	1.46768E+00	1.50204E+00	1.54116E+00	1.58519E+00	1.63503E+00	1.69041E+00	1.75181E+00
2.10000E-01	*	1.44322E+00	1.47344E+00	1.50585E+00	1.54278E+00	1.58454E+00	1.63144E+00	1.68376E+00	1.74181E+00
2.20000E-01	*	1.44930E+00	1.47962E+00	1.51018E+00	1.54501E+00	1.58440E+00	1.62866E+00	1.67807E+00	1.73289E+00
2.30000E-01	*	1.46117E+00	1.48621E+00	1.51500E+00	1.54782E+00	1.58496E+00	1.62669E+00	1.67330E+00	1.72504E+00
2.40000E-01	*	1.46964E+00	1.49321E+00	1.52030E+00	1.55120E+00	1.58618E+00	1.62550E+00	1.66942E+00	1.71821E+00
2.50000E-01	*	1.47844E+00	1.50059E+00	1.52607E+00	1.55513E+00	1.58804E+00	1.62506E+00	1.66642E+00	1.71238E+00
2.60000E-01	*	1.48754E+00	1.50834E+00	1.53228E+00	1.55959E+00	1.59054E+00	1.62534E+00	1.66426E+00	1.70751E+00
2.70000E-01	*	1.49694E+00	1.51646E+00	1.53893E+00	1.56457E+00	1.59363E+00	1.62634E+00	1.66291E+00	1.70358E+00
2.80000E-01	*	1.50663E+00	1.52453E+00	1.54599E+00	1.57005E+00	1.59732E+00	1.62802E+00	1.66236E+00	1.70056E+00
2.90000E-01	*	1.51659E+00	1.53373E+00	1.55346E+00	1.57601E+00	1.60157E+00	1.63035E+00	1.66257E+00	1.69842E+00
3.00000E-01	*	1.52682E+00	1.54266E+00	1.56132E+00	1.58243E+00	1.60636E+00	1.63333E+00	1.66352E+00	1.69712E+00
3.10000E-01	*	1.53731E+00	1.55230E+00	1.56956E+00	1.58930E+00	1.61169E+00	1.63692E+00	1.66518E+00	1.69665E+00
3.20000E-01	*	1.54805E+00	1.56204E+00	1.57816E+00	1.59660E+00	1.61752E+00	1.64111E+00	1.66753E+00	1.69597E+00
3.30000E-01	*	1.55903E+00	1.57207E+00	1.58711E+00	1.60431E+00	1.62384E+00	1.64587E+00	1.67055E+00	1.69805E+00
3.40000E-01	*	1.57023E+00	1.58238E+00	1.59640E+00	1.61243E+00	1.63064E+00	1.65118E+00	1.67421E+00	1.69888E+00
3.50000E-01	*	1.58166E+00	1.59246E+00	1.60601E+00	1.62093E+00	1.63789E+00	1.65702E+00	1.67848E+00	1.70241E+00
3.60000E-01	*	1.59330E+00	1.60380E+00	1.61592E+00	1.62980E+00	1.64558E+00	1.66338E+00	1.68335E+00	1.70563E+00

$$\text{GAMMA} = 1 + \{(1-w)\{125R/(1-w)\}(RHC/RHC) - 1\} \{(1-w)RHC/RHC\}^{0.5} + w(25W-2)$$

SM = 1.3C

RHC = 2.70

SW = 1.76

RHC	* 2.60000E+00	2.70000E+00
1.00000E-02	* 2.36174E+00	2.54624E+00
2.00000E-02	* 2.31778E+00	2.49475E+00
3.00000E-02	* 2.27573E+00	2.44534E+00
4.00000E-02	* 2.23571E+00	2.39801E+00
5.00000E-02	* 2.19725E+00	2.35274E+00
6.00000E-02	* 2.16075E+00	2.30942E+00
7.00000E-02	* 2.12601E+00	2.26820E+00
8.00000E-02	* 2.09302E+00	2.22864E+00
9.00000E-02	* 2.06173E+00	2.19141E+00
1.00000E-01	* 2.03210E+00	2.15639E+00
1.10000E-01	* 2.00411E+00	2.12267E+00
1.20000E-01	* 1.97770E+00	2.09010E+00
1.30000E-01	* 1.95266E+00	2.05947E+00
1.40000E-01	* 1.92933E+00	2.03113E+00
1.50000E-01	* 1.90770E+00	2.00448E+00
1.60000E-01	* 1.88731E+00	1.97925E+00
1.70000E-01	* 1.86813E+00	1.95511E+00
1.80000E-01	* 1.85073E+00	1.93252E+00
1.90000E-01	* 1.83448E+00	1.91127E+00
2.00000E-01	* 1.81943E+00	1.89136E+00
2.10000E-01	* 1.80555E+00	1.87261E+00
2.20000E-01	* 1.79274E+00	1.85497E+00
2.30000E-01	* 1.78021E+00	1.83844E+00
2.40000E-01	* 1.76810E+00	1.82313E+00
2.50000E-01	* 1.75631E+00	1.80911E+00
2.60000E-01	* 1.74533E+00	1.79634E+00
2.70000E-01	* 1.73466E+00	1.78460E+00
2.80000E-01	* 1.72420E+00	1.77386E+00
2.90000E-01	* 1.71391E+00	1.76400E+00
3.00000E-01	* 1.70374E+00	1.75493E+00
3.10000E-01	* 1.69351E+00	1.74543E+00
3.20000E-01	* 1.68344E+00	1.73566E+00
3.30000E-01	* 1.67345E+00	1.72551E+00
3.40000E-01	* 1.66344E+00	1.71507E+00
3.50000E-01	* 1.65344E+00	1.70426E+00
3.60000E-01	* 1.64344E+00	1.69307E+00

$$D_{\text{HMC}} = 1 + (1-w) \left((25R/(1-w)) (HFCG/AMC) - 1 \right) (1-w) (HFC/AMCG) + 0.5 + w(25w-2)$$

9H = 1.36   12H = 2.06   5H = 1.76

[illegible]

$$\text{GAMMA} = 1 + (1-w)(1/2Sh/(1-w))(\text{RRCG}/\text{RHL}) - (1-(1-w))\text{RMC}/\text{RRCG} + w(2Sh-2)$$

Sh = 1.3C   RMC = 2.8C   Sh = 1.7C

W	RMC	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
1.00000E-02	*	1.33412E+00	1.43349E+00	1.48378E+00	1.57412E+00	1.67562E+00	1.78882E+00	1.91424E+00	2.05234E+00
2.00000E-02	*	1.33453E+00	1.40125E+00	1.47747E+00	1.56380E+00	1.66083E+00	1.76911E+00	1.88913E+00	2.02174E+00
3.00000E-02	*	1.33547E+00	1.37914E+00	1.47191E+00	1.55537E+00	1.64709E+00	1.75059E+00	1.86537E+00	1.99188E+00
4.00000E-02	*	1.33692E+00	1.37466E+00	1.46710E+00	1.54802E+00	1.63136E+00	1.73324E+00	1.84959E+00	1.96392E+00
5.00000E-02	*	1.33895E+00	1.37079E+00	1.46322E+00	1.53811E+00	1.62262E+00	1.71704E+00	1.82184E+00	1.93744E+00
6.00000E-02	*	1.34125E+00	1.36652E+00	1.45964E+00	1.53124E+00	1.61185E+00	1.70191E+00	1.80159E+00	1.91241E+00
7.00000E-02	*	1.34429E+00	1.37002E+00	1.45695E+00	1.52518E+00	1.60202E+00	1.68795E+00	1.78340E+00	1.88800E+00
8.00000E-02	*	1.34769E+00	1.37456E+00	1.45442E+00	1.51991E+00	1.59311E+00	1.67901E+00	1.76630E+00	1.86465E+00
9.00000E-02	*	1.35155E+00	1.37910E+00	1.45356E+00	1.51941E+00	1.58911E+00	1.66311E+00	1.74984E+00	1.84969E+00
1.00000E-01	*	1.35596E+00	1.40135E+00	1.45231E+00	1.51106E+00	1.57798E+00	1.65223E+00	1.73484E+00	1.82614E+00
1.10000E-01	*	1.36080E+00	1.40352E+00	1.45272E+00	1.50804E+00	1.57171E+00	1.64234E+00	1.72054E+00	1.80708E+00
1.20000E-01	*	1.36575E+00	1.40650E+00	1.45322E+00	1.50614E+00	1.56627E+00	1.63341E+00	1.70816E+00	1.79088E+00
1.30000E-01	*	1.37131E+00	1.40757E+00	1.45431E+00	1.50473E+00	1.56164E+00	1.62543E+00	1.69647E+00	1.77411E+00
1.40000E-01	*	1.37727E+00	1.41352E+00	1.45596E+00	1.50379E+00	1.55760E+00	1.61836E+00	1.68593E+00	1.76095E+00
1.50000E-01	*	1.38362E+00	1.41834E+00	1.45791E+00	1.50352E+00	1.55473E+00	1.61218E+00	1.67721E+00	1.74715E+00
1.60000E-01	*	1.39034E+00	1.42320E+00	1.46059E+00	1.50386E+00	1.55241E+00	1.60667E+00	1.66759E+00	1.73490E+00
1.70000E-01	*	1.39742E+00	1.42851E+00	1.46421E+00	1.50486E+00	1.55082E+00	1.60241E+00	1.65999E+00	1.72375E+00
1.80000E-01	*	1.40484E+00	1.43444E+00	1.46795E+00	1.50645E+00	1.54933E+00	1.59876E+00	1.65325E+00	1.71339E+00
1.90000E-01	*	1.41266E+00	1.44038E+00	1.47227E+00	1.50862E+00	1.54973E+00	1.59595E+00	1.64741E+00	1.70480E+00
2.00000E-01	*	1.42072E+00	1.44642E+00	1.47703E+00	1.51136E+00	1.55020E+00	1.59385E+00	1.64259E+00	1.69669E+00
2.10000E-01	*	1.42915E+00	1.45265E+00	1.48224E+00	1.51465E+00	1.55131E+00	1.59253E+00	1.63859E+00	1.68970E+00
2.20000E-01	*	1.43788E+00	1.45916E+00	1.48793E+00	1.51847E+00	1.55306E+00	1.59194E+00	1.63580E+00	1.68368E+00
2.30000E-01	*	1.44691E+00	1.46603E+00	1.49406E+00	1.52262E+00	1.55640E+00	1.59204E+00	1.63304E+00	1.67899E+00
2.40000E-01	*	1.45623E+00	1.47265E+00	1.50056E+00	1.52706E+00	1.55934E+00	1.59287E+00	1.63148E+00	1.67461E+00
2.50000E-01	*	1.46583E+00	1.47951E+00	1.50752E+00	1.53279E+00	1.56165E+00	1.59344E+00	1.63004E+00	1.67112E+00
2.60000E-01	*	1.47571E+00	1.48659E+00	1.51485E+00	1.53876E+00	1.56594E+00	1.59646E+00	1.63065E+00	1.66868E+00
2.70000E-01	*	1.48576E+00	1.49491E+00	1.52257E+00	1.54503E+00	1.57050E+00	1.59926E+00	1.63132E+00	1.66767E+00
2.80000E-01	*	1.49602E+00	1.50122E+00	1.53084E+00	1.55172E+00	1.57461E+00	1.60054E+00	1.62929E+00	1.66626E+00
2.90000E-01	*	1.50685E+00	1.51213E+00	1.53954E+00	1.55863E+00	1.58122E+00	1.60646E+00	1.63474E+00	1.66523E+00
3.00000E-01	*	1.51771E+00	1.51812E+00	1.54787E+00	1.56635E+00	1.58731E+00	1.61055E+00	1.63744E+00	1.66456E+00
3.10000E-01	*	1.52860E+00	1.52404E+00	1.55694E+00	1.57426E+00	1.59366E+00	1.61598E+00	1.64077E+00	1.66640E+00
3.20000E-01	*	1.53961E+00	1.53233E+00	1.56642E+00	1.58275E+00	1.60087E+00	1.62151E+00	1.64470E+00	1.67054E+00
3.30000E-01	*	1.55102E+00	1.54361E+00	1.57616E+00	1.59126E+00	1.60830E+00	1.62759E+00	1.64923E+00	1.67336E+00
3.40000E-01	*	1.56373E+00	1.55734E+00	1.58611E+00	1.60021E+00	1.61814E+00	1.63413E+00	1.65321E+00	1.67673E+00
3.50000E-01	*	1.57524E+00	1.56951E+00	1.59551E+00	1.60935E+00	1.62639E+00	1.64114E+00	1.65944E+00	1.68093E+00
3.60000E-01	*	1.58773E+00	1.58266E+00	1.60744E+00	1.61972E+00	1.63302E+00	1.64846E+00	1.66610E+00	1.68563E+00

$$\text{GAMMA} = 1 + [(1-W)(1/25W/(1-W))\{KMC/G/PHL\}-1][(1-W)KMC/KHCG]^{0.05} + n(25W-2)$$

$$SR = 1.36 \quad KHLG = 2.80 \quad SW = 1.76$$

$$KMC = 2.60000E+00 \quad 2.70000E+00 \quad 2.80000E+00$$

N

1.00000E-02	* 2.20351E+00	2.36888E+00	2.54629E+00
2.00000E-02	* 2.16614E+00	2.32365E+00	2.49475E+00
3.00000E-02	* 2.13949E+00	2.28156E+00	2.44534E+00
4.00000E-02	* 2.09654E+00	2.24114E+00	2.39801E+00
5.00000E-02	* 2.06425E+00	2.20259E+00	2.35274E+00
6.00000E-02	* 2.03359E+00	2.16585E+00	2.30948E+00
7.00000E-02	* 2.00452E+00	2.13089E+00	2.26820E+00
8.00000E-02	* 1.97701E+00	2.09748E+00	2.22886E+00
9.00000E-02	* 1.95103E+00	2.06617E+00	2.19141E+00
1.00000E-01	* 1.92654E+00	2.03634E+00	2.15583E+00
1.10000E-01	* 1.90351E+00	2.00815E+00	2.12207E+00
1.20000E-01	* 1.88191E+00	1.98155E+00	2.09010E+00
1.30000E-01	* 1.86189E+00	1.95652E+00	2.05987E+00
1.40000E-01	* 1.84284E+00	1.93302E+00	2.03134E+00
1.50000E-01	* 1.82532E+00	1.91111E+00	2.00448E+00
1.60000E-01	* 1.80909E+00	1.89045E+00	1.97925E+00
1.70000E-01	* 1.79411E+00	1.87131E+00	1.95561E+00
1.80000E-01	* 1.78037E+00	1.85356E+00	1.93352E+00
1.90000E-01	* 1.76782E+00	1.83716E+00	1.91293E+00
2.00000E-01	* 1.75644E+00	1.82207E+00	1.89382E+00
2.10000E-01	* 1.74618E+00	1.80825E+00	1.87615E+00
2.20000E-01	* 1.73703E+00	1.79568E+00	1.85987E+00
2.30000E-01	* 1.72894E+00	1.78432E+00	1.84494E+00
2.40000E-01	* 1.72189E+00	1.77413E+00	1.83134E+00
2.50000E-01	* 1.71584E+00	1.76507E+00	1.81901E+00
2.60000E-01	* 1.71077E+00	1.75713E+00	1.80794E+00
2.70000E-01	* 1.70665E+00	1.75025E+00	1.79806E+00
2.80000E-01	* 1.70344E+00	1.74442E+00	1.78936E+00
2.90000E-01	* 1.70112E+00	1.73959E+00	1.78180E+00
3.00000E-01	* 1.69966E+00	1.73573E+00	1.77533E+00
3.10000E-01	* 1.69903E+00	1.73262E+00	1.76993E+00
3.20000E-01	* 1.69919E+00	1.73081E+00	1.76556E+00
3.30000E-01	* 1.70013E+00	1.72969E+00	1.76217E+00
3.40000E-01	* 1.70182E+00	1.72941E+00	1.75975E+00
3.50000E-01	* 1.70422E+00	1.72995E+00	1.75826E+00
3.60000E-01	* 1.70731E+00	1.73128E+00	1.75765E+00

$$\text{GAMMA} = 1 + ((1-W)(125W/(1-W)) + (1-W)(RHC/RHC) - 1) \cdot ((1-W)(RHC/RHC))^{*5} + W(25W-2)$$

SK = 1.3C RHC = 2.90 SW = 1.76

M	RHC	* 1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.0453E+00	1.05099E+00	1.07627E+00	1.09800E+00	1.12481E+00	1.15732E+00	1.19618E+00	1.24201E+00
2.00000E-02	*	1.05031E+00	1.07275E+00	1.08895E+00	1.10927E+00	1.13482E+00	1.16582E+00	1.20288E+00	1.24661E+00
3.00000E-02	*	1.07311E+00	1.08528E+00	1.10395E+00	1.12068E+00	1.14503E+00	1.17457E+00	1.20990E+00	1.25159E+00
4.00000E-02	*	1.08566E+00	1.09852E+00	1.11348E+00	1.12265E+00	1.13956E+00	1.18356E+00	1.21722E+00	1.25696E+00
5.00000E-02	*	1.11167E+00	1.12600E+00	1.14200E+00	1.14333E+00	1.16600E+00	1.19279E+00	1.22683E+00	1.26269E+00
6.00000E-02	*	1.11432E+00	1.12928E+00	1.13877E+00	1.15577E+00	1.17675E+00	1.20224E+00	1.23745E+00	1.26877E+00
7.00000E-02	*	1.12882E+00	1.13976E+00	1.15159E+00	1.16773E+00	1.18768E+00	1.21191E+00	1.24093E+00	1.27572E+00
8.00000E-02	*	1.14287E+00	1.15241E+00	1.16448E+00	1.17942E+00	1.19878E+00	1.22181E+00	1.24938E+00	1.28198E+00
9.00000E-02	*	1.15697E+00	1.16593E+00	1.17748E+00	1.19204E+00	1.21004E+00	1.23191E+00	1.25811E+00	1.28900E+00
1.00000E-01	*	1.17112E+00	1.17961E+00	1.19058E+00	1.20463E+00	1.22145E+00	1.24221E+00	1.26709E+00	1.29651E+00
1.10000E-01	*	1.18530E+00	1.19335E+00	1.20374E+00	1.21893E+00	1.23303E+00	1.25172E+00	1.27634E+00	1.30424E+00
1.20000E-01	*	1.19954E+00	1.20716E+00	1.21699E+00	1.22940E+00	1.24475E+00	1.26342E+00	1.28580E+00	1.31228E+00
1.30000E-01	*	1.21381E+00	1.22102E+00	1.23033E+00	1.24208E+00	1.25660E+00	1.27430E+00	1.29551E+00	1.32061E+00
1.40000E-01	*	1.22812E+00	1.23544E+00	1.24373E+00	1.25487E+00	1.26803E+00	1.28377E+00	1.30345E+00	1.32723E+00
1.50000E-01	*	1.24247E+00	1.24992E+00	1.25728E+00	1.26776E+00	1.28007E+00	1.29461E+00	1.31241E+00	1.33458E+00
1.60000E-01	*	1.25686E+00	1.26455E+00	1.27235E+00	1.28395E+00	1.29705E+00	1.31208E+00	1.32951E+00	1.35071E+00
1.70000E-01	*	1.27129E+00	1.27916E+00	1.28713E+00	1.29964E+00	1.30545E+00	1.32196E+00	1.34073E+00	1.36130E+00
1.80000E-01	*	1.28575E+00	1.29373E+00	1.30176E+00	1.31380E+00	1.31958E+00	1.33681E+00	1.35545E+00	1.37630E+00
1.90000E-01	*	1.30024E+00	1.30835E+00	1.31647E+00	1.3280E+00	1.33528E+00	1.3528E+00	1.36954E+00	1.38845E+00
2.00000E-01	*	1.31477E+00	1.32295E+00	1.33115E+00	1.34211E+00	1.34628E+00	1.36423E+00	1.38054E+00	1.40046E+00
2.10000E-01	*	1.32932E+00	1.33753E+00	1.34575E+00	1.35668E+00	1.35927E+00	1.37751E+00	1.39344E+00	1.41426E+00
2.20000E-01	*	1.34392E+00	1.35213E+00	1.36035E+00	1.37137E+00	1.37426E+00	1.39225E+00	1.40746E+00	1.42931E+00
2.30000E-01	*	1.35853E+00	1.36673E+00	1.37495E+00	1.38595E+00	1.38955E+00	1.40745E+00	1.42315E+00	1.44596E+00
2.40000E-01	*	1.37318E+00	1.38137E+00	1.38957E+00	1.40055E+00	1.40405E+00	1.42195E+00	1.43675E+00	1.45957E+00
2.50000E-01	*	1.38786E+00	1.39595E+00	1.40405E+00	1.41495E+00	1.41845E+00	1.43635E+00	1.44915E+00	1.47195E+00
2.60000E-01	*	1.40256E+00	1.41065E+00	1.41875E+00	1.42965E+00	1.43315E+00	1.45105E+00	1.46385E+00	1.48665E+00
2.70000E-01	*	1.41726E+00	1.42535E+00	1.43345E+00	1.44435E+00	1.44785E+00	1.46575E+00	1.47855E+00	1.50135E+00
2.80000E-01	*	1.43196E+00	1.43995E+00	1.44805E+00	1.45895E+00	1.46245E+00	1.48035E+00	1.49315E+00	1.51595E+00
2.90000E-01	*	1.44666E+00	1.45465E+00	1.46275E+00	1.47365E+00	1.47715E+00	1.49505E+00	1.50785E+00	1.53065E+00
3.00000E-01	*	1.46136E+00	1.46935E+00	1.47745E+00	1.48835E+00	1.49185E+00	1.50975E+00	1.52255E+00	1.54535E+00
3.10000E-01	*	1.47606E+00	1.48405E+00	1.49215E+00	1.50305E+00	1.50655E+00	1.52445E+00	1.53725E+00	1.56005E+00
3.20000E-01	*	1.49076E+00	1.49875E+00	1.50685E+00	1.51775E+00	1.52125E+00	1.53915E+00	1.55195E+00	1.57475E+00
3.30000E-01	*	1.50546E+00	1.51345E+00	1.52155E+00	1.53245E+00	1.53595E+00	1.55385E+00	1.56665E+00	1.58945E+00
3.40000E-01	*	1.52016E+00	1.52815E+00	1.53625E+00	1.54715E+00	1.55065E+00	1.56855E+00	1.58135E+00	1.60415E+00
3.50000E-01	*	1.53486E+00	1.54285E+00	1.55095E+00	1.56185E+00	1.56535E+00	1.58325E+00	1.59605E+00	1.61885E+00
3.60000E-01	*	1.54956E+00	1.55755E+00	1.56565E+00	1.57655E+00	1.58005E+00	1.59795E+00	1.61075E+00	1.63355E+00

$$\text{GAMMA} = 1 + (1-W) \{ (2SH/(1-W)) (HHC/G/HMC) - 1 \} (1-W) HHC/HMC ** 5 + W (2SH-2)$$

SK = 1.30 HHLG = 2.90 SH = 1.76

HMC	*	1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
K	*								
1.00000E-02	*	1.29545E+00	1.35713E+00	1.42766E+00	1.50762E+00	1.59758E+00	1.69806E+00	1.80956E+00	1.93253E+00
2.00000E-02	*	1.29761E+00	1.35965E+00	1.42985E+00	1.50925E+00	1.59862E+00	1.69830E+00	1.78895E+00	1.90663E+00
3.00000E-02	*	1.30025E+00	1.36243E+00	1.43071E+00	1.49367E+00	1.57579E+00	1.66760E+00	1.76957E+00	1.88212E+00
4.00000E-02	*	1.30334E+00	1.36592E+00	1.43266E+00	1.48787E+00	1.56627E+00	1.65395E+00	1.75137E+00	1.85896E+00
5.00000E-02	*	1.30688E+00	1.36955E+00	1.43643E+00	1.48282E+00	1.55763E+00	1.64133E+00	1.73435E+00	1.83713E+00
6.00000E-02	*	1.31088E+00	1.37391E+00	1.44152E+00	1.47892E+00	1.54785E+00	1.62969E+00	1.71847E+00	1.81660E+00
7.00000E-02	*	1.31526E+00	1.37815E+00	1.44646E+00	1.47434E+00	1.54292E+00	1.61904E+00	1.70371E+00	1.79734E+00
8.00000E-02	*	1.32008E+00	1.38414E+00	1.45465E+00	1.47206E+00	1.53681E+00	1.60933E+00	1.69004E+00	1.77932E+00
9.00000E-02	*	1.32530E+00	1.39124E+00	1.46324E+00	1.46986E+00	1.53149E+00	1.60055E+00	1.67743E+00	1.76251E+00
1.00000E-01	*	1.33091E+00	1.39773E+00	1.47166E+00	1.46634E+00	1.52696E+00	1.59268E+00	1.66587E+00	1.74669E+00
1.10000E-01	*	1.33690E+00	1.37472E+00	1.48161E+00	1.46746E+00	1.52319E+00	1.58564E+00	1.65531E+00	1.73243E+00
1.20000E-01	*	1.34327E+00	1.37914E+00	1.48234E+00	1.46722E+00	1.52016E+00	1.57955E+00	1.64575E+00	1.71909E+00
1.30000E-01	*	1.34999E+00	1.38463E+00	1.48231E+00	1.46709E+00	1.51786E+00	1.57426E+00	1.63715E+00	1.70686E+00
1.40000E-01	*	1.35707E+00	1.38933E+00	1.48263E+00	1.46896E+00	1.51625E+00	1.56978E+00	1.62949E+00	1.69569E+00
1.50000E-01	*	1.36448E+00	1.39563E+00	1.48313E+00	1.47012E+00	1.51533E+00	1.56610E+00	1.62274E+00	1.68558E+00
1.60000E-01	*	1.37222E+00	1.40114E+00	1.48343E+00	1.47224E+00	1.51507E+00	1.56318E+00	1.61688E+00	1.67648E+00
1.70000E-01	*	1.38029E+00	1.40714E+00	1.48396E+00	1.47491E+00	1.51546E+00	1.56102E+00	1.61189E+00	1.66837E+00
1.80000E-01	*	1.38866E+00	1.41451E+00	1.48442E+00	1.47812E+00	1.51647E+00	1.55959E+00	1.60775E+00	1.66122E+00
1.90000E-01	*	1.39734E+00	1.42175E+00	1.48498E+00	1.48184E+00	1.51810E+00	1.55886E+00	1.60442E+00	1.65502E+00
2.00000E-01	*	1.40630E+00	1.42933E+00	1.48558E+00	1.48607E+00	1.52031E+00	1.55883E+00	1.60188E+00	1.64972E+00
2.10000E-01	*	1.41555E+00	1.43727E+00	1.48622E+00	1.49078E+00	1.52310E+00	1.55946E+00	1.60012E+00	1.64531E+00
2.20000E-01	*	1.42507E+00	1.44553E+00	1.48690E+00	1.49597E+00	1.52644E+00	1.56074E+00	1.59910E+00	1.64177E+00
2.30000E-01	*	1.43485E+00	1.45411E+00	1.48762E+00	1.50161E+00	1.53032E+00	1.56265E+00	1.59881E+00	1.63905E+00
2.40000E-01	*	1.44489E+00	1.46311E+00	1.48838E+00	1.50770E+00	1.53473E+00	1.56516E+00	1.59923E+00	1.63714E+00
2.50000E-01	*	1.45518E+00	1.47220E+00	1.49181E+00	1.51422E+00	1.53963E+00	1.56827E+00	1.60033E+00	1.63602E+00
2.60000E-01	*	1.46570E+00	1.48168E+00	1.50010E+00	1.52115E+00	1.54503E+00	1.57194E+00	1.60209E+00	1.63566E+00
2.70000E-01	*	1.47646E+00	1.49144E+00	1.50872E+00	1.52848E+00	1.55090E+00	1.57617E+00	1.60449E+00	1.63603E+00
2.80000E-01	*	1.48743E+00	1.50148E+00	1.51767E+00	1.53619E+00	1.55722E+00	1.58093E+00	1.60750E+00	1.63712E+00
2.90000E-01	*	1.49862E+00	1.51177E+00	1.52693E+00	1.54424E+00	1.56398E+00	1.58621E+00	1.61112E+00	1.63889E+00
3.00000E-01	*	1.51002E+00	1.52231E+00	1.53650E+00	1.55273E+00	1.57117E+00	1.59198E+00	1.61531E+00	1.64133E+00
3.10000E-01	*	1.52161E+00	1.53310E+00	1.54635E+00	1.56153E+00	1.57877E+00	1.59823E+00	1.62066E+00	1.64441E+00
3.20000E-01	*	1.53340E+00	1.54412E+00	1.55649E+00	1.57066E+00	1.58676E+00	1.60494E+00	1.62534E+00	1.64811E+00
3.30000E-01	*	1.54537E+00	1.55536E+00	1.56650E+00	1.58011E+00	1.59514E+00	1.61210E+00	1.63115E+00	1.65240E+00
3.40000E-01	*	1.55751E+00	1.56642E+00	1.57756E+00	1.58987E+00	1.60388E+00	1.61969E+00	1.63745E+00	1.65728E+00
3.50000E-01	*	1.56983E+00	1.57848E+00	1.58848E+00	1.59993E+00	1.61297E+00	1.62769E+00	1.64423E+00	1.66270E+00
3.60000E-01	*	1.58230E+00	1.59034E+00	1.59963E+00	1.61028E+00	1.62240E+00	1.63609E+00	1.65148E+00	1.66867E+00

$$\text{GAMMA} = 1 + (1-w) \{ (2SR/(1-w)) (RHC/RHC) - 1 \} \{ (1-w) RHC/RHC \} **5 + w(2SW-2)$$

SR =1.30 RHC =2.9C SW =1.76

N	RHC	* 2.60000E+00	2.70000E+00	2.80000E+00	2.90000E+00
1.00000E-02	*	2.06737E+00	2.21443E+00	2.37400E+00	2.54629E+00
2.00000E-02	*	2.03573E+00	2.17660E+00	2.32953E+00	2.49475E+00
3.00000E-02	*	2.00565E+00	2.14051E+00	2.28699E+00	2.44534E+00
4.00000E-02	*	1.97709E+00	2.10612E+00	2.24635E+00	2.39801E+00
5.00000E-02	*	1.95004E+00	2.07342E+00	2.20757E+00	2.35274E+00
6.00000E-02	*	1.92444E+00	2.04235E+00	2.17061E+00	2.30948E+00
7.00000E-02	*	1.90029E+00	2.01269E+00	2.13544E+00	2.26820E+00
8.00000E-02	*	1.87753E+00	1.98500E+00	2.10202E+00	2.22880E+00
9.00000E-02	*	1.85614E+00	1.95865E+00	2.07032E+00	2.19141E+00
1.00000E-01	*	1.83610E+00	1.93361E+00	2.04030E+00	2.15583E+00
1.10000E-01	*	1.81736E+00	1.91043E+00	2.01192E+00	2.12207E+00
1.20000E-01	*	1.79991E+00	1.88850E+00	1.98514E+00	2.09010E+00
1.30000E-01	*	1.78370E+00	1.86797E+00	1.95994E+00	2.05987E+00
1.40000E-01	*	1.76870E+00	1.84861E+00	1.93627E+00	2.03134E+00
1.50000E-01	*	1.75490E+00	1.83098E+00	1.91410E+00	2.00448E+00
1.60000E-01	*	1.74225E+00	1.81446E+00	1.89339E+00	1.97925E+00
1.70000E-01	*	1.73072E+00	1.79922E+00	1.87410E+00	1.95561E+00
1.80000E-01	*	1.72049E+00	1.78521E+00	1.85620E+00	1.93322E+00
1.90000E-01	*	1.71093E+00	1.77240E+00	1.83964E+00	1.91293E+00
2.00000E-01	*	1.70261E+00	1.76077E+00	1.82444E+00	1.89382E+00
2.10000E-01	*	1.69529E+00	1.75028E+00	1.81049E+00	1.87615E+00
2.20000E-01	*	1.68896E+00	1.74094E+00	1.79760E+00	1.85987E+00
2.30000E-01	*	1.68357E+00	1.73259E+00	1.78632E+00	1.84494E+00
2.40000E-01	*	1.67911E+00	1.72533E+00	1.77601E+00	1.83134E+00
2.50000E-01	*	1.67554E+00	1.71909E+00	1.76685E+00	1.81901E+00
2.60000E-01	*	1.67284E+00	1.71313E+00	1.75880E+00	1.80794E+00
2.70000E-01	*	1.67099E+00	1.70753E+00	1.75183E+00	1.79806E+00
2.80000E-01	*	1.66944E+00	1.70215E+00	1.74590E+00	1.78936E+00
2.90000E-01	*	1.66808E+00	1.70306E+00	1.74098E+00	1.78180E+00
3.00000E-01	*	1.66701E+00	1.70224E+00	1.73704E+00	1.77533E+00
3.10000E-01	*	1.66714E+00	1.70125E+00	1.73404E+00	1.76993E+00
3.20000E-01	*	1.66737E+00	1.70128E+00	1.73196E+00	1.76556E+00
3.30000E-01	*	1.66760E+00	1.70208E+00	1.73076E+00	1.76217E+00
3.40000E-01	*	1.667930E+00	1.70303E+00	1.73041E+00	1.75975E+00
3.50000E-01	*	1.668323E+00	1.70591E+00	1.73089E+00	1.75826E+00
3.60000E-01	*	1.668777E+00	1.70869E+00	1.73215E+00	1.75765E+00

$$\text{GAMMA} = 1 + (1-w) \{ (2SR/(1-w)) (RHC/G/RHC) - 1 \} \{ (1-w) RHC/RHC \}^{*45} + w (2Sw - 2)$$

SR = 1.30 RHC = 3.00 Sw = 1.76

W	RHC	*	1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
W	RHC	*	1.00000E+00	1.10000E+00	1.20000E+00	1.30000E+00	1.40000E+00	1.50000E+00	1.60000E+00	1.70000E+00
1.00000E-02	*	1.04185E+00	1.05365E+00	1.06886E+00	1.08800E+00	1.11163E+00	1.14031E+00	1.17463E+00	1.21514E+00	1.26247E+00
2.00000E-02	*	1.05577E+00	1.06710E+00	1.08149E+00	1.09973E+00	1.12226E+00	1.14960E+00	1.18233E+00	1.22247E+00	1.27097E+00
3.00000E-02	*	1.06974E+00	1.08044E+00	1.09423E+00	1.11166E+00	1.13306E+00	1.15911E+00	1.19230E+00	1.23215E+00	1.28175E+00
4.00000E-02	*	1.08375E+00	1.09343E+00	1.10706E+00	1.12359E+00	1.14402E+00	1.16884E+00	1.19855E+00	1.23366E+00	1.27404E+00
5.00000E-02	*	1.09781E+00	1.10749E+00	1.11998E+00	1.13571E+00	1.15515E+00	1.17877E+00	1.20705E+00	1.24049E+00	1.27925E+00
6.00000E-02	*	1.11192E+00	1.12112E+00	1.13298E+00	1.14794E+00	1.16643E+00	1.18890E+00	1.21582E+00	1.24764E+00	1.28466E+00
7.00000E-02	*	1.12607E+00	1.13481E+00	1.14608E+00	1.16029E+00	1.17747E+00	1.19923E+00	1.22483E+00	1.25510E+00	1.29077E+00
8.00000E-02	*	1.14026E+00	1.14856E+00	1.15926E+00	1.17276E+00	1.18945E+00	1.20975E+00	1.23400E+00	1.26287E+00	1.29675E+00
9.00000E-02	*	1.15449E+00	1.16236E+00	1.17252E+00	1.18533E+00	1.20118E+00	1.22046E+00	1.24357E+00	1.27092E+00	1.30292E+00
1.00000E-01	*	1.16877E+00	1.17623E+00	1.18586E+00	1.19801E+00	1.21305E+00	1.23135E+00	1.25328E+00	1.27925E+00	1.30925E+00
1.10000E-01	*	1.18308E+00	1.19015E+00	1.19928E+00	1.21060E+00	1.22506E+00	1.24241E+00	1.26222E+00	1.28477E+00	1.31151E+00
1.20000E-01	*	1.19743E+00	1.20412E+00	1.21277E+00	1.22369E+00	1.23720E+00	1.25364E+00	1.27238E+00	1.29367E+00	1.31755E+00
1.30000E-01	*	1.21181E+00	1.21815E+00	1.22633E+00	1.23667E+00	1.24946E+00	1.26504E+00	1.28344E+00	1.30589E+00	1.33155E+00
1.40000E-01	*	1.22624E+00	1.23223E+00	1.23997E+00	1.24975E+00	1.26185E+00	1.27660E+00	1.29430E+00	1.31528E+00	1.33955E+00
1.50000E-01	*	1.24069E+00	1.24635E+00	1.25367E+00	1.26292E+00	1.27437E+00	1.28832E+00	1.30506E+00	1.32442E+00	1.34679E+00
1.60000E-01	*	1.25518E+00	1.26053E+00	1.26744E+00	1.27617E+00	1.28699E+00	1.30016E+00	1.31602E+00	1.33479E+00	1.35615E+00
1.70000E-01	*	1.26970E+00	1.27475E+00	1.28127E+00	1.28952E+00	1.29974E+00	1.31219E+00	1.32715E+00	1.34490E+00	1.36475E+00
1.80000E-01	*	1.28425E+00	1.28901E+00	1.29516E+00	1.30294E+00	1.31259E+00	1.32425E+00	1.33847E+00	1.35523E+00	1.37475E+00
1.90000E-01	*	1.29883E+00	1.30331E+00	1.30912E+00	1.31645E+00	1.32554E+00	1.33663E+00	1.34996E+00	1.36578E+00	1.38435E+00
2.00000E-01	*	1.31344E+00	1.31766E+00	1.32313E+00	1.33004E+00	1.33860E+00	1.34906E+00	1.36162E+00	1.37653E+00	1.39400E+00
2.10000E-01	*	1.32808E+00	1.33205E+00	1.33719E+00	1.34370E+00	1.35176E+00	1.36161E+00	1.37344E+00	1.38749E+00	1.40400E+00
2.20000E-01	*	1.34274E+00	1.34648E+00	1.35131E+00	1.35743E+00	1.36502E+00	1.37428E+00	1.38542E+00	1.39864E+00	1.41425E+00
2.30000E-01	*	1.35743E+00	1.36094E+00	1.36548E+00	1.37123E+00	1.37836E+00	1.38707E+00	1.39755E+00	1.40999E+00	1.42452E+00
2.40000E-01	*	1.37215E+00	1.37544E+00	1.37970E+00	1.38510E+00	1.39180E+00	1.39998E+00	1.40962E+00	1.42152E+00	1.43522E+00
2.50000E-01	*	1.38688E+00	1.38997E+00	1.39397E+00	1.39904E+00	1.40532E+00	1.41300E+00	1.42224E+00	1.43322E+00	1.44510E+00
2.60000E-01	*	1.40165E+00	1.40454E+00	1.40829E+00	1.41303E+00	1.41893E+00	1.42613E+00	1.43479E+00	1.44410E+00	1.45510E+00
2.70000E-01	*	1.41643E+00	1.41914E+00	1.42265E+00	1.42709E+00	1.43261E+00	1.43936E+00	1.44748E+00	1.45713E+00	1.46833E+00
2.80000E-01	*	1.43124E+00	1.43377E+00	1.43705E+00	1.44121E+00	1.44638E+00	1.45269E+00	1.46029E+00	1.46933E+00	1.47993E+00
2.90000E-01	*	1.44606E+00	1.44843E+00	1.45150E+00	1.45536E+00	1.46021E+00	1.46612E+00	1.47323E+00	1.48169E+00	1.49169E+00
3.00000E-01	*	1.46091E+00	1.46312E+00	1.46598E+00	1.46961E+00	1.47412E+00	1.47963E+00	1.48628E+00	1.49418E+00	1.50348E+00
3.10000E-01	*	1.47578E+00	1.47764E+00	1.48051E+00	1.48389E+00	1.48810E+00	1.49324E+00	1.49944E+00	1.50682E+00	1.51552E+00
3.20000E-01	*	1.49066E+00	1.49258E+00	1.49506E+00	1.49821E+00	1.50214E+00	1.50694E+00	1.51272E+00	1.51940E+00	1.52700E+00
3.30000E-01	*	1.50556E+00	1.50735E+00	1.50966E+00	1.51260E+00	1.51625E+00	1.52071E+00	1.52616E+00	1.53251E+00	1.53975E+00
3.40000E-01	*	1.52048E+00	1.52214E+00	1.52429E+00	1.52702E+00	1.53041E+00	1.53457E+00	1.53958E+00	1.54554E+00	1.55245E+00
3.50000E-01	*	1.53541E+00	1.53695E+00	1.53895E+00	1.54148E+00	1.54464E+00	1.54850E+00	1.55315E+00	1.55870E+00	1.56525E+00
3.60000E-01	*	1.55036E+00	1.55179E+00	1.55364E+00	1.55599E+00	1.55892E+00	1.56250E+00	1.56682E+00	1.57197E+00	1.57800E+00

$$\text{GAMMA} = 1 + (1-W)((2SR/(1-W))(RRCG/RHC)-1)((1-W)RHC/RFCG)**5 + W(2SW-2)$$

$$SM = 1.30 \quad RMCU = 3.00 \quad SW = 1.76$$

RHL	* 1.80000E+00	1.90000E+00	2.00000E+00	2.10000E+00	2.20000E+00	2.30000E+00	2.40000E+00	2.50000E+00
h	*							
1.00000E-02	* 1.26244E+00	1.31708E+00	1.37963E+00	1.45063E+00	1.53061E+00	1.62006E+00	1.71946E+00	1.82925E+00
2.00000E-02	* 1.26610E+00	1.31824E+00	1.37798E+00	1.44580E+00	1.52222E+00	1.60772E+00	1.70277E+00	1.80779E+00
3.00000E-02	* 1.27019E+00	1.31954E+00	1.37694E+00	1.44168E+00	1.51465E+00	1.59633E+00	1.68717E+00	1.78758E+00
4.00000E-02	* 1.27468E+00	1.32212E+00	1.37648E+00	1.43825E+00	1.50190E+00	1.56586E+00	1.63726E+00	1.70854E+00
5.00000E-02	* 1.27957E+00	1.32478E+00	1.37660E+00	1.43549E+00	1.50193E+00	1.57635E+00	1.65917E+00	1.75079E+00
6.00000E-02	* 1.28485E+00	1.32751E+00	1.37727E+00	1.43340E+00	1.49674E+00	1.56677E+00	1.64672E+00	1.73417E+00
7.00000E-02	* 1.29051E+00	1.33145E+00	1.37649E+00	1.43195E+00	1.49229E+00	1.55994E+00	1.63527E+00	1.71866E+00
8.00000E-02	* 1.29653E+00	1.33552E+00	1.38024E+00	1.43113E+00	1.48859E+00	1.55302E+00	1.62481E+00	1.70431E+00
9.00000E-02	* 1.30292E+00	1.33995E+00	1.38251E+00	1.43092E+00	1.48559E+00	1.54693E+00	1.61529E+00	1.69103E+00
1.00000E-01	* 1.30965E+00	1.34466E+00	1.38520E+00	1.43130E+00	1.48330E+00	1.54165E+00	1.60671E+00	1.67882E+00
1.10000E-01	* 1.31672E+00	1.35015E+00	1.38854E+00	1.43226E+00	1.48168E+00	1.53716E+00	1.59903E+00	1.66764E+00
1.20000E-01	* 1.32411E+00	1.35584E+00	1.39228E+00	1.43379E+00	1.48073E+00	1.53343E+00	1.59224E+00	1.65747E+00
1.30000E-01	* 1.33183E+00	1.36191E+00	1.39648E+00	1.43580E+00	1.48041E+00	1.53045E+00	1.58631E+00	1.64828E+00
1.40000E-01	* 1.33986E+00	1.36836E+00	1.40113E+00	1.43874E+00	1.48073E+00	1.52821E+00	1.58122E+00	1.64006E+00
1.50000E-01	* 1.34818E+00	1.37516E+00	1.40621E+00	1.44160E+00	1.48165E+00	1.52666E+00	1.57694E+00	1.63278E+00
1.60000E-01	* 1.35660E+00	1.38235E+00	1.41172E+00	1.44573E+00	1.48316E+00	1.52581E+00	1.57347E+00	1.62640E+00
1.70000E-01	* 1.36517E+00	1.38976E+00	1.41765E+00	1.44935E+00	1.48525E+00	1.52563E+00	1.57076E+00	1.62041E+00
1.80000E-01	* 1.37488E+00	1.39717E+00	1.42397E+00	1.45399E+00	1.48790E+00	1.52610E+00	1.56881E+00	1.61628E+00
1.90000E-01	* 1.38433E+00	1.40588E+00	1.43068E+00	1.45900E+00	1.49108E+00	1.52720E+00	1.56758E+00	1.61249E+00
2.00000E-01	* 1.39403E+00	1.41436E+00	1.43777E+00	1.46450E+00	1.49480E+00	1.52891E+00	1.56707E+00	1.60951E+00
2.10000E-01	* 1.40398E+00	1.42315E+00	1.44522E+00	1.47043E+00	1.49902E+00	1.53121E+00	1.56724E+00	1.60733E+00
2.20000E-01	* 1.41417E+00	1.43223E+00	1.45302E+00	1.47679E+00	1.50373E+00	1.53409E+00	1.56808E+00	1.60591E+00
2.30000E-01	* 1.42460E+00	1.44159E+00	1.46117E+00	1.48354E+00	1.50893E+00	1.53753E+00	1.56957E+00	1.60523E+00
2.40000E-01	* 1.43525E+00	1.45173E+00	1.46964E+00	1.49070E+00	1.51459E+00	1.54151E+00	1.57168E+00	1.60528E+00
2.50000E-01	* 1.44612E+00	1.46113E+00	1.47844E+00	1.49823E+00	1.52069E+00	1.54602E+00	1.57440E+00	1.60602E+00
2.60000E-01	* 1.45720E+00	1.47125E+00	1.48754E+00	1.50613E+00	1.52723E+00	1.55103E+00	1.57771E+00	1.60744E+00
2.70000E-01	* 1.46849E+00	1.48170E+00	1.49694E+00	1.51438E+00	1.53419E+00	1.55653E+00	1.58158E+00	1.60952E+00
2.80000E-01	* 1.47997E+00	1.49234E+00	1.50663E+00	1.52298E+00	1.54155E+00	1.56250E+00	1.58601E+00	1.61222E+00
2.90000E-01	* 1.49163E+00	1.50322E+00	1.51659E+00	1.53190E+00	1.54930E+00	1.56894E+00	1.59097E+00	1.61554E+00
3.00000E-01	* 1.50348E+00	1.51432E+00	1.52682E+00	1.54115E+00	1.55743E+00	1.57581E+00	1.59644E+00	1.61946E+00
3.10000E-01	* 1.51551E+00	1.52543E+00	1.53731E+00	1.55070E+00	1.56592E+00	1.58311E+00	1.60240E+00	1.62394E+00
3.20000E-01	* 1.52770E+00	1.53715E+00	1.54805E+00	1.56053E+00	1.57476E+00	1.59081E+00	1.60884E+00	1.62897E+00
3.30000E-01	* 1.54000E+00	1.54866E+00	1.55903E+00	1.57068E+00	1.58394E+00	1.59992E+00	1.61574E+00	1.63453E+00
3.40000E-01	* 1.55257E+00	1.56076E+00	1.57023E+00	1.58109E+00	1.59344E+00	1.60740E+00	1.62308E+00	1.64061E+00
3.50000E-01	* 1.56523E+00	1.57285E+00	1.58166E+00	1.59176E+00	1.60325E+00	1.61625E+00	1.63085E+00	1.64717E+00
3.60000E-01	* 1.57804E+00	1.58511E+00	1.59330E+00	1.60268E+00	1.61336E+00	1.62545E+00	1.63903E+00	1.65422E+00

$$\text{GAMMA} = 1 + (1-W)((2SR/(1-k))(RHC/RHC)-1)((1-W)RHC/RHC)**5 + W(2SW-2)$$

SR =1.3C RHC =3.00 SW =1.76

W	RHC	* 2.60000E+00	2.70000E+00	2.80000E+00	2.90000E+00	3.00000E+00
1.00000E-02	*	1.94981E+00	2.08152E+00	2.22468E+00	2.37953E+00	2.54629E+00
2.00000E-02	*	1.92318E+00	2.04928E+00	2.18641E+00	2.33484E+00	2.49475E+00
3.00000E-02	*	1.89794E+00	2.01862E+00	2.14591E+00	2.29208E+00	2.44534E+00
4.00000E-02	*	1.87409E+00	1.98950E+00	2.11512E+00	2.25122E+00	2.39801E+00
5.00000E-02	*	1.85159E+00	1.96190E+00	2.08202E+00	2.21223E+00	2.35274E+00
6.00000E-02	*	1.83041E+00	1.93578E+00	2.05057E+00	2.17507E+00	2.30948E+00
7.00000E-02	*	1.81052E+00	1.91111E+00	2.02074E+00	2.13970E+00	2.26820E+00
8.00000E-02	*	1.79189E+00	1.88785E+00	1.99250E+00	2.10609E+00	2.22866E+00
9.00000E-02	*	1.77450E+00	1.86549E+00	1.96581E+00	2.07420E+00	2.19141E+00
1.00000E-01	*	1.75831E+00	1.84548E+00	1.94063E+00	2.04400E+00	2.15583E+00
1.10000E-01	*	1.74329E+00	1.82630E+00	1.91693E+00	2.01545E+00	2.12207E+00
1.20000E-01	*	1.72943E+00	1.80841E+00	1.89469E+00	1.98851E+00	2.09010E+00
1.30000E-01	*	1.71668E+00	1.79178E+00	1.87386E+00	1.96314E+00	2.05987E+00
1.40000E-01	*	1.70503E+00	1.77639E+00	1.85441E+00	1.93932E+00	2.03134E+00
1.50000E-01	*	1.69444E+00	1.76220E+00	1.83630E+00	1.91699E+00	2.00448E+00
1.60000E-01	*	1.68488E+00	1.74917E+00	1.81951E+00	1.89614E+00	1.97925E+00
1.70000E-01	*	1.67634E+00	1.73729E+00	1.80401E+00	1.87671E+00	1.95561E+00
1.80000E-01	*	1.66877E+00	1.72652E+00	1.78975E+00	1.85868E+00	1.93352E+00
1.90000E-01	*	1.66216E+00	1.71682E+00	1.77670E+00	1.84201E+00	1.91293E+00
2.00000E-01	*	1.65648E+00	1.70818E+00	1.76484E+00	1.82666E+00	1.89382E+00
2.10000E-01	*	1.65170E+00	1.70056E+00	1.75413E+00	1.81259E+00	1.87615E+00
2.20000E-01	*	1.64779E+00	1.69393E+00	1.74453E+00	1.79978E+00	1.85987E+00
2.30000E-01	*	1.64473E+00	1.68827E+00	1.73603E+00	1.78819E+00	1.84494E+00
2.40000E-01	*	1.64250E+00	1.68354E+00	1.72857E+00	1.77778E+00	1.83134E+00
2.50000E-01	*	1.64107E+00	1.67971E+00	1.72214E+00	1.76852E+00	1.81901E+00
2.60000E-01	*	1.64040E+00	1.67677E+00	1.71670E+00	1.76037E+00	1.80794E+00
2.70000E-01	*	1.64049E+00	1.67468E+00	1.71223E+00	1.75331E+00	1.79806E+00
2.80000E-01	*	1.64130E+00	1.67341E+00	1.70868E+00	1.74729E+00	1.78936E+00
2.90000E-01	*	1.64282E+00	1.67293E+00	1.70604E+00	1.74228E+00	1.78180E+00
3.00000E-01	*	1.64501E+00	1.67323E+00	1.70427E+00	1.73826E+00	1.77533E+00
3.10000E-01	*	1.64785E+00	1.67428E+00	1.70335E+00	1.73519E+00	1.76993E+00
3.20000E-01	*	1.65133E+00	1.67604E+00	1.70323E+00	1.73303E+00	1.76556E+00
3.30000E-01	*	1.65541E+00	1.67850E+00	1.70391E+00	1.73176E+00	1.76217E+00
3.40000E-01	*	1.66008E+00	1.68162E+00	1.70534E+00	1.73135E+00	1.75975E+00
3.50000E-01	*	1.66532E+00	1.68540E+00	1.70751E+00	1.73176E+00	1.75826E+00
3.60000E-01	*	1.67110E+00	1.68979E+00	1.71038E+00	1.73297E+00	1.75765E+00

Table B3. Values of γ for various combinations of weight fraction of water (W) and total porosity ($\phi = PHI$). These values would be used when $P_g > 130$ kbar.

$$GAMMA = 1 + (1-W)(2SR/(1-PHI)-1)/(1-PHI)**5 + W(2SW-2)$$

SR = 1.30   Sh = 1.20

PHI	W * 0.	1.00000E-02	2.00000E-02	3.00000E-02	4.00000E-02	5.00000E-02	6.00000E-02	7.00000E-02
0.	* 2.40000E+00	2.58800E+00	2.57600E+00	2.56400E+00	2.55200E+00	2.54000E+00	2.52800E+00	2.51600E+00
1.00000E-02	* 2.54656E+00	2.53509E+00	2.52363E+00	2.51216E+00	2.50070E+00	2.48923E+00	2.47777E+00	2.46630E+00
2.00000E-02	* 2.49424E+00	2.48329E+00	2.47235E+00	2.46141E+00	2.45047E+00	2.43952E+00	2.42858E+00	2.41764E+00
3.00000E-02	* 2.44303E+00	2.43260E+00	2.42217E+00	2.41174E+00	2.40131E+00	2.39088E+00	2.38045E+00	2.37002E+00
4.00000E-02	* 2.39293E+00	2.38300E+00	2.37307E+00	2.36314E+00	2.35321E+00	2.34328E+00	2.33335E+00	2.32342E+00
5.00000E-02	* 2.34394E+00	2.33450E+00	2.32506E+00	2.31562E+00	2.30618E+00	2.29674E+00	2.28730E+00	2.27786E+00
6.00000E-02	* 2.29604E+00	2.28708E+00	2.27812E+00	2.26916E+00	2.26020E+00	2.25124E+00	2.24228E+00	2.23332E+00
7.00000E-02	* 2.24925E+00	2.24075E+00	2.23226E+00	2.22377E+00	2.21528E+00	2.20678E+00	2.19829E+00	2.18980E+00
8.00000E-02	* 2.20354E+00	2.19550E+00	2.18747E+00	2.17943E+00	2.17140E+00	2.16336E+00	2.15533E+00	2.14729E+00
9.00000E-02	* 2.15892E+00	2.15133E+00	2.14374E+00	2.13615E+00	2.12856E+00	2.12097E+00	2.11338E+00	2.10579E+00
1.00000E-01	* 2.11537E+00	2.10822E+00	2.10106E+00	2.09391E+00	2.08676E+00	2.07960E+00	2.07245E+00	2.06529E+00
1.10000E-01	* 2.07289E+00	2.06616E+00	2.05943E+00	2.05271E+00	2.04598E+00	2.03925E+00	2.03252E+00	2.02579E+00
1.20000E-01	* 2.03148E+00	2.02516E+00	2.01885E+00	2.01253E+00	2.00621E+00	1.99990E+00	1.99359E+00	1.98727E+00
1.30000E-01	* 1.99111E+00	1.98520E+00	1.97929E+00	1.97338E+00	1.96747E+00	1.96156E+00	1.95565E+00	1.94973E+00
1.40000E-01	* 1.95179E+00	1.94628E+00	1.94076E+00	1.93524E+00	1.92972E+00	1.92420E+00	1.91869E+00	1.91317E+00
1.50000E-01	* 1.91351E+00	1.90838E+00	1.90324E+00	1.89811E+00	1.89297E+00	1.88784E+00	1.88270E+00	1.87757E+00
1.60000E-01	* 1.87625E+00	1.87149E+00	1.86673E+00	1.86197E+00	1.85720E+00	1.85244E+00	1.84768E+00	1.84292E+00
1.70000E-01	* 1.84001E+00	1.83561E+00	1.83121E+00	1.82681E+00	1.82241E+00	1.81801E+00	1.81361E+00	1.80921E+00
1.80000E-01	* 1.80478E+00	1.80073E+00	1.79668E+00	1.79263E+00	1.78859E+00	1.78454E+00	1.78049E+00	1.77644E+00
1.90000E-01	* 1.77054E+00	1.76683E+00	1.76313E+00	1.75942E+00	1.75571E+00	1.75201E+00	1.74830E+00	1.74460E+00
2.00000E-01	* 1.73728E+00	1.73391E+00	1.73053E+00	1.72716E+00	1.72379E+00	1.72042E+00	1.71704E+00	1.71367E+00
2.10000E-01	* 1.70500E+00	1.70195E+00	1.69890E+00	1.69585E+00	1.69280E+00	1.68975E+00	1.68670E+00	1.68365E+00
2.20000E-01	* 1.67367E+00	1.67094E+00	1.66820E+00	1.66546E+00	1.66273E+00	1.65999E+00	1.65725E+00	1.65452E+00
2.30000E-01	* 1.64330E+00	1.64087E+00	1.63843E+00	1.63600E+00	1.63357E+00	1.63114E+00	1.62870E+00	1.62627E+00
2.40000E-01	* 1.61386E+00	1.61173E+00	1.60959E+00	1.60745E+00	1.60531E+00	1.60317E+00	1.60103E+00	1.59889E+00
2.50000E-01	* 1.58535E+00	1.58350E+00	1.58164E+00	1.57979E+00	1.57794E+00	1.57608E+00	1.57423E+00	1.57238E+00
2.60000E-01	* 1.55775E+00	1.55617E+00	1.55460E+00	1.55302E+00	1.55144E+00	1.54986E+00	1.54829E+00	1.54671E+00
2.70000E-01	* 1.53105E+00	1.52974E+00	1.52843E+00	1.52712E+00	1.52581E+00	1.52449E+00	1.52318E+00	1.52187E+00
2.80000E-01	* 1.50523E+00	1.50418E+00	1.50312E+00	1.50207E+00	1.50102E+00	1.49997E+00	1.49891E+00	1.49786E+00
2.90000E-01	* 1.48028E+00	1.47948E+00	1.47868E+00	1.47787E+00	1.47707E+00	1.47627E+00	1.47546E+00	1.47466E+00
3.00000E-01	* 1.45619E+00	1.45563E+00	1.45507E+00	1.45450E+00	1.45394E+00	1.45338E+00	1.45282E+00	1.45226E+00
3.10000E-01	* 1.43294E+00	1.43261E+00	1.43228E+00	1.43195E+00	1.43162E+00	1.43129E+00	1.43096E+00	1.43063E+00
3.20000E-01	* 1.41052E+00	1.41042E+00	1.41031E+00	1.41021E+00	1.41010E+00	1.41000E+00	1.40989E+00	1.40979E+00
3.30000E-01	* 1.38922E+00	1.38903E+00	1.38914E+00	1.38925E+00	1.38936E+00	1.38947E+00	1.38958E+00	1.38969E+00
3.40000E-01	* 1.36811E+00	1.36843E+00	1.36875E+00	1.36907E+00	1.36939E+00	1.36970E+00	1.37002E+00	1.37034E+00
3.50000E-01	* 1.34809E+00	1.34861E+00	1.34913E+00	1.34964E+00	1.35016E+00	1.35068E+00	1.35120E+00	1.35172E+00
3.60000E-01	* 1.32883E+00	1.32955E+00	1.33026E+00	1.33097E+00	1.33168E+00	1.33239E+00	1.33310E+00	1.33382E+00
3.70000E-01	* 1.31033E+00	1.31123E+00	1.31213E+00	1.31302E+00	1.31392E+00	1.31482E+00	1.31571E+00	1.31661E+00
3.80000E-01	* 1.29257E+00	1.29365E+00	1.29472E+00	1.29579E+00	1.29687E+00	1.29794E+00	1.29902E+00	1.30009E+00
3.90000E-01	* 1.27553E+00	1.27678E+00	1.27802E+00	1.27927E+00	1.28051E+00	1.28176E+00	1.28300E+00	1.28424E+00
4.00000E-01	* 1.25920E+00	1.26061E+00	1.26202E+00	1.26342E+00	1.26483E+00	1.26624E+00	1.26765E+00	1.26906E+00
4.10000E-01	* 1.24356E+00	1.24512E+00	1.24669E+00	1.24825E+00	1.24982E+00	1.25138E+00	1.25295E+00	1.25451E+00
4.20000E-01	* 1.22859E+00	1.23031E+00	1.23202E+00	1.23374E+00	1.23545E+00	1.23716E+00	1.23888E+00	1.24059E+00
4.30000E-01	* 1.21429E+00	1.21614E+00	1.21800E+00	1.21986E+00	1.22172E+00	1.22357E+00	1.22543E+00	1.22729E+00
4.40000E-01	* 1.20062E+00	1.20262E+00	1.20461E+00	1.20661E+00	1.20860E+00	1.21059E+00	1.21259E+00	1.21458E+00
4.50000E-01	* 1.18759E+00	1.18971E+00	1.19184E+00	1.19396E+00	1.19608E+00	1.19821E+00	1.20033E+00	1.20246E+00
4.60000E-01	* 1.17516E+00	1.17741E+00	1.17966E+00	1.18191E+00	1.18416E+00	1.18640E+00	1.18865E+00	1.19090E+00
4.70000E-01	* 1.16333E+00	1.16570E+00	1.16807E+00	1.17043E+00	1.17280E+00	1.17517E+00	1.17753E+00	1.17990E+00
4.80000E-01	* 1.15208E+00	1.15456E+00	1.15704E+00	1.15952E+00	1.16200E+00	1.16448E+00	1.16696E+00	1.16944E+00
4.90000E-01	* 1.14139E+00	1.14398E+00	1.14656E+00	1.14915E+00	1.15174E+00	1.15432E+00	1.15691E+00	1.15950E+00
5.00000E-01	* 1.13125E+00	1.13394E+00	1.13662E+00	1.13931E+00	1.14200E+00	1.14469E+00	1.14737E+00	1.15006E+00

$$\text{GAMMA} = 1 + (1-b)(25R/(1-PH1)-1)(1-PH1)**5 + W(25W-2)$$

$$\text{SR} = 1.30 \quad \text{SW} = 1.20$$

PH1	M * 8.00000E-02	9.00000E-02	1.00000E-01	1.10020E-01	1.20000E-01	1.30000E-01	1.40000E-01	1.50000E-01
0.	2.50400E+00	2.49200E+00	2.48000E+00	2.46800E+00	2.45600E+00	2.44400E+00	2.43200E+00	2.42000E+00
1.00000E-02	2.45483E+00	2.44337E+00	2.43190E+00	2.42044E+00	2.40897E+00	2.39751E+00	2.38604E+00	2.37458E+00
2.00000E-02	2.40670E+00	2.39576E+00	2.38481E+00	2.37387E+00	2.36293E+00	2.35199E+00	2.34104E+00	2.33010E+00
3.00000E-02	2.35959E+00	2.34915E+00	2.33872E+00	2.32829E+00	2.31786E+00	2.30743E+00	2.29700E+00	2.28657E+00
4.00000E-02	2.31349E+00	2.30356E+00	2.29364E+00	2.28371E+00	2.27378E+00	2.26385E+00	2.25392E+00	2.24399E+00
5.00000E-02	2.26842E+00	2.25898E+00	2.24954E+00	2.24010E+00	2.23066E+00	2.22122E+00	2.21178E+00	2.20235E+00
6.00000E-02	2.22436E+00	2.21544E+00	2.20644E+00	2.19748E+00	2.18852E+00	2.17956E+00	2.17060E+00	2.16164E+00
7.00000E-02	2.18131E+00	2.17295E+00	2.16432E+00	2.15583E+00	2.14736E+00	2.13884E+00	2.13033E+00	2.12184E+00
8.00000E-02	2.13926E+00	2.13122E+00	2.12319E+00	2.11515E+00	2.10712E+00	2.09908E+00	2.09104E+00	2.08301E+00
9.00000E-02	2.09820E+00	2.09061E+00	2.08303E+00	2.07544E+00	2.06785E+00	2.06026E+00	2.05267E+00	2.04508E+00
1.00000E-01	2.05814E+00	2.05099E+00	2.04383E+00	2.03668E+00	2.02953E+00	2.02237E+00	2.01522E+00	2.00806E+00
1.10000E-01	2.01906E+00	2.01233E+00	2.00560E+00	1.99887E+00	1.99214E+00	1.98541E+00	1.97869E+00	1.97196E+00
1.20000E-01	1.98096E+00	1.97464E+00	1.96833E+00	1.96201E+00	1.95570E+00	1.94938E+00	1.94307E+00	1.93675E+00
1.30000E-01	1.94382E+00	1.93791E+00	1.93200E+00	1.92609E+00	1.92018E+00	1.91427E+00	1.90836E+00	1.90245E+00
1.40000E-01	1.90785E+00	1.90213E+00	1.89641E+00	1.89069E+00	1.88497E+00	1.87925E+00	1.87353E+00	1.86781E+00
1.50000E-01	1.87243E+00	1.86729E+00	1.86216E+00	1.85702E+00	1.85189E+00	1.84675E+00	1.84162E+00	1.83648E+00
1.60000E-01	1.83815E+00	1.83393E+00	1.82863E+00	1.82337E+00	1.81811E+00	1.81284E+00	1.80758E+00	1.80232E+00
1.70000E-01	1.80481E+00	1.80041E+00	1.79601E+00	1.79161E+00	1.78721E+00	1.78281E+00	1.77841E+00	1.77401E+00
1.80000E-01	1.77239E+00	1.76835E+00	1.76430E+00	1.76025E+00	1.75620E+00	1.75215E+00	1.74811E+00	1.74406E+00
1.90000E-01	1.74089E+00	1.73719E+00	1.73349E+00	1.72978E+00	1.72607E+00	1.72236E+00	1.71865E+00	1.71494E+00
2.00000E-01	1.71030E+00	1.70692E+00	1.70355E+00	1.70018E+00	1.69681E+00	1.69343E+00	1.69006E+00	1.68669E+00
2.10000E-01	1.68060E+00	1.67755E+00	1.67450E+00	1.67145E+00	1.66840E+00	1.66535E+00	1.66230E+00	1.65925E+00
2.20000E-01	1.65178E+00	1.64904E+00	1.64631E+00	1.64357E+00	1.64083E+00	1.63809E+00	1.63535E+00	1.63262E+00
2.30000E-01	1.62384E+00	1.62140E+00	1.61897E+00	1.61654E+00	1.61410E+00	1.61167E+00	1.60924E+00	1.60681E+00
2.40000E-01	1.59675E+00	1.59462E+00	1.59248E+00	1.59034E+00	1.58820E+00	1.58606E+00	1.58392E+00	1.58178E+00
2.50000E-01	1.57052E+00	1.56867E+00	1.56682E+00	1.56496E+00	1.56311E+00	1.56126E+00	1.55941E+00	1.55756E+00
2.60000E-01	1.54513E+00	1.54355E+00	1.54198E+00	1.54040E+00	1.53882E+00	1.53724E+00	1.53567E+00	1.53409E+00
2.70000E-01	1.52036E+00	1.51925E+00	1.51814E+00	1.51663E+00	1.51512E+00	1.51361E+00	1.51210E+00	1.51059E+00
2.80000E-01	1.49681E+00	1.49576E+00	1.49471E+00	1.49365E+00	1.49260E+00	1.49155E+00	1.49050E+00	1.48944E+00
2.90000E-01	1.47386E+00	1.47306E+00	1.47225E+00	1.47145E+00	1.47064E+00	1.46984E+00	1.46904E+00	1.46824E+00
3.00000E-01	1.45169E+00	1.45113E+00	1.45057E+00	1.45001E+00	1.44945E+00	1.44889E+00	1.44833E+00	1.44777E+00
3.10000E-01	1.43031E+00	1.42998E+00	1.42965E+00	1.42932E+00	1.42899E+00	1.42866E+00	1.42833E+00	1.42800E+00
3.20000E-01	1.40968E+00	1.40958E+00	1.40947E+00	1.40936E+00	1.40925E+00	1.40914E+00	1.40903E+00	1.40892E+00
3.30000E-01	1.38980E+00	1.38991E+00	1.39002E+00	1.39013E+00	1.39024E+00	1.39035E+00	1.39046E+00	1.39057E+00
3.40000E-01	1.37066E+00	1.37048E+00	1.37130E+00	1.37162E+00	1.37194E+00	1.37226E+00	1.37258E+00	1.37290E+00
3.50000E-01	1.35224E+00	1.35276E+00	1.35328E+00	1.35380E+00	1.35432E+00	1.35484E+00	1.35535E+00	1.35587E+00
3.60000E-01	1.33453E+00	1.33524E+00	1.33595E+00	1.33666E+00	1.33737E+00	1.33808E+00	1.33879E+00	1.33950E+00
3.70000E-01	1.31751E+00	1.31840E+00	1.31930E+00	1.32020E+00	1.32109E+00	1.32199E+00	1.32289E+00	1.32378E+00
3.80000E-01	1.30111E+00	1.30224E+00	1.30331E+00	1.30439E+00	1.30546E+00	1.30654E+00	1.30761E+00	1.30869E+00
3.90000E-01	1.28549E+00	1.28673E+00	1.28798E+00	1.28922E+00	1.29047E+00	1.29171E+00	1.29296E+00	1.29420E+00
4.00000E-01	1.27064E+00	1.27187E+00	1.27328E+00	1.27469E+00	1.27610E+00	1.27750E+00	1.27891E+00	1.28032E+00
4.10000E-01	1.25607E+00	1.25746E+00	1.25892E+00	1.26037E+00	1.26183E+00	1.26329E+00	1.26474E+00	1.26620E+00
4.20000E-01	1.24231E+00	1.24402E+00	1.24573E+00	1.24745E+00	1.24916E+00	1.25088E+00	1.25259E+00	1.25430E+00
4.30000E-01	1.22914E+00	1.23106E+00	1.23286E+00	1.23472E+00	1.23657E+00	1.23843E+00	1.24029E+00	1.24214E+00
4.40000E-01	1.21657E+00	1.21857E+00	1.22056E+00	1.22256E+00	1.22455E+00	1.22654E+00	1.22854E+00	1.23053E+00
4.50000E-01	1.20458E+00	1.20670E+00	1.20883E+00	1.21095E+00	1.21308E+00	1.21520E+00	1.21733E+00	1.21945E+00
4.60000E-01	1.19315E+00	1.19540E+00	1.19765E+00	1.19990E+00	1.20214E+00	1.20439E+00	1.20664E+00	1.20889E+00
4.70000E-01	1.18222E+00	1.18463E+00	1.18705E+00	1.18947E+00	1.19189E+00	1.19431E+00	1.19674E+00	1.19916E+00
4.80000E-01	1.17222E+00	1.17439E+00	1.17687E+00	1.17935E+00	1.18183E+00	1.18431E+00	1.18679E+00	1.18927E+00
4.90000E-01	1.16208E+00	1.16467E+00	1.16725E+00	1.16984E+00	1.17243E+00	1.17501E+00	1.17760E+00	1.18018E+00
5.00000E-01	1.15275E+00	1.15544E+00	1.15812E+00	1.16081E+00	1.16350E+00	1.16619E+00	1.16887E+00	1.17156E+00

[illegible]

$$GAMMA = 1 + (1-W)(25R/(1-PH)) - 1/(1-PH))^{0.5} + W(25W-2)$$

$$SR = 1.30 \quad SW = 1.20$$

PHI	N * 3.20000E-01	3.30000E-01	3.40000E-01	3.50000E-01
0.	* 2.21600E+00	2.20400E+00	2.19200E+00	2.18000E+00
1.00000E-02	* 2.17966E+00	2.16819E+00	2.15673E+00	2.14526E+00
2.00000E-02	* 2.14408E+00	2.13314E+00	2.12220E+00	2.11125E+00
3.00000E-02	* 2.10926E+00	2.09843E+00	2.08800E+00	2.07797E+00
4.00000E-02	* 2.07519E+00	2.06526E+00	2.05533E+00	2.04540E+00
5.00000E-02	* 2.04188E+00	2.03244E+00	2.02300E+00	2.01356E+00
6.00000E-02	* 2.00931E+00	2.00035E+00	1.99139E+00	1.98243E+00
7.00000E-02	* 1.97749E+00	1.96900E+00	1.96050E+00	1.95201E+00
8.00000E-02	* 1.94641E+00	1.93837E+00	1.93034E+00	1.92230E+00
9.00000E-02	* 1.91606E+00	1.90847E+00	1.90089E+00	1.89330E+00
1.00000E-01	* 1.88645E+00	1.87930E+00	1.87214E+00	1.86499E+00
1.10000E-01	* 1.85757E+00	1.85084E+00	1.84411E+00	1.83738E+00
1.20000E-01	* 1.82940E+00	1.82309E+00	1.81677E+00	1.81046E+00
1.30000E-01	* 1.80196E+00	1.79605E+00	1.79013E+00	1.78422E+00
1.40000E-01	* 1.77522E+00	1.76970E+00	1.76418E+00	1.75867E+00
1.50000E-01	* 1.74919E+00	1.74405E+00	1.73892E+00	1.73378E+00
1.60000E-01	* 1.72385E+00	1.71909E+00	1.71433E+00	1.70956E+00
1.70000E-01	* 1.69921E+00	1.69481E+00	1.69041E+00	1.68601E+00
1.80000E-01	* 1.67525E+00	1.67120E+00	1.66715E+00	1.66310E+00
1.90000E-01	* 1.65196E+00	1.64826E+00	1.64455E+00	1.64085E+00
2.00000E-01	* 1.62935E+00	1.62598E+00	1.62260E+00	1.61923E+00
2.10000E-01	* 1.60740E+00	1.60435E+00	1.60130E+00	1.59825E+00
2.20000E-01	* 1.58610E+00	1.58336E+00	1.58062E+00	1.57789E+00
2.30000E-01	* 1.56544E+00	1.56301E+00	1.56058E+00	1.55815E+00
2.40000E-01	* 1.54543E+00	1.54329E+00	1.54115E+00	1.53901E+00
2.50000E-01	* 1.52604E+00	1.52419E+00	1.52233E+00	1.52048E+00
2.60000E-01	* 1.50727E+00	1.50569E+00	1.50412E+00	1.50254E+00
2.70000E-01	* 1.48911E+00	1.48780E+00	1.48649E+00	1.48518E+00
2.80000E-01	* 1.47156E+00	1.47050E+00	1.46945E+00	1.46840E+00
2.90000E-01	* 1.45459E+00	1.45379E+00	1.45299E+00	1.45218E+00
3.00000E-01	* 1.43821E+00	1.43765E+00	1.43709E+00	1.43652E+00
3.10000E-01	* 1.42240E+00	1.42207E+00	1.42174E+00	1.42141E+00
3.20000E-01	* 1.40716E+00	1.40705E+00	1.40694E+00	1.40683E+00
3.30000E-01	* 1.39246E+00	1.39257E+00	1.39268E+00	1.39280E+00
3.40000E-01	* 1.37831E+00	1.37863E+00	1.37895E+00	1.37927E+00
3.50000E-01	* 1.36470E+00	1.36523E+00	1.36574E+00	1.36626E+00
3.60000E-01	* 1.35161E+00	1.35232E+00	1.35303E+00	1.35374E+00
3.70000E-01	* 1.33903E+00	1.33992E+00	1.34082E+00	1.34172E+00
3.80000E-01	* 1.32695E+00	1.32802E+00	1.32910E+00	1.33017E+00
3.90000E-01	* 1.31536E+00	1.31641E+00	1.31745E+00	1.31850E+00
4.00000E-01	* 1.30426E+00	1.30540E+00	1.30653E+00	1.30767E+00
4.10000E-01	* 1.29362E+00	1.29486E+00	1.29607E+00	1.29731E+00
4.20000E-01	* 1.28344E+00	1.28478E+00	1.28607E+00	1.28736E+00
4.30000E-01	* 1.27372E+00	1.27515E+00	1.27643E+00	1.27772E+00
4.40000E-01	* 1.26442E+00	1.26602E+00	1.26741E+00	1.26879E+00
4.50000E-01	* 1.25556E+00	1.25730E+00	1.25891E+00	1.26043E+00
4.60000E-01	* 1.24711E+00	1.24903E+00	1.25116E+00	1.25330E+00
4.70000E-01	* 1.23907E+00	1.24114E+00	1.24340E+00	1.24561E+00
4.80000E-01	* 1.23142E+00	1.23369E+00	1.23617E+00	1.23855E+00
4.90000E-01	* 1.22415E+00	1.22673E+00	1.22932E+00	1.23191E+00
5.00000E-01	* 1.21725E+00	1.21994E+00	1.22263E+00	1.22531E+00

Table B4. Values of γ for various combinations of weight fraction of water (W) and total porosity ($\phi = PII$). These values would be used when $P_g \leq 130$ kbar.

$$\text{GAMMA} = 1 + (1-\phi) [25W / (1-PII) - 1] (1-PII)^{0.5} + W(25W-2) \\ \text{SR} = 1.30 \quad \text{SW} = 1.76$$

PII	W = 0.	1.00000E-02	2.00000E-02	3.00000E-02	4.00000E-02	5.00000E-02	6.00000E-02	7.00000E-02
0.	* 2.60000E+00	2.59920E+00	2.59840E+00	2.59760E+00	2.59680E+00	2.59600E+00	2.59520E+00	2.59440E+00
1.00000E-02	* 2.54656E+00	2.54629E+00	2.54603E+00	2.54576E+00	2.54550E+00	2.54523E+00	2.54497E+00	2.54470E+00
2.00000E-02	* 2.49424E+00	2.49449E+00	2.49475E+00	2.49501E+00	2.49527E+00	2.49552E+00	2.49578E+00	2.49604E+00
3.00000E-02	* 2.44303E+00	2.44380E+00	2.44457E+00	2.44534E+00	2.44611E+00	2.44688E+00	2.44765E+00	2.44842E+00
4.00000E-02	* 2.39293E+00	2.39420E+00	2.39547E+00	2.39674E+00	2.39801E+00	2.39928E+00	2.40055E+00	2.40182E+00
5.00000E-02	* 2.34394E+00	2.34570E+00	2.34746E+00	2.34922E+00	2.35098E+00	2.35274E+00	2.35450E+00	2.35626E+00
6.00000E-02	* 2.29604E+00	2.29828E+00	2.30052E+00	2.30276E+00	2.30500E+00	2.30724E+00	2.30948E+00	2.31172E+00
7.00000E-02	* 2.24929E+00	2.25195E+00	2.25466E+00	2.25737E+00	2.26008E+00	2.26279E+00	2.26549E+00	2.26820E+00
8.00000E-02	* 2.20354E+00	2.20670E+00	2.20981E+00	2.21291E+00	2.21602E+00	2.21913E+00	2.22223E+00	2.22534E+00
9.00000E-02	* 2.15829E+00	2.16235E+00	2.16641E+00	2.16957E+00	2.17363E+00	2.17697E+00	2.18031E+00	2.18365E+00
1.00000E-01	* 2.11537E+00	2.11942E+00	2.12346E+00	2.12751E+00	2.13156E+00	2.13560E+00	2.13965E+00	2.14369E+00
1.10000E-01	* 2.07289E+00	2.07736E+00	2.08183E+00	2.08631E+00	2.09078E+00	2.09525E+00	2.09972E+00	2.10419E+00
1.20000E-01	* 2.03148E+00	2.03636E+00	2.04125E+00	2.04613E+00	2.05102E+00	2.05590E+00	2.06079E+00	2.06567E+00
1.30000E-01	* 1.99111E+00	1.99640E+00	2.00169E+00	2.00698E+00	2.01227E+00	2.01756E+00	2.02285E+00	2.02814E+00
1.40000E-01	* 1.95179E+00	1.95748E+00	1.96316E+00	1.96885E+00	1.97454E+00	1.98023E+00	1.98592E+00	1.99161E+00
1.50000E-01	* 1.91351E+00	1.91958E+00	1.92564E+00	1.93171E+00	1.93777E+00	1.94384E+00	1.94990E+00	1.95597E+00
1.60000E-01	* 1.87625E+00	1.88269E+00	1.88913E+00	1.89557E+00	1.90200E+00	1.90844E+00	1.91488E+00	1.92132E+00
1.70000E-01	* 1.84001E+00	1.84661E+00	1.85321E+00	1.85981E+00	1.86641E+00	1.87301E+00	1.87961E+00	1.88621E+00
1.80000E-01	* 1.80478E+00	1.81153E+00	1.81828E+00	1.82503E+00	1.83178E+00	1.83853E+00	1.84528E+00	1.85203E+00
1.90000E-01	* 1.77054E+00	1.77833E+00	1.78533E+00	1.79233E+00	1.80000E+00	1.80767E+00	1.81534E+00	1.82301E+00
2.00000E-01	* 1.73728E+00	1.74551E+00	1.75373E+00	1.76196E+00	1.77018E+00	1.77841E+00	1.78664E+00	1.79487E+00
2.10000E-01	* 1.70500E+00	1.71320E+00	1.72139E+00	1.72959E+00	1.73779E+00	1.74599E+00	1.75419E+00	1.76239E+00
2.20000E-01	* 1.67367E+00	1.68220E+00	1.69073E+00	1.69926E+00	1.70779E+00	1.71632E+00	1.72485E+00	1.73338E+00
2.30000E-01	* 1.64330E+00	1.65207E+00	1.66084E+00	1.66961E+00	1.67838E+00	1.68715E+00	1.69592E+00	1.70469E+00
2.40000E-01	* 1.61386E+00	1.62293E+00	1.63199E+00	1.64105E+00	1.65011E+00	1.65917E+00	1.66823E+00	1.67729E+00
2.50000E-01	* 1.58535E+00	1.59476E+00	1.60404E+00	1.61339E+00	1.62274E+00	1.63208E+00	1.64143E+00	1.65078E+00
2.60000E-01	* 1.55775E+00	1.56737E+00	1.57700E+00	1.58662E+00	1.59624E+00	1.60586E+00	1.61548E+00	1.62511E+00
2.70000E-01	* 1.53105E+00	1.54094E+00	1.55083E+00	1.56072E+00	1.57061E+00	1.58050E+00	1.59039E+00	1.60027E+00
2.80000E-01	* 1.50523E+00	1.51538E+00	1.52552E+00	1.53567E+00	1.54582E+00	1.55597E+00	1.56611E+00	1.57626E+00
2.90000E-01	* 1.48028E+00	1.49068E+00	1.50108E+00	1.51147E+00	1.52187E+00	1.53227E+00	1.54266E+00	1.55306E+00
3.00000E-01	* 1.45619E+00	1.46683E+00	1.47747E+00	1.48811E+00	1.49875E+00	1.50939E+00	1.52003E+00	1.53067E+00
3.10000E-01	* 1.43294E+00	1.44381E+00	1.45468E+00	1.46555E+00	1.47642E+00	1.48729E+00	1.49817E+00	1.50904E+00
3.20000E-01	* 1.41052E+00	1.42162E+00	1.43271E+00	1.44381E+00	1.45490E+00	1.46600E+00	1.47709E+00	1.48819E+00
3.30000E-01	* 1.38892E+00	1.40022E+00	1.41154E+00	1.42285E+00	1.43416E+00	1.44547E+00	1.45678E+00	1.46809E+00
3.40000E-01	* 1.36811E+00	1.37963E+00	1.39115E+00	1.40267E+00	1.41419E+00	1.42570E+00	1.43722E+00	1.44874E+00
3.50000E-01	* 1.34809E+00	1.35981E+00	1.37153E+00	1.38324E+00	1.39496E+00	1.40668E+00	1.41840E+00	1.43012E+00
3.60000E-01	* 1.32883E+00	1.34075E+00	1.35266E+00	1.36457E+00	1.37648E+00	1.38839E+00	1.40030E+00	1.41222E+00
3.70000E-01	* 1.31033E+00	1.32243E+00	1.33453E+00	1.34662E+00	1.35872E+00	1.37082E+00	1.38291E+00	1.39501E+00
3.80000E-01	* 1.29257E+00	1.30485E+00	1.31712E+00	1.32939E+00	1.34167E+00	1.35394E+00	1.36622E+00	1.37849E+00
3.90000E-01	* 1.27533E+00	1.28779E+00	1.30024E+00	1.31267E+00	1.32511E+00	1.33754E+00	1.35000E+00	1.36246E+00
4.00000E-01	* 1.25920E+00	1.27181E+00	1.28442E+00	1.29702E+00	1.30963E+00	1.32224E+00	1.33485E+00	1.34746E+00
4.10000E-01	* 1.24356E+00	1.25632E+00	1.26909E+00	1.28185E+00	1.29462E+00	1.30738E+00	1.32015E+00	1.33291E+00
4.20000E-01	* 1.22859E+00	1.24151E+00	1.25442E+00	1.26734E+00	1.28025E+00	1.29316E+00	1.30608E+00	1.31899E+00
4.30000E-01	* 1.21429E+00	1.22734E+00	1.24040E+00	1.25346E+00	1.26652E+00	1.27957E+00	1.29263E+00	1.30569E+00
4.40000E-01	* 1.20062E+00	1.21382E+00	1.22701E+00	1.24021E+00	1.25340E+00	1.26659E+00	1.27979E+00	1.29298E+00
4.50000E-01	* 1.18759E+00	1.20091E+00	1.21424E+00	1.22756E+00	1.24088E+00	1.25421E+00	1.26753E+00	1.28086E+00
4.60000E-01	* 1.17516E+00	1.18861E+00	1.20206E+00	1.21551E+00	1.22896E+00	1.24240E+00	1.25585E+00	1.26930E+00
4.70000E-01	* 1.16333E+00	1.17690E+00	1.19047E+00	1.20403E+00	1.21760E+00	1.23117E+00	1.24473E+00	1.25830E+00
4.80000E-01	* 1.15208E+00	1.16576E+00	1.17944E+00	1.19312E+00	1.20680E+00	1.22048E+00	1.23416E+00	1.24784E+00
4.90000E-01	* 1.14139E+00	1.15518E+00	1.16896E+00	1.18275E+00	1.19654E+00	1.21032E+00	1.22411E+00	1.23790E+00
5.00000E-01	* 1.13125E+00	1.14514E+00	1.15902E+00	1.17291E+00	1.18680E+00	1.20069E+00	1.21458E+00	1.22846E+00

GAMMA = 1 + ((1-W)(2SR/(1-PH1))-1)(1-PH1)**5 + W(2SW-2)
 SR = 1.30 SW = 1.76

PHI	M	* 1.60000E-01	1.70000E-01	1.80000E-01	1.90000E-01	2.00000E-01	2.10000E-01	2.20000E-01	2.30000E-01
0.	*	2.58720E+00	2.58640E+00	2.58560E+00	2.58480E+00	2.58400E+00	2.58320E+00	2.58240E+00	2.58160E+00
1.00000E-02	*	2.54231E+00	2.54204E+00	2.54178E+00	2.54151E+00	2.54125E+00	2.54098E+00	2.54072E+00	2.54045E+00
2.00000E-02	*	2.49836E+00	2.49862E+00	2.49887E+00	2.49913E+00	2.49939E+00	2.49965E+00	2.49990E+00	2.50016E+00
3.00000E-02	*	2.45534E+00	2.45611E+00	2.45688E+00	2.45765E+00	2.45842E+00	2.45919E+00	2.45996E+00	2.46073E+00
4.00000E-02	*	2.41326E+00	2.41453E+00	2.41580E+00	2.41707E+00	2.41834E+00	2.41961E+00	2.42088E+00	2.42215E+00
5.00000E-02	*	2.37211E+00	2.37387E+00	2.37563E+00	2.37739E+00	2.37915E+00	2.38091E+00	2.38267E+00	2.38443E+00
6.00000E-02	*	2.33188E+00	2.3342E+00	2.33636E+00	2.33860E+00	2.34083E+00	2.34307E+00	2.34531E+00	2.34755E+00
7.00000E-02	*	2.29257E+00	2.29527E+00	2.29798E+00	2.30069E+00	2.30340E+00	2.30611E+00	2.30882E+00	2.31152E+00
8.00000E-02	*	2.25417E+00	2.25734E+00	2.26050E+00	2.26367E+00	2.26683E+00	2.27000E+00	2.27316E+00	2.27633E+00
9.00000E-02	*	2.21669E+00	2.22030E+00	2.22391E+00	2.22752E+00	2.23113E+00	2.23474E+00	2.23835E+00	2.24197E+00
1.00000E-01	*	2.18011E+00	2.18481E+00	2.18950E+00	2.19420E+00	2.19890E+00	2.20360E+00	2.20830E+00	2.21300E+00
1.10000E-01	*	2.14443E+00	2.14980E+00	2.15517E+00	2.16054E+00	2.16591E+00	2.17128E+00	2.17665E+00	2.18202E+00
1.20000E-01	*	2.10964E+00	2.11533E+00	2.12102E+00	2.12671E+00	2.13240E+00	2.13809E+00	2.14378E+00	2.14947E+00
1.30000E-01	*	2.07573E+00	2.08102E+00	2.08631E+00	2.09160E+00	2.09689E+00	2.10218E+00	2.10747E+00	2.11276E+00
1.40000E-01	*	2.04271E+00	2.04839E+00	2.05407E+00	2.05975E+00	2.06544E+00	2.07112E+00	2.07680E+00	2.08248E+00
1.50000E-01	*	2.01055E+00	2.01661E+00	2.02268E+00	2.02874E+00	2.03481E+00	2.04087E+00	2.04694E+00	2.05300E+00
1.60000E-01	*	1.97925E+00	1.98569E+00	1.99213E+00	1.99857E+00	2.00500E+00	2.01144E+00	2.01788E+00	2.02432E+00
1.70000E-01	*	1.94881E+00	1.95561E+00	1.96241E+00	1.96921E+00	1.97601E+00	1.98281E+00	1.98961E+00	1.99641E+00
1.80000E-01	*	1.91921E+00	1.92636E+00	1.93352E+00	1.94067E+00	1.94782E+00	1.95497E+00	1.96212E+00	1.96927E+00
1.90000E-01	*	1.89045E+00	1.89755E+00	1.90465E+00	1.91175E+00	1.91885E+00	1.92595E+00	1.93305E+00	1.94015E+00
2.00000E-01	*	1.86252E+00	1.87031E+00	1.87810E+00	1.88589E+00	1.89368E+00	1.90147E+00	1.90926E+00	1.91705E+00
2.10000E-01	*	1.83540E+00	1.84355E+00	1.85170E+00	1.85985E+00	1.86800E+00	1.87615E+00	1.88430E+00	1.89245E+00
2.20000E-01	*	1.80909E+00	1.81755E+00	1.82601E+00	1.83447E+00	1.84293E+00	1.85139E+00	1.85985E+00	1.86831E+00
2.30000E-01	*	1.78357E+00	1.79234E+00	1.80111E+00	1.80987E+00	1.81864E+00	1.82741E+00	1.83618E+00	1.84495E+00
2.40000E-01	*	1.75865E+00	1.76791E+00	1.77717E+00	1.78643E+00	1.79569E+00	1.80495E+00	1.81421E+00	1.82347E+00
2.50000E-01	*	1.73440E+00	1.74424E+00	1.75399E+00	1.76373E+00	1.77348E+00	1.78323E+00	1.79297E+00	1.80272E+00
2.60000E-01	*	1.71171E+00	1.72133E+00	1.73096E+00	1.74058E+00	1.75020E+00	1.75982E+00	1.76944E+00	1.77907E+00
2.70000E-01	*	1.68928E+00	1.69917E+00	1.70906E+00	1.71895E+00	1.72884E+00	1.73873E+00	1.74862E+00	1.75851E+00
2.80000E-01	*	1.66759E+00	1.67774E+00	1.68789E+00	1.69804E+00	1.70818E+00	1.71833E+00	1.72848E+00	1.73863E+00
2.90000E-01	*	1.64664E+00	1.65703E+00	1.66743E+00	1.67783E+00	1.68822E+00	1.69862E+00	1.70902E+00	1.71942E+00
3.00000E-01	*	1.62640E+00	1.63764E+00	1.64888E+00	1.65831E+00	1.66875E+00	1.67919E+00	1.68963E+00	1.70007E+00
3.10000E-01	*	1.60687E+00	1.61774E+00	1.62861E+00	1.63948E+00	1.65035E+00	1.66122E+00	1.67209E+00	1.68297E+00
3.20000E-01	*	1.58804E+00	1.59913E+00	1.61023E+00	1.62132E+00	1.63242E+00	1.64351E+00	1.65461E+00	1.66570E+00
3.30000E-01	*	1.56989E+00	1.58120E+00	1.59251E+00	1.60382E+00	1.61513E+00	1.62644E+00	1.63775E+00	1.64907E+00
3.40000E-01	*	1.55241E+00	1.56393E+00	1.57545E+00	1.58697E+00	1.59849E+00	1.61001E+00	1.62153E+00	1.63304E+00
3.50000E-01	*	1.53559E+00	1.54731E+00	1.55903E+00	1.57075E+00	1.58247E+00	1.59419E+00	1.60591E+00	1.61763E+00
3.60000E-01	*	1.51942E+00	1.53133E+00	1.54324E+00	1.55516E+00	1.56707E+00	1.57898E+00	1.59089E+00	1.60280E+00
3.70000E-01	*	1.50388E+00	1.51598E+00	1.52807E+00	1.54017E+00	1.55227E+00	1.56436E+00	1.57646E+00	1.58856E+00
3.80000E-01	*	1.48896E+00	1.50123E+00	1.51351E+00	1.52578E+00	1.53806E+00	1.55033E+00	1.56261E+00	1.57488E+00
3.90000E-01	*	1.47465E+00	1.48700E+00	1.49934E+00	1.51168E+00	1.52403E+00	1.53637E+00	1.54872E+00	1.56107E+00
4.00000E-01	*	1.46093E+00	1.47354E+00	1.48614E+00	1.49875E+00	1.51136E+00	1.52397E+00	1.53658E+00	1.54919E+00
4.10000E-01	*	1.44779E+00	1.46055E+00	1.47332E+00	1.48608E+00	1.49885E+00	1.51161E+00	1.52438E+00	1.53714E+00
4.20000E-01	*	1.43522E+00	1.44813E+00	1.46105E+00	1.47396E+00	1.48687E+00	1.49979E+00	1.51270E+00	1.52562E+00
4.30000E-01	*	1.42320E+00	1.43626E+00	1.44932E+00	1.46237E+00	1.47543E+00	1.48849E+00	1.50154E+00	1.51460E+00
4.40000E-01	*	1.41172E+00	1.42492E+00	1.43811E+00	1.45131E+00	1.46450E+00	1.47769E+00	1.49089E+00	1.50408E+00
4.50000E-01	*	1.40077E+00	1.41410E+00	1.42742E+00	1.44075E+00	1.45407E+00	1.46739E+00	1.48072E+00	1.49404E+00
4.60000E-01	*	1.39034E+00	1.40379E+00	1.41723E+00	1.43068E+00	1.44413E+00	1.45758E+00	1.47103E+00	1.48448E+00
4.70000E-01	*	1.38040E+00	1.39397E+00	1.40753E+00	1.42110E+00	1.43467E+00	1.44823E+00	1.46179E+00	1.47535E+00
4.80000E-01	*	1.37095E+00	1.38463E+00	1.39831E+00	1.41199E+00	1.42567E+00	1.43934E+00	1.45302E+00	1.46670E+00
4.90000E-01	*	1.36197E+00	1.37576E+00	1.38954E+00	1.40333E+00	1.41711E+00	1.43090E+00	1.44469E+00	1.45848E+00
5.00000E-01	*	1.35345E+00	1.36733E+00	1.38123E+00	1.39511E+00	1.40900E+00	1.42289E+00	1.43678E+00	1.45066E+00

GAMMA = 1 + (1-h) (2SR/(1-PHI)-1) (1-PHI)**5 + W(2SW-2)
 SR=1.30 SW=1.76

PHI	W	* 2.40000E-01	2.50000E-01	2.60000E-01	2.70000E-01	2.80000E-01	2.90000E-01	3.00000E-01	3.10000E-01
0.	*	2.58060E+00	2.58000E+00	2.57920E+00	2.57840E+00	2.57760E+00	2.57680E+00	2.57600E+00	2.57520E+00
1.00000E-02	*	2.56019E+00	2.53992E+00	2.53965E+00	2.53939E+00	2.53912E+00	2.53886E+00	2.53859E+00	2.53833E+00
2.00000E-02	*	2.50042E+00	2.50068E+00	2.50093E+00	2.50119E+00	2.50145E+00	2.50171E+00	2.50197E+00	2.50222E+00
3.00000E-02	*	2.46150E+00	2.46227E+00	2.46304E+00	2.46381E+00	2.46458E+00	2.46535E+00	2.46612E+00	2.46689E+00
4.00000E-02	*	2.42343E+00	2.42470E+00	2.42597E+00	2.42724E+00	2.42851E+00	2.42978E+00	2.43105E+00	2.43232E+00
5.00000E-02	*	2.38619E+00	2.38795E+00	2.38971E+00	2.39147E+00	2.39323E+00	2.39499E+00	2.39675E+00	2.39852E+00
6.00000E-02	*	2.34979E+00	2.35203E+00	2.35427E+00	2.35651E+00	2.35875E+00	2.36099E+00	2.36323E+00	2.36547E+00
7.00000E-02	*	2.31423E+00	2.31694E+00	2.31964E+00	2.32235E+00	2.32506E+00	2.32777E+00	2.33047E+00	2.33318E+00
8.00000E-02	*	2.27949E+00	2.28266E+00	2.28582E+00	2.28898E+00	2.29215E+00	2.29531E+00	2.29848E+00	2.30164E+00
9.00000E-02	*	2.24558E+00	2.24919E+00	2.25280E+00	2.25641E+00	2.26002E+00	2.26363E+00	2.26724E+00	2.27085E+00
1.00000E-01	*	2.21248E+00	2.21653E+00	2.22057E+00	2.22462E+00	2.22867E+00	2.23271E+00	2.23676E+00	2.24081E+00
1.10000E-01	*	2.18020E+00	2.18467E+00	2.18914E+00	2.19361E+00	2.19808E+00	2.20255E+00	2.20702E+00	2.21150E+00
1.20000E-01	*	2.14872E+00	2.15361E+00	2.15849E+00	2.16338E+00	2.16826E+00	2.17315E+00	2.17803E+00	2.18292E+00
1.30000E-01	*	2.11805E+00	2.12333E+00	2.12862E+00	2.13391E+00	2.13920E+00	2.14449E+00	2.14978E+00	2.15507E+00
1.40000E-01	*	2.08816E+00	2.09385E+00	2.09953E+00	2.10521E+00	2.11089E+00	2.11657E+00	2.12226E+00	2.12794E+00
1.50000E-01	*	2.05907E+00	2.06513E+00	2.07120E+00	2.07726E+00	2.08333E+00	2.08939E+00	2.09546E+00	2.10152E+00
1.60000E-01	*	2.03075E+00	2.03719E+00	2.04363E+00	2.05007E+00	2.05650E+00	2.06294E+00	2.06938E+00	2.07581E+00
1.70000E-01	*	2.00321E+00	2.01001E+00	2.01681E+00	2.02361E+00	2.03041E+00	2.03721E+00	2.04401E+00	2.05081E+00
1.80000E-01	*	1.97643E+00	1.98358E+00	1.99073E+00	1.99789E+00	2.00504E+00	2.01219E+00	2.01934E+00	2.02650E+00
1.90000E-01	*	1.95041E+00	1.95790E+00	1.96540E+00	1.97289E+00	1.98039E+00	1.98788E+00	1.99538E+00	2.00287E+00
2.00000E-01	*	1.92513E+00	1.93246E+00	1.94079E+00	1.94881E+00	1.95684E+00	1.96487E+00	1.97290E+00	1.97992E+00
2.10000E-01	*	1.90060E+00	1.90875E+00	1.91690E+00	1.92505E+00	1.93320E+00	1.94135E+00	1.94950E+00	1.95765E+00
2.20000E-01	*	1.87679E+00	1.88524E+00	1.89372E+00	1.90218E+00	1.91065E+00	1.91911E+00	1.92757E+00	1.93604E+00
2.30000E-01	*	1.85371E+00	1.86248E+00	1.87124E+00	1.88001E+00	1.88878E+00	1.89754E+00	1.90631E+00	1.91508E+00
2.40000E-01	*	1.83134E+00	1.84040E+00	1.84946E+00	1.85852E+00	1.86758E+00	1.87664E+00	1.88570E+00	1.89476E+00
2.50000E-01	*	1.80967E+00	1.81919E+00	1.82836E+00	1.83771E+00	1.84705E+00	1.85640E+00	1.86575E+00	1.87509E+00
2.60000E-01	*	1.78869E+00	1.79831E+00	1.80794E+00	1.81756E+00	1.82718E+00	1.83680E+00	1.84643E+00	1.85605E+00
2.70000E-01	*	1.76840E+00	1.77829E+00	1.78817E+00	1.79806E+00	1.80795E+00	1.81784E+00	1.82773E+00	1.83762E+00
2.80000E-01	*	1.74877E+00	1.75892E+00	1.76907E+00	1.77922E+00	1.78936E+00	1.79951E+00	1.80966E+00	1.81981E+00
2.90000E-01	*	1.72981E+00	1.74021E+00	1.75061E+00	1.76100E+00	1.77140E+00	1.78180E+00	1.79220E+00	1.80259E+00
3.00000E-01	*	1.71150E+00	1.72214E+00	1.73278E+00	1.74342E+00	1.75406E+00	1.76469E+00	1.77533E+00	1.78597E+00
3.10000E-01	*	1.69384E+00	1.70471E+00	1.71558E+00	1.72645E+00	1.73732E+00	1.74819E+00	1.75906E+00	1.76993E+00
3.20000E-01	*	1.67680E+00	1.68789E+00	1.69899E+00	1.71008E+00	1.72118E+00	1.73227E+00	1.74337E+00	1.75446E+00
3.30000E-01	*	1.66038E+00	1.67169E+00	1.68300E+00	1.69431E+00	1.70562E+00	1.71693E+00	1.72824E+00	1.73955E+00
3.40000E-01	*	1.64456E+00	1.65608E+00	1.66760E+00	1.67912E+00	1.69064E+00	1.70216E+00	1.71368E+00	1.72520E+00
3.50000E-01	*	1.62935E+00	1.64107E+00	1.65278E+00	1.66450E+00	1.67622E+00	1.68794E+00	1.69966E+00	1.71138E+00
3.60000E-01	*	1.61471E+00	1.62663E+00	1.63854E+00	1.65045E+00	1.66236E+00	1.67427E+00	1.68618E+00	1.69809E+00
3.70000E-01	*	1.60065E+00	1.61275E+00	1.62485E+00	1.63694E+00	1.64904E+00	1.66114E+00	1.67323E+00	1.68533E+00
3.80000E-01	*	1.58715E+00	1.59943E+00	1.61170E+00	1.62398E+00	1.63625E+00	1.64853E+00	1.66080E+00	1.67307E+00
3.90000E-01	*	1.57420E+00	1.58665E+00	1.59909E+00	1.61154E+00	1.62398E+00	1.63643E+00	1.64887E+00	1.66132E+00
4.00000E-01	*	1.56179E+00	1.57440E+00	1.58701E+00	1.59962E+00	1.61222E+00	1.62483E+00	1.63744E+00	1.65005E+00
4.10000E-01	*	1.54990E+00	1.56267E+00	1.57543E+00	1.58820E+00	1.60096E+00	1.61373E+00	1.62649E+00	1.63926E+00
4.20000E-01	*	1.53853E+00	1.55144E+00	1.56436E+00	1.57727E+00	1.59019E+00	1.60310E+00	1.61602E+00	1.62893E+00
4.30000E-01	*	1.52766E+00	1.54072E+00	1.55377E+00	1.56683E+00	1.57989E+00	1.59294E+00	1.60600E+00	1.61906E+00
4.40000E-01	*	1.51727E+00	1.53047E+00	1.54366E+00	1.55686E+00	1.57005E+00	1.58324E+00	1.59644E+00	1.60963E+00
4.50000E-01	*	1.50737E+00	1.52069E+00	1.53401E+00	1.54734E+00	1.56066E+00	1.57399E+00	1.58731E+00	1.60064E+00
4.60000E-01	*	1.49792E+00	1.51137E+00	1.52482E+00	1.53827E+00	1.55172E+00	1.56517E+00	1.57862E+00	1.59206E+00
4.70000E-01	*	1.48893E+00	1.50250E+00	1.51607E+00	1.52963E+00	1.54320E+00	1.55677E+00	1.57033E+00	1.58390E+00
4.80000E-01	*	1.48038E+00	1.49406E+00	1.50774E+00	1.52142E+00	1.53510E+00	1.54878E+00	1.56246E+00	1.57614E+00
4.90000E-01	*	1.47226E+00	1.48604E+00	1.49983E+00	1.51362E+00	1.52740E+00	1.54119E+00	1.55497E+00	1.56876E+00
5.00000E-01	*	1.46455E+00	1.47844E+00	1.49232E+00	1.50621E+00	1.52010E+00	1.53399E+00	1.54787E+00	1.56176E+00

$$\text{GAMMA} = 1 + (1-w) (2SR / (1-\text{PHI}) - 1) (1-\text{PHI}) ** S + w (2SW - 2)$$

SR = 1.30   SW = 1.76

PHI	M	* 3.20000E-01	3.30000E-01	3.40000E-01	3.50000E-01
	*				
0.	*	2.57440E+00	2.51360E+00	2.57280E+00	2.57200E+00
1.00000E-02	*	2.53806E+00	2.53779E+00	2.53753E+00	2.53726E+00
2.00000E-02	*	2.50248E+00	2.50274E+00	2.50300E+00	2.50325E+00
3.00000E-02	*	2.46766E+00	2.46843E+00	2.46920E+00	2.46997E+00
4.00000E-02	*	2.43359E+00	2.43486E+00	2.43613E+00	2.43740E+00
5.00000E-02	*	2.40028E+00	2.40204E+00	2.40380E+00	2.40556E+00
6.00000E-02	*	2.36771E+00	2.36995E+00	2.37219E+00	2.37443E+00
7.00000E-02	*	2.33589E+00	2.33860E+00	2.34130E+00	2.34401E+00
8.00000E-02	*	2.30481E+00	2.30797E+00	2.31114E+00	2.31430E+00
9.00000E-02	*	2.27446E+00	2.27807E+00	2.28169E+00	2.28530E+00
1.00000E-01	*	2.24485E+00	2.24890E+00	2.25294E+00	2.25699E+00
1.10000E-01	*	2.21597E+00	2.22044E+00	2.22491E+00	2.22938E+00
1.20000E-01	*	2.18780E+00	2.19269E+00	2.19757E+00	2.20246E+00
1.30000E-01	*	2.16036E+00	2.16565E+00	2.17093E+00	2.17622E+00
1.40000E-01	*	2.13362E+00	2.13930E+00	2.14498E+00	2.15067E+00
1.50000E-01	*	2.10759E+00	2.11365E+00	2.11972E+00	2.12578E+00
1.60000E-01	*	2.08225E+00	2.08869E+00	2.09513E+00	2.10158E+00
1.70000E-01	*	2.05761E+00	2.06441E+00	2.07121E+00	2.07801E+00
1.80000E-01	*	2.03365E+00	2.04080E+00	2.04799E+00	2.05510E+00
1.90000E-01	*	2.01036E+00	2.01786E+00	2.02535E+00	2.03285E+00
2.00000E-01	*	1.98775E+00	1.99558E+00	2.00340E+00	2.01123E+00
2.10000E-01	*	1.96580E+00	1.97395E+00	1.98210E+00	1.99025E+00
2.20000E-01	*	1.94450E+00	1.95246E+00	1.96142E+00	1.96989E+00
2.30000E-01	*	1.92384E+00	1.93261E+00	1.94138E+00	1.95015E+00
2.40000E-01	*	1.90383E+00	1.91289E+00	1.92195E+00	1.93101E+00
2.50000E-01	*	1.88444E+00	1.89375E+00	1.90313E+00	1.91248E+00
2.60000E-01	*	1.86567E+00	1.87529E+00	1.88492E+00	1.89476E+00
2.70000E-01	*	1.84751E+00	1.85740E+00	1.86729E+00	1.87718E+00
2.80000E-01	*	1.82996E+00	1.84010E+00	1.85025E+00	1.86040E+00
2.90000E-01	*	1.81299E+00	1.82339E+00	1.83379E+00	1.84418E+00
3.00000E-01	*	1.79661E+00	1.80725E+00	1.81789E+00	1.82852E+00
3.10000E-01	*	1.78080E+00	1.79167E+00	1.80254E+00	1.81341E+00
3.20000E-01	*	1.76556E+00	1.77665E+00	1.78774E+00	1.79884E+00
3.30000E-01	*	1.75086E+00	1.76217E+00	1.77348E+00	1.78480E+00
3.40000E-01	*	1.73671E+00	1.74823E+00	1.75975E+00	1.77127E+00
3.50000E-01	*	1.72310E+00	1.73482E+00	1.74654E+00	1.75826E+00
3.60000E-01	*	1.71001E+00	1.72192E+00	1.73383E+00	1.74574E+00
3.70000E-01	*	1.69743E+00	1.70952E+00	1.72162E+00	1.73372E+00
3.80000E-01	*	1.68535E+00	1.69762E+00	1.70990E+00	1.72217E+00
3.90000E-01	*	1.67376E+00	1.68621E+00	1.69865E+00	1.71110E+00
4.00000E-01	*	1.66266E+00	1.67526E+00	1.68787E+00	1.70048E+00
4.10000E-01	*	1.65202E+00	1.66478E+00	1.67755E+00	1.69031E+00
4.20000E-01	*	1.64184E+00	1.65476E+00	1.66767E+00	1.68059E+00
4.30000E-01	*	1.63212E+00	1.64517E+00	1.65823E+00	1.67129E+00
4.40000E-01	*	1.62282E+00	1.63602E+00	1.64921E+00	1.66241E+00
4.50000E-01	*	1.61396E+00	1.62726E+00	1.64061E+00	1.65393E+00
4.60000E-01	*	1.60551E+00	1.61896E+00	1.63241E+00	1.64586E+00
4.70000E-01	*	1.59747E+00	1.61103E+00	1.62440E+00	1.63817E+00
4.80000E-01	*	1.58982E+00	1.60349E+00	1.61717E+00	1.63085E+00
4.90000E-01	*	1.58255E+00	1.59633E+00	1.61012E+00	1.62391E+00
5.00000E-01	*	1.57565E+00	1.58954E+00	1.60342E+00	1.61731E+00

Table B5. Values of the BOTE model parameters R_{s0} , V_{s1} ($=\psi$), V_{s2} , P_{s1} , and P_{s2} for various values of γ .

GAMMA *	1.10000E+00	1.15000E+00	1.20000E+00	1.25000E+00	1.30000E+00	1.35000E+00	1.40000E+00
RS0 *	7.78575E-01	8.41625E-01	8.89076E-01	9.27583E-01	9.60272E-01	9.88870E-01	1.01444E+00
VS1 *	2.13949E-01	2.59930E-01	2.98131E-01	3.31468E-01	3.61448E-01	3.88963E-01	4.14593E-01
VS2 *	3.11430E-01	3.36650E-01	3.55630E-01	3.71033E-01	3.84109E-01	3.95548E-01	4.05775E-01
PS1 *	4.35947E-02	6.28500E-02	8.08018E-02	9.76633E-02	1.13604E-01	1.28759E-01	1.43240E-01
PS2 *	9.23702E-02	1.05426E-01	1.14975E-01	1.22369E-01	1.28295E-01	1.33186E-01	1.37211E-01
GAMMA *	1.45000E+00	1.50000E+00	1.55000E+00	1.60000E+00	1.65000E+00	1.70000E+00	1.75000E+00
RS0 *	1.03767E+00	1.05905E+00	1.07892E+00	1.09754E+00	1.11512E+00	1.13179E+00	1.14769E+00
VS1 *	4.38739E-01	4.61686E-01	4.83650E-01	5.04795E-01	5.25243E-01	5.45101E-01	5.64449E-01
VS2 *	4.15067E-01	4.23618E-01	4.31567E-01	4.39017E-01	4.46046E-01	4.52717E-01	4.59077E-01
PS1 *	1.57136E-01	1.70523E-01	1.83466E-01	1.96012E-01	2.08211E-01	2.20100E-01	2.31711E-01
PS2 *	1.40637E-01	1.43562E-01	1.46079E-01	1.48258E-01	1.50156E-01	1.51817E-01	1.53274E-01

GAMMA *	1.80000E+00	1.85000E+00	1.90000E+00	1.95000E+00	2.00000E+00	2.05000E+00	2.10000E+00
RS0 *	1.16292E+00	1.17755E+00	1.19164E+00	1.20527E+00	1.21846E+00	1.23127E+00	1.24373E+00
VS1 *	5.83355E-01	6.01873E-01	6.20049E-01	6.37924E-01	6.55529E-01	6.72894E-01	6.90043E-01
VS2 *	4.65167E-01	4.71018E-01	4.76658E-01	4.82107E-01	4.87386E-01	4.92510E-01	4.97492E-01
PS1 *	2.43073E-01	2.54211E-01	2.65140E-01	2.75896E-01	2.86479E-01	2.96909E-01	3.07199E-01
PS2 *	1.54557E-01	1.55690E-01	1.56691E-01	1.57578E-01	1.58363E-01	1.59059E-01	1.59677E-01

WHERE

$$X1 = (0.75/PI*(GAMMA-1)*(GAMMA+1)**2/(3GAMMA-1))**(1./2.)$$

$$RS0 = ((5/2)**(2/5)) * (X1**(2/5))$$

$$VS1 = X1$$

$$VS2 = ((5/2)**(-3/5)) * (X1**(2/5))$$

$$PS1 = (2/(GAMMA+1)) * (X1**2)$$

$$PS2 = (2/(GAMMA+1)) * ((5/2)**(-6/5)) * (X1**(4/5))$$

GAMMA *	2.15000E+00	2.20000E+00	2.25000E+00	2.30000E+00	2.35000E+00	2.40000E+00	2.45000E+00
RS0 *	1.25586E+00	1.26770E+00	1.27926E+00	1.29057E+00	1.30164E+00	1.31249E+00	1.32314E+00
VS1 *	7.06996E-01	7.23773E-01	7.40390E-01	7.56860E-01	7.73197E-01	7.89411E-01	8.05512E-01
VS2 *	5.02346E-01	5.07081E-01	5.11706E-01	5.16229E-01	5.20657E-01	5.24997E-01	5.29255E-01
PS1 *	3.17361E-01	3.27405E-01	3.37340E-01	3.47174E-01	3.56915E-01	3.66570E-01	3.76145E-01
PS2 *	1.60223E-01	1.60707E-01	1.61134E-01	1.61510E-01	1.61841E-01	1.62131E-01	1.62383E-01

GAMMA *	2.50000E+00	2.55000E+00	2.60000E+00

RS0 *	1.33359E+00	1.34385E+00	1.35395E+00

VS1 *	8.21510E-01	8.37412E-01	8.53226E-01

VS2 *	5.33435E-01	5.37541E-01	5.41519E-01

PS1 *	3.85645E-01	3.95076E-01	4.04441E-01

PS2 *	1.62601E-01	1.62789E-01	1.62949E-01

WHERE

$$XI = (0.75/PI*(GAMMA-1)*(GAMMA+1)**2/(3GAMMA-1))**(1./2.)$$

$$RS0 = ((5/2)**(2/5)) * (XI**(2/5))$$

$$VS1 = XI$$

$$VS2 = ((5/2)**(-3/5)) * (XI**(2/5))$$

$$PS1 = (2/(GAMMA+1)) * (XI**2)$$

$$PS2 = (2/(GAMMA+1)) * ((5/2)**(-6/5)) * (XI**(4/5))$$