

N 69 21051

**NASA TECHNICAL
MEMORANDUM**

NASA TM X-53815

February 13, 1969

NASA TM X-53815

CASE FILE COPY

VARIATIONS IN ORBITAL ALTITUDE ATMOSPHERIC DENSITY FOR MSFC 1971-1976 SPACE STATION PROGRAMS

By Don K. Weidner, G. S. West, and G. R. Swenson
Aero-Astroynamics Laboratory

NASA

*George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama*

TECHNICAL MEMORANDUM X-53815

VARIATIONS IN ORBITAL ALTITUDE ATMOSPHERIC DENSITY
FOR MSFC 1971-1976 SPACE STATION PROGRAMS

By

Don K. Weidner, G. S. West and G. R. Swenson

ABSTRACT

Provided are predictions of the mean orbital atmospheric density to which an orbiting space station will be exposed on particular days at intervals of 3 months from January 1, 1971 through January 1, 1977. When used along with the presented atmospheric variability information, these predictions will enable the user to determine the design limits for a particular engineering or scientific operational requirement on the space station during the 1971 through 1976 time period. Atmospheric structure and variability and data acquisition techniques are briefly described to provide a general understanding of the accuracy and limitations of the current orbital altitude atmospheric models. In addition to predictions of the mean orbital atmospheric density, values for pressure, temperature and molecular weight are also given. Additional space environment criteria needed for orbital space station design studies are given in NASA TM X-53798, "Space Environment Criteria Guidelines for Use in Space Vehicle Development (1968 Revision)," dated October 31, 1968.

NASA - GEORGE C. MARSHALL SPACE FLIGHT CENTER

NASA - GEORGE C. MARSHALL SPACE FLIGHT CENTER

Technical Memorandum X-53815

February 13, 1969

VARIATIONS IN ORBITAL ALTITUDE ATMOSPHERIC DENSITY
FOR MSFC 1971-1976 SPACE STATION PROGRAMS

By

Don K. Weidner, G. S. West and G. R. Swenson

SPACE ENVIRONMENT BRANCH
AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
RESEARCH AND DEVELOPMENT OPERATIONS

FOREWORD

This document is a supplement to NASA TM X-53798, "Space Environment Criteria Guidelines for Use in Space Vehicle Development (1968 Revision)," dated October 31, 1968. As in NASA TM X-53798, these data are limited to information above 90 kilometers above the earth (aerospace environment). NASA TM X-53328,* "Terrestrial Environment (Climatic) Criteria Guidelines for Use in Space Vehicle Development, 1966 Revision," dated May 1, 1966, provides information below 90 kilometers (terrestrial environment).

More information is being received and evaluated on a continuing basis for most of the topics in this document, as well as those named above. When the data in either of the three documents are not of sufficient detail for application to a design or operation planning problem in a NASA approved program, the user should submit a request through appropriate organizational channels to the Aerospace Environment Division (R-AERO-Y), Aero-Astroynamics Laboratory, Marshall Space Flight Center. An effort will be made to provide the required data and their interpretation in a suitable form for the specific design or operational problem.

The data contained in this document should be used for all NASA-Marshall Space Flight Center space vehicle studies requiring inputs of this type. However, contractor work begun before the publication of this document should not be altered on the basis of these newer data without prior approval of the contracting officer's representative of the responsible organization.

*NASA TM X-53328 is being revised by the Aerospace Environment Division, Marshall Space Flight Center, NASA.

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION.....	1
II. ATMOSPHERIC STRUCTURE.....	2
III. DATA ACQUISITION TECHNIQUES.....	4
A. Drag-Determined Densities.....	4
B. Direct Measurements.....	5
C. Explorer XVII.....	5
IV. UPPER ATMOSPHERE MODELS.....	6
A. Early Models.....	6
B. Static Diffusion Model (Jacchia).....	7
C. Low Altitude Model (Small).....	8
D. MSFC Static Diffusion Model (1967).....	8
V. ATMOSPHERIC VARIATIONS.....	9
VI. ORBITAL ALTITUDE ATMOSPHERIC CRITERIA.....	12
APPENDIX A. Glossary.....	123
APPENDIX B. Computational Procedure Used in the Development of The MSFC Modified Jacchia Model Atmosphere (1967).....	129

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Title</u>	<u>Page</u>
1	Atmospheric Sub-Regions.....	3
2	Typical Atmospheric Density Distribution at 426 km from the MSFC Modified Jacchia Model Atmosphere (1967).....	9
3	Relationship of Solar Flux and Geomagnetic Variations to Exospheric Temperature Variations.	10
4	Diurnal Temperature Variations of the MSFC Modified Jacchia Model Atmosphere (1967) Com- pared to Temperatures Deduced from Marshall- University of Michigan Probes (MUMP) Data Taken on January 24, 1967.....	12

LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Page</u>
I	Predicted Atmospheric Gas Properties for Nominal Conditions.....	15-39
II	Predicted Atmospheric Gas Properties for Plus Two-Sigma Conditions.....	41-65
III	Predicted Atmospheric Gas Properties for Plus Two-Sigma Conditions with $a_p = 200$	67-91
IV	Predicted Atmospheric Gas Properties for Plus Two-Sigma Conditions with $a_p = 400$	93-117

TECHNICAL MEMORANDUM X-53815

VARIATIONS IN ORBITAL ALTITUDE ATMOSPHERIC DENSITY FOR MSFC 1971-1976 SPACE STATION PROGRAMS

SUMMARY

Provided are predictions* of the mean orbital atmospheric density to which an orbiting space station will be exposed on particular days at intervals of 3 months from January 1, 1971 through January 1, 1977. When used along with the presented atmospheric variability information, these predictions will enable the user to determine the design limits for a particular engineering or scientific operational requirement on the space station during the 1971 through 1976 time period. Atmospheric structure and variability and data acquisition techniques are briefly described to provide a general understanding of the accuracy and limitations of the current orbital altitude atmospheric models. In addition to predictions of the mean orbital atmospheric density, values for pressure, temperature and molecular weight are also given. Additional space environment criteria needed for orbital space station design studies are given in NASA TM X-53798, "Space Environment Criteria Guidelines for Use in Space Vehicle Development (1968 Revision)," dated October 31, 1968.

I. INTRODUCTION

Natural environmental conditions encountered by a spacecraft in orbit about the earth are important factors in studies related to vehicle design, pre-flight mission planning, engineering performance, and scientific experiment evaluations. For some of these studies, particularly when they are related to short lifetime orbital missions, the environment criteria requirements may be completely satisfied by the general information given in reference 1. The space environment criteria for studies related to long lifetime missions (greater than 30 days), however, must also consist of the predicted in-orbit atmospheric density and pressure that will be encountered by the spacecraft.

For most of the studies related to the Orbital Workshop/Apollo Telescope Mount (OWS/ATM) and Future Space Station (FSS) Programs, the

*These predictions are based upon predicted solar condition indices obtained in November 1968 from the current MSFC Solar Cycle Prediction Program. If this program is revised, the density predictions given in this report must also be revised.

natural environment criteria requirements are satisfied by the information given in reference 1 and Tables I through IV of this report. When the design of a space station system is influenced by natural environments such as these, the designer should use the most severe environment expected to exist during the operational period of that space station system. The term "most severe," as used here, is defined as the largest applicable three-sigma value of density expected during the operational time for which the space station system is being designed.

The environment criteria given both here and in reference 1, however, are not in sufficient detail for some ATM/OWS and FSS studies. To assist the user in establishing the environment criteria requirements for a particular engineering or scientific study, the atmospheric structure and variability are described. This description is rather general in nature, but is of sufficient detail to permit an assessment of the need for more specialized environment criteria. If more detailed natural environment criteria are required, they may be obtained from Aerospace Environment Division of the Aero-Astrodynamic Laboratory, Marshall Space Flight Center, Huntsville, Alabama.

A state-of-knowledge of atmospheric data acquisition techniques and existing upper atmospheric models are summarized to provide a general concept of the accuracy of the environment criteria.

For the user's convenience, a glossary of technical terms is provided in Appendix A.

II. ATMOSPHERIC STRUCTURE

Before orbital altitude environments are discussed, the relationship between the orbital atmosphere and lower regions of the earth's atmosphere must be established. Nomenclature for the subregions of the atmosphere as illustrated in figure 1 is generally accepted by the scientific community. The altitudes at which the subregions begin vary continuously with time and solar activity.

In the homosphere, where mixing keeps the relative composition of the atmosphere constant, a given temperature profile is uniquely related to a corresponding mass density profile by the hydrostatic equation and equation of state. In the heterosphere, however, where extreme ultraviolet solar radiation dissociates molecular oxygen and diffusive separation prevails, the composition is in a state of change most of the time. Oxygen dissociation occurs primarily between 90 and 120 km altitude, but above 120 km the atmospheric gases approach a state of diffusive equilibrium. Since the rate of oxygen dissociation and turbopause height vary continuously with time and solar condition, the chemical composition of the atmosphere also varies rapidly with time and cannot be exactly

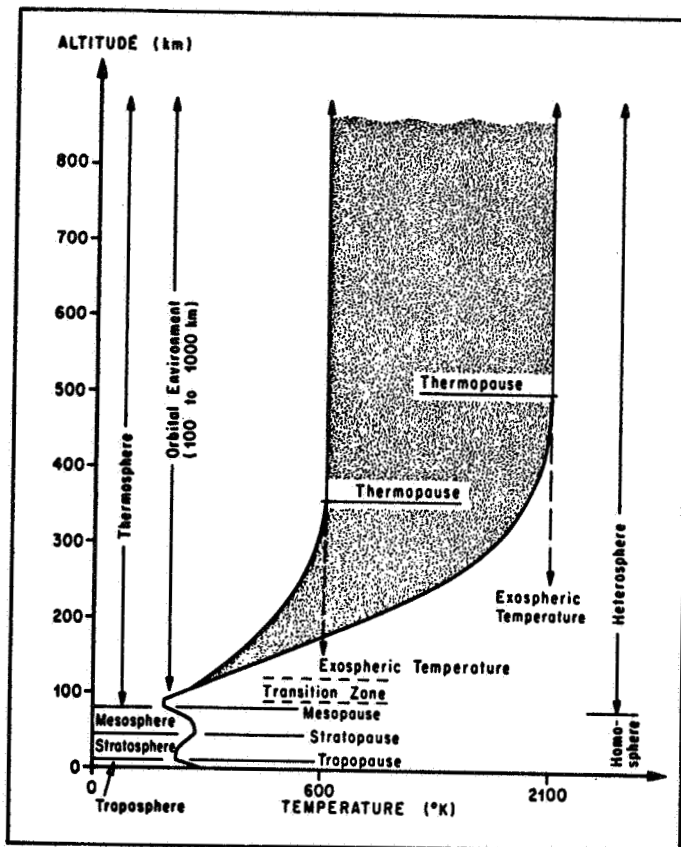


Figure 1. Atmospheric Sub-Regions

specified at any given height in the transition zone between 90 and 120 km. Thus, it is difficult to uniquely relate a given temperature profile to a mass density profile between 90 and 120 km altitude.

Above 120 km altitude, diffusive equilibrium can be assumed, and a mass density profile is dependent upon the temperature profile above 120 km and chemical composition at 120 km altitude. However, as an atmospheric constituent is diffused according to its molecular weight, the number densities of the constituents must be calculated independently from known 120 km base values and then summed at discrete altitudes to obtain the mass density profile.

The structure of the atmosphere is heavily dependent upon the amount of solar radiation received from the sun and its time/spatial variations. It not only affects the chemical composition of the atmosphere but also indirectly dictates the temperature lapse rate. In the lower thermosphere (100 to 300 km), solar radiation in the extreme

ultraviolet (40 to 1,000 Å) is absorbed and causes the temperature to increase steadily with altitude. Above 300 km, where little, if any, solar radiation is absorbed, the temperature is nearly isothermal and reaches an asymptotic value near 500 km altitude. The asymptotic temperature which is designated as "exospheric temperature" varies with time, space, and solar condition from about 650 to 2100°K.

The amount of extreme ultraviolet radiation received from the sun, however, cannot be measured from the surface of the earth. Early investigators assumed the extreme ultraviolet radiation to be very closely correlated with decimeter radiation, which is not absorbed by the atmosphere and can be measured at the earth's surface. With the advent of the first Orbiting Solar Observatory (OSO 1), the correlation between extreme ultraviolet radiation and 2800 MC/S (10.7 cm) radiation was found to be very good [2]. Therefore, the mean daily solar flux at 10.7 cm, which is measured by the National Research Council, Ottawa, Canada, has been accepted as an indicator of the amount of EUV radiation that reaches the atmosphere.

III. DATA ACQUISITION TECHNIQUES

Most of the observational data in the 120 to 1000 km altitude region have come from satellite-drag analyses; but over the past few years, increasingly important contributions have come from rocket-borne pressure gauge and mass spectrometer measurements.

A. Drag-Determined Densities

Density values obtained from the analysis of satellite drag data, by the various techniques described in references 3 through 6, represent the atmospheric density seen by a satellite near perigee. The probable error of these density values has been assessed by Cook [7], if the drag coefficient is known, to be 3 percent when an accurate orbit is used and 7 1/2 percent when an average orbit used.

The drag coefficient, however, depends upon the degree of energy and momentum transfer between gas particles and the satellites surface, that is, the energy and momentum accommodation coefficients. Since very few experimental measurements of accommodation coefficients have been made in the energy range where molecules impinge on the satellite's surface at orbital altitudes, a number of theoretical studies concerning the influence of energy and momentum accommodation on drag coefficient [8, 9] have been conducted. These studies have indicated that the drag coefficient of 2.2, which has been widely used in determining density

values, may be 10 to 30 percent too low. Considering this uncertainty in drag coefficient, the absolute error (± 25 to $\pm 50\%$) assigned to the satellite-drag-determined densities in reference 29 does not seem unreasonable.

B. Direct Measurements

The methods used in making direct measurements of the atmospheric quantities with rocket-borne instruments [10-13] are too widely diversified to be reviewed here. The majority of these direct measurements have been obtained from pressure gauges or mass spectrometers that are normally enclosed inside a chamber and separated from the flow by an orifice. The probable error of the gauge measurements, which is highly dependent upon the reliability of pre-flight calibration, has been assessed by various investigators to range from 30 to 200 percent [12]. However, a probable error of 30 percent is generally accepted for these measurements.

The Thermosphere Probe (TP), described by Spencer et al. [14], is a technique for measuring molecular nitrogen number densities and electron temperatures. Spencer has used the TP to measure these parameters under various atmospheric conditions over the past six years. A team of Marshall Space Flight Center and University of Michigan personnel has used the same technique to measure the diurnal variations of these same parameters over Cape Kennedy on January 24, 1967. The six measurements made on this date, combined with two additional ones made in April 1967, are given in reference 15. Since the Marshall-University of Michigan Probes (MUMPS) were all calibrated simultaneously, they have been assessed to have a relative probable error of 10 percent or less. Temperature profiles derived from the downward integration of the N_2 profiles are accurate within ± 7 percent.

C. Explorer XVII

The Explorer 17 satellite, launched on April 3, 1963, yielded much valuable information on atmospheric density and composition in the altitude range of 250 to 650 km. The four pressure gauges and two mass spectrometers carried on board permitted the simultaneous measurement of absolute density and the concentrations of the neutral constituents. The satellite and its instrumentation are described in detail by Spencer in reference 16. Densities and temperatures derived from the observational data are discussed by Newton et al. [17, 18], the mass spectrometer data by Reber and Nicolet [19], and the densities obtained from analyzing the orbital decay of the spherical satellite by Slowey [20].

The main conclusion drawn from a detailed review of all of the Explorer 17 literature referenced above is that the gauge-measured densities are systematically lower than the drag-determined values. At present, there is no reasonable explanation for this discrepancy. Even the maximum possible error in drag coefficient combined with the maximum possible error (30 percent) in the gauge measurements cannot explain this difference. Friedman [21] has argued that the systematic error involved in the interpretation of the gauge data may amount to more than a factor of 2, but Explorer 17 gauge measurements are consistent with rocket-borne gauge measurements, which are based upon different principles.

IV. UPPER ATMOSPHERE MODELS

The large irregularities observed in the motion of artificial satellites as they orbit the earth are due to the oblateness of the earth and to variations in the density of the upper atmosphere. The atmospheric density variations have been found to be of several types: (1) day-to-night variations, (2) variations with solar activity, (3) variations with geomagnetic activity, and (4) variations associated with the semi-annual plasma variations. Most of the numerous models that have been developed are based upon density values deduced from satellite drag data. However, since the various investigators have used different computational techniques, their derived density values, as well as their models, vary considerably.

A. Early Models

The first artificial satellite was successfully placed in orbit about the earth in 1957, but it was not until 1961 that density computation techniques and the amount of satellite data permitted the establishment of atmospheric models that could be viewed with any degree of confidence. These early models were developed by Martin et al. [22], King-Hele and Walker [23], Paetzold and Zschorner [24] and Jacchia [25] using satellite drag data.

The first multi-temperature model that was based on the principle of diffusive equilibrium was also published in 1961 by Nicolet [26]. This model differed from the other models in that densities were empirically derived from an assumed temperature profile and fixed boundary conditions at 120 km altitude so that they would agree with densities deduced from satellite drag data. This technique did not drastically improve the model atmosphere, but it did provide an acceptable scientific basis upon which more refined models could be developed. The boundary conditions, which will be discussed later, were adopted by Nicolet as being representative of the average atmosphere. Nicolet's model is seriously limited

by oversimplifications, such as (1) invariant boundary conditions at 120 km altitude, (2) a constant temperature gradient between 120 and 150 km, and (3) the assumption of static equilibrium in an atmosphere that is subject to large day-to-night temperature variations.

Harris and Priester [27, 28] accounted for the diurnal variation at low latitudes by integrating the hydrostatic equation and heat-conduction equation simultaneously while allowing the heat input to vary with a 24-hour cycle. However, since the diurnal variation in the amount of solar EUV necessary to maintain the heat balance was found to be much in excess of that observed, Harris and Priester had to introduce a "second heat source" with a maximum at a different hour. Even though this "second heat source" theory has been seriously questioned by other investigators, the atmospheric densities of the Harris and Priester model are in good agreement with densities deduced from satellite drag data. This model, however, must be confined to low latitudes and cannot be extended to high latitudes because it does not account for the seasonal migration of the diurnal density bulge. It is also based upon constant boundary conditions at 120 km altitude, which are slightly different from those established by Nicolet.

B. Static Diffusion Model (Jacchia)

In developing the static diffusion model given in reference 37, Jacchia favored Nicolet's model [26] over the Harris-Priester model [28] because the Nicolet-type provided densities at any point in time and space. Jacchia's boundary conditions are the same as those of the CIRA 65 Reference Atmosphere [29] with the exception of the helium concentration, which was increased 40 percent so that the model densities would agree with the drag-derived density values above 600 km altitude. Argon was neglected since its contribution to the total density is only 1 percent at 120 km altitude and becomes rapidly negligible with increasing altitude.

Starting from constant 120 km boundary conditions and using the diffusion equation and empirically derived temperature profiles, Jacchia calculated number density profile of each of the atmospheric constituents. The total mass density was then obtained by summing the masses of the constituents. Densities computed using the resulting model [37] agree fairly well with the satellite drag densities given in reference 3, but some limitations to the model applications still remain. As a consequence of the invariant boundary conditions, density variations indicated by the model are very small in the altitude region from 170 km to near 120 km.

C. Low Altitude Model (Small)

In an attempt to better define the low altitude density distribution, Small [31] investigated densities derived from the drag data of low altitude Air Force-Lockheed satellites and developed the atmospheric model described in reference 32. The density computation technique used in Small's model differs from that used in Jacchia's model in that it requires the use of a mean yearly 10.7 cm solar flux rather than an 81-day mean. Small's model was developed by fitting the constants that define the Harris-Priester curves [27, 28] to densities obtained from low altitude satellite drag data. Since Small's model was established to represent the lower portion of the thermosphere (130 to 370 km), the high altitude limitation of the Harris-Priester model does not induce any significant error. In fact, the densities of Small's model have been found to be in very close agreement with those of Jacchia's model.

D. MSFC Static Diffusion Model (1967)

The MSFC Static Diffusion Model (1967), which is basically a computerized version of Jacchia's model [27], may be used to obtain a detailed description of the atmosphere from 120 to 1000 km altitude.

In developing the MSFC model, the diffusion equation was integrated by a technique given by Walker [33], and the temperature dependency of the thermal diffusion factor for hydrogen was obtained from the hydrogen profiles of Jacchia's model. The contribution of hydrogen to the total mass density, however, is very small (\sim one percent at 500 km) and could be neglected without any serious consequences.

The MSFC model is simpler and better defined than other existing models. However, as in other current models, constant boundary limitations do not allow the atmospheric composition and temperature to be realistically defined. These quantities represent only one of the many combinations of temperature and composition that may be associated with the mass density. This weakness, however, does not limit the accuracy of the mass density that is defined by the MSFC model.

A complete description of the computational procedure used in establishing the MSFC model is given in Appendix B.

V. ATMOSPHERIC VARIATIONS

In assessing the need for specialized environment criteria, the effect of each of the principal atmospheric variations on the particular scientific experiment or engineering study problem must be considered. The simplest way to picture the distribution of density is to visualize an atmospheric bulge as illustrated in figure 2. This density distribution, representing a typical day, was established using the MSFC Modified Jacchia Model Atmosphere, 1967. According to Jacchia [34], the density bulge lags the sun by two hours, and migrates north and south of the equator with the sub-solar point. This would, of course, change the density distribution considerably, but would not affect the maximum or minimum density values, which are dependent only upon solar radiation and geomagnetic conditions.

In analyzing other satellite-drag data, Friedman [35] found indications that the density bulge is always centered over the equator at high altitudes and over the sub-solar latitude in the low altitudes. Keating, in still another study [36], theorized that a winter polar bulge must exist to account for the high polar densities deduced from inflatable air density satellites. This controversy has not been settled; but in view of their detail and depth, Jacchia's investigations concerning the location and shape of the bulge are taken to be more representative.

Since the density distribution in figure 2 does not account for variations in the 3-hourly geomagnetic index (a_p), it can be considered valid for only 3 hours. However, these variations, as well as variations

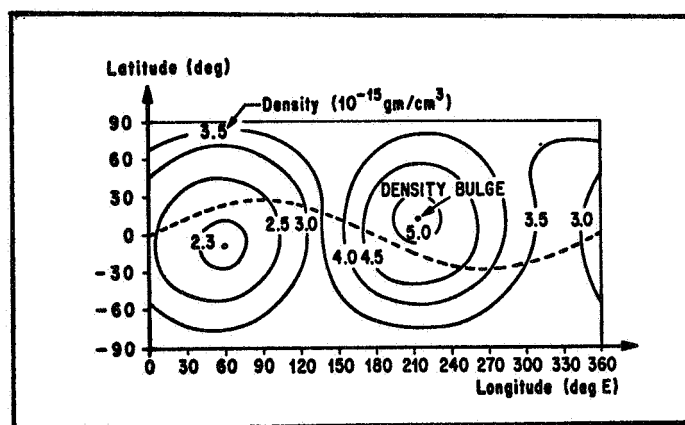


Figure 2. Typical Atmospheric Density Distribution at 426 km from the MSFC Modified Jacchia Model Atmosphere (1967).

in the daily and mean solar flux, can cause considerable variation in atmospheric density. The effect of these variations on density may be more readily determined by first considering their effect on exospheric temperature (T_e). The effect of variations in the daily solar flux (ΔF) and the effect of variations in mean solar flux ($\Delta \bar{F}$) on exospheric temperature are assumed to be identical as indicated by equations (10B) and (11B) that consider these variations.

Density variations associated with the solar flux and geomagnetic variations (ΔF , $\Delta \bar{F}$, and Δa_p) may be obtained by using the exospheric temperature variations from figure 3. These density variations, however, are dependent upon the magnitude of initial density. Ratios of the final density (ρ_F) to the initial density (ρ_0) after specified

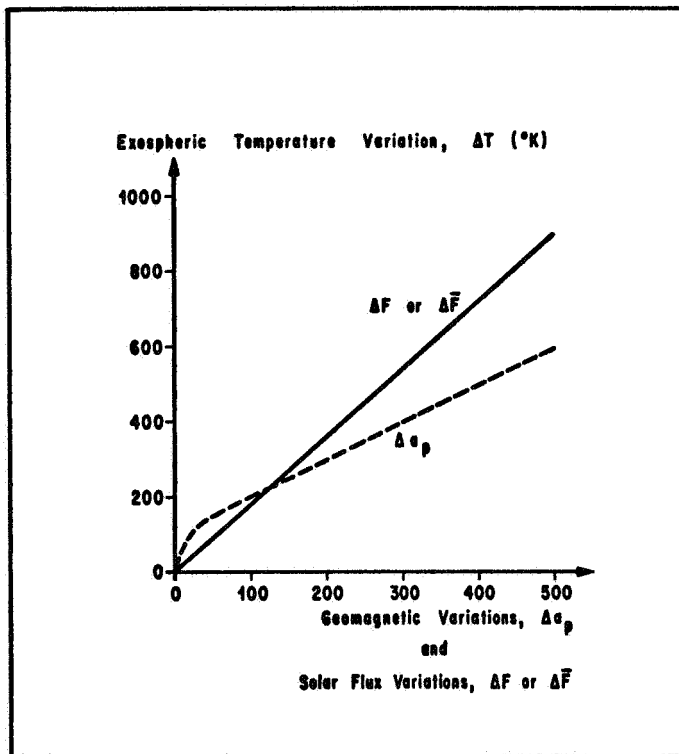


Figure 3. Relationship of Solar Flux and Geomagnetic Variations to Exospheric Temperature Variations.

changes in exospheric temperature are given below for initial density values corresponding to Jacchia's minimum mean and maximum density values at 400 km altitude.

Dependence of Density Ratio (ρ_F/ρ_0) on
Exospheric Temperature Variations at 400 km Altitude

	Initial Exospheric Temperature	Initial Density ρ_0	Change in Exospheric Temp. ($^{\circ}$ K)					
			+500	+200	+50	-50	-200	-500
Jacchia Maximum	2100	1.946×10^{-14}	-	-	-	0.97	0.89	0.68
Jacchia Mean	1400	9.942×10^{-15}	1.73	1.33	1.09	0.91	0.64	0.21
Jacchia Minimum	600	3.660×10^{-16}	15.13	4.33	1.54	-	-	-

An increase of 500 degrees in the exospheric temperature, which may be caused by either an increase of 400 in a_p or 280 in F or \bar{F} (see figure 3), will increase the density by a factor of 15.13 if the initial density is near minimum; but if the initial density is near Jacchia's mean, it will increase by a factor of only 1.73.

Diurnal variations are generally of minimum concern to the establishment of orbital environments because a satellite will normally encounter the atmosphere at all local times during its lifetime. It is of interest, however, to compare the diurnal temperature variation exhibited by Jacchia's model to that derived from molecular nitrogen profiles measured on January 24, 1967 with MSFC thermospheric rocket probes [15]. This comparison, which is illustrated for three different altitudes in figure 4, indicates very good agreement between the model and N_2 temperatures.

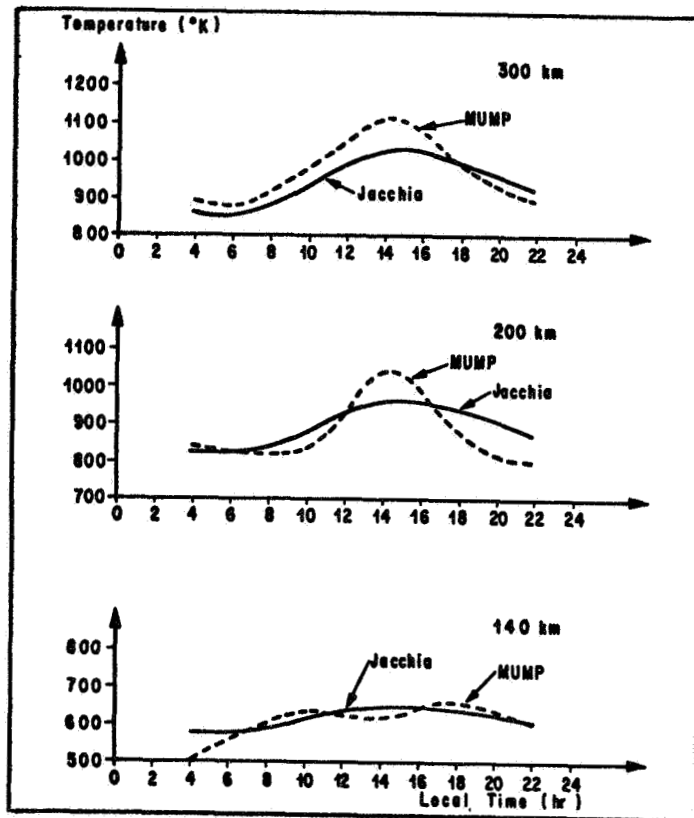


Figure 4. Diurnal Temperature Variations of the MSFC Modified Jacchia Model Atmosphere (1967) Compared to Temperatures Deduced From Marshall-University of Michigan Probes (MUMP) Data Taken on January 24, 1967.

VI. ORBITAL ALTITUDE ATMOSPHERIC CRITERIA

The orbital altitude atmospheric criteria given in Tables I through IV are in sufficient detail for many of the OWS/ATM and FSS studies. These tables provide predictions of the mean orbital atmospheric density, temperature, pressure and molecular weight to which a spacecraft will be exposed on particular days at intervals of three months between January 1, 1971 through January 1, 1977. The atmospheric quantities were calculated using the MSFC Modified Model Atmosphere for the solar conditions given below.

- Table I: Predicted nominal solar flux.
Predicted nominal geomagnetic index.
- Table II: Predicted plus two-sigma solar flux.
Predicted plus two-sigma geomagnetic index.
- Table III: Predicted plus two-sigma solar flux.
Geomagnetic index = 200.
- Table IV: Predicted plus two-sigma solar flux.
Geomagnetic index = 400.

Predictions of the solar flux and geomagnetic index, used in establishing the data given in Tables I through IV, were obtained by use of the MSFC Solar Prediction Program, which is described fully in reference 1.

For scientific experiments and engineering problem studies that are not sensitive to short-term fluctuations in the atmospheric density or pressure, the data given in Tables I and II should be used to represent the nominal and plus two-sigma values of these quantities. Some studies, however, are sensitive to the short-term fluctuations in the geomagnetic index that have durations of 6 to 8 hours. To account for these fluctuations, Tables III and IV provide predictions of the atmospheric properties with assumed geomagnetic index values of 200 and 400, respectively. The data in Table IV represent an estimate of the atmospheric properties that would occur for a short time during an extremely violent geomagnetic storm.

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS 1

DATE JANUARY 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.7161E-12	488.0	1.3457E-02	26.3
80	2.4356E-12	657.4	5.2724E-03	25.3
90	9.8421E-13	756.2	2.5511E-03	24.3
100	4.6961E-13	813.9	1.3655E-03	23.3
110	2.4593E-13	848.0	7.7742E-04	22.3
120	1.3681E-13	868.0	4.6208E-04	21.4
130	7.9525E-14	879.8	2.8396E-04	20.5
140	4.7855E-14	886.8	1.7930E-04	19.7
150	2.9638E-14	891.0	1.1582E-04	19.0
160	1.8810E-14	893.4	7.6262E-05	18.3
170	1.2193E-14	894.9	5.1045E-05	17.8
180	8.0468E-15	895.8	3.4651E-05	17.3
190	5.3932E-15	896.3	2.3811E-05	16.9
200	3.6624E-15	896.6	1.6540E-05	16.5
210	2.5131E-15	896.8	1.1603E-05	16.2
220	1.7440E-15	897.0	8.2154E-06	15.8
230	1.2195E-15	897.0	5.8699E-06	15.5
240	8.5915E-16	897.1	4.2329E-06	15.1
250	6.0950E-16	897.1	3.0820E-06	14.8
260	4.3526E-16	897.1	2.2674E-06	14.5
270	3.1296E-16	897.1	1.6941E-06	13.8
280	2.2649E-16	897.1	1.2777E-06	13.2
290	1.6509E-16	897.1	9.7705E-07	12.6
300	1.2127E-16	897.1	7.5826E-07	11.9
310	8.9839E-17	897.1	5.9778E-07	11.2
320	6.7191E-17	897.1	4.7899E-07	10.5
330	5.0787E-17	897.1	3.9018E-07	9.7
340	3.8839E-17	897.1	3.2305E-07	9.0
350	3.0084E-17	897.1	2.7167E-07	8.3
360	2.3627E-17	897.1	2.3183E-07	7.6
370	1.8828E-17	897.1	2.0048E-07	7.0
380	1.5232E-17	897.1	1.7545E-07	6.5
390	1.2512E-17	897.1	1.5516E-07	6.0
400	1.0432E-17	897.1	1.3846E-07	5.6
410	8.8240E-18	897.1	1.2451E-07	5.3
420	7.5647E-18	897.1	1.1269E-07	5.0
430	6.5655E-18	897.1	1.0255E-07	4.8
440	5.7614E-18	897.1	9.3750E-08	4.6
450	5.1051E-18	897.1	8.6027E-08	4.4
460	4.5617E-18	897.1	7.9191E-08	4.3
470	4.1057E-18	897.1	7.3092E-08	4.2
480	3.7179E-18	897.1	6.7613E-08	4.1
490	3.3842E-18	897.1	6.2665E-08	4.0
500	3.0936E-18	897.1	5.8173E-08	4.0
510	2.8383E-18	897.1	5.4081E-08	3.9
520	2.6118E-18	897.1	5.0340E-08	3.9
530	2.4095E-18	897.1	4.6910E-08	3.8
540	2.2276E-18	897.1	4.3759E-08	3.8

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE APRIL 1, 1971					GM TIME 9 0				
ALT	DENSITY	TEMP	PRESSURE	MOL. WT					
(NM)	(GM/CM ³)	(°K)	(DYNE/CM ²)	(UNITLESS)					
70	8.6177E-12	497.2	1.3551E-02	26.3					
80	2.4351E-12	678.8	5.4349E-03	25.3					
90	1.0034E-12	785.2	2.6920E-03	24.3					
100	4.8873E-13	847.6	1.4722E-03	23.4					
110	2.6109E-13	884.7	8.5468E-04	22.5					
120	1.4797E-13	906.5	5.1704E-04	21.6					
130	8.7490E-14	919.5	3.2286E-04	20.7					
140	5.3472E-14	927.2	2.0689E-04	19.9					
150	3.3589E-14	931.8	1.3548E-04	19.2					
160	2.1600E-14	934.5	9.0377E-05	18.6					
170	1.4174E-14	936.2	6.1255E-05	18.0					
180	9.4660E-15	937.2	4.2090E-05	17.5					
190	6.4183E-15	937.8	2.9269E-05	17.1					
200	4.4091E-15	938.1	2.0569E-05	16.7					
210	3.0631E-15	938.4	1.4593E-05	16.4					
220	2.1487E-15	938.5	1.0445E-05	16.1					
230	1.5201E-15	938.6	7.5395E-06	15.7					
240	1.0834E-15	938.6	5.4878E-06	15.4					
250	7.7743E-16	938.7	4.0287E-06	15.1					
260	5.6140E-16	938.7	2.9842E-06	14.7					
270	4.0793E-16	938.7	2.2372E-06	14.2					
280	2.9817E-16	938.7	1.6919E-06	13.8					
290	2.1930E-16	938.7	1.2943E-06	13.2					
300	1.6235E-16	938.7	1.0026E-06	12.6					
310	1.2104E-16	938.7	7.8704E-07	12.0					
320	9.0943E-17	938.7	6.2662E-07	11.3					
330	6.8913E-17	938.7	5.0626E-07	10.6					
340	5.2713E-17	938.7	4.1513E-07	9.9					
350	4.0742E-17	938.7	3.4546E-07	9.2					
360	3.1848E-17	938.7	2.9161E-07	8.5					
370	2.5201E-17	938.7	2.4949E-07	7.9					
380	2.0201E-17	938.7	2.1613E-07	7.3					
390	1.6412E-17	938.7	1.8936E-07	6.8					
400	1.3518E-17	938.7	1.6758E-07	6.3					
410	1.1287E-17	938.7	1.4961E-07	5.9					
420	9.5505E-18	938.7	1.3459E-07	5.5					
430	8.1839E-18	938.7	1.2187E-07	5.2					
440	7.0959E-18	938.7	1.1097E-07	5.0					
450	6.2192E-18	938.7	1.0151E-07	4.8					
460	5.5038E-18	938.7	9.3218E-08	4.6					
470	4.9124E-18	938.7	8.5890E-08	4.5					
480	4.4173E-18	938.7	7.9359E-08	4.3					
490	3.9977E-18	938.7	7.3496E-08	4.2					
500	3.6379E-18	938.7	6.8203E-08	4.2					
510	3.3259E-18	938.7	6.3400E-08	4.1					
520	3.0527E-18	938.7	5.9021E-08	4.0					
530	2.8113E-18	938.7	5.5016E-08	4.0					
540	2.5963E-18	938.7	5.1341E-08	3.9					

**TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS**

DATE JULY 1, 1971		GM TIME 9 0		
ALT	DENSITY	TEMP	PRESSURE	MOL. WT
(NM)	(GM/CM ³)	(OK)	(DYNE/CM ²)	(UNITLESS)
70	8.8613E-12	474.9	1.3319E-02	26.5
80	2.4331E-12	627.2	5.0367E-03	25.2
90	9.5387E-13	715.7	2.3519E-03	24.1
100	4.4097E-13	767.4	1.2188E-03	23.1
110	2.2407E-13	797.6	6.7385E-04	22.1
120	1.2123E-13	815.3	3.9017E-04	21.1
130	6.8713E-14	825.7	2.3416E-04	20.1
140	4.0417E-14	831.8	1.4469E-04	19.3
150	2.4518E-14	835.5	9.1585E-05	18.6
160	1.5265E-14	837.7	5.9155E-05	18.0
170	9.7161E-15	838.9	3.8865E-05	17.4
180	6.3002E-15	839.7	2.5907E-05	17.0
190	4.1494E-15	840.2	1.7489E-05	16.6
200	2.7690E-15	840.5	1.1940E-05	16.2
210	1.8684E-15	840.6	8.2379E-06	15.9
220	1.2729E-15	840.7	5.7422E-06	15.5
230	8.7451E-16	840.8	4.0444E-06	15.1
240	6.0549E-16	840.8	2.8800E-06	14.7
250	4.2234E-16	840.8	2.0754E-06	14.2
260	2.9677E-16	840.9	1.5153E-06	13.7
270	2.1028E-16	840.9	1.1328E-06	13.0
280	1.5017E-16	840.9	8.5486E-07	12.3
290	1.0823E-16	840.9	6.5659E-07	11.5
300	7.8810E-17	840.9	5.1378E-07	10.7
310	5.8056E-17	840.9	4.0979E-07	9.9
320	4.3326E-17	840.9	3.3313E-07	9.1
330	3.2804E-17	840.9	2.7584E-07	8.3
340	2.5231E-17	840.9	2.3237E-07	7.6
350	1.9735E-17	840.9	1.9885E-07	6.9
360	1.5708E-17	840.9	1.7255E-07	6.4
370	1.2726E-17	840.9	1.5155E-07	5.9
380	1.0490E-17	840.9	1.3448E-07	5.5
390	8.7905E-18	840.9	1.2037E-07	5.1
400	7.4803E-18	840.9	1.0852E-07	4.8
410	6.4538E-18	840.9	9.8422E-08	4.6
420	5.6365E-18	840.9	8.9700E-08	4.4
430	4.9748E-18	840.9	8.2082E-08	4.2
440	4.4303E-18	840.9	7.5362E-08	4.1
450	3.9733E-18	840.9	6.9386E-08	4.0
460	3.5894E-18	840.9	6.4035E-08	3.9
470	3.2578E-18	840.9	5.9215E-08	3.8
480	2.9695E-18	840.9	5.4853E-08	3.8
490	2.7163E-18	840.9	5.0890E-08	3.7
500	2.4919E-18	840.9	4.7279E-08	3.7
510	2.2916E-18	840.9	4.3978E-08	3.6
520	2.1117E-18	840.9	4.0955E-08	3.6
530	1.9492E-18	840.9	3.8181E-08	3.6
540	1.8019E-18	840.9	3.5632E-08	3.5

**TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS**
DATE OCTOBER 1, 1971 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM3)	TEMP (OK)	PRESSURE (DYNE/CM2)	MOL. WT (UNITLESS)
70	8.6387E-12	495.2	1.3531E-02	26.3
80	2.4354E-12	674.1	5.4001E-03	25.3
90	9.9944E-13	778.9	2.6615E-03	24.3
100	4.8468E-13	840.4	1.4492E-03	23.4
110	2.5783E-13	876.7	8.3768E-04	22.4
120	1.4555E-13	898.1	5.0485E-04	21.5
130	8.5746E-14	910.8	3.1418E-04	20.7
140	5.2232E-14	918.3	2.0069E-04	19.9
150	3.2711E-14	922.8	1.3104E-04	19.2
160	2.0976E-14	925.5	8.7169E-05	18.5
170	1.3728E-14	927.1	5.8923E-05	18.0
180	9.1451E-15	928.1	4.0383E-05	17.5
190	6.1855E-15	928.7	2.8011E-05	17.1
200	4.2388E-15	929.0	1.9636E-05	16.7
210	2.9375E-15	929.2	1.3898E-05	16.3
220	2.0556E-15	929.4	9.9243E-06	16.0
230	1.4506E-15	929.4	7.1477E-06	15.7
240	1.0314E-15	929.5	5.1921E-06	15.4
250	7.3828E-16	929.5	3.8046E-06	15.0
260	5.3186E-16	929.5	2.8139E-06	14.6
270	3.8558E-16	929.5	2.1076E-06	14.1
280	2.8123E-16	929.6	1.5927E-06	13.6
290	2.0643E-16	929.6	1.2180E-06	13.1
300	1.5255E-16	929.6	9.4365E-07	12.5
310	1.1357E-16	929.6	7.4127E-07	11.8
320	8.5227E-17	929.6	5.9085E-07	11.2
330	6.4533E-17	929.6	4.7810E-07	10.4
340	4.9348E-17	929.6	3.9278E-07	9.7
350	3.8149E-17	929.6	3.2755E-07	9.0
360	2.9842E-17	929.6	2.7711E-07	8.3
370	2.3642E-17	929.6	2.3762E-07	7.7
380	1.8983E-17	929.6	2.0631E-07	7.1
390	1.5455E-17	929.6	1.8112E-07	6.6
400	1.2761E-17	929.6	1.6059E-07	6.1
410	1.0683E-17	929.6	1.4361E-07	5.8
420	9.0645E-18	929.6	1.2937E-07	5.4
430	7.7888E-18	929.6	1.1728E-07	5.1
440	6.7713E-18	929.6	1.0689E-07	4.9
450	5.9494E-18	929.6	9.7852E-08	4.7
460	5.2767E-18	929.6	8.9914E-08	4.5
470	4.7190E-18	929.6	8.2882E-08	4.4
480	4.2506E-18	929.6	7.6602E-08	4.3
490	3.8523E-18	929.6	7.0957E-08	4.2
500	3.5096E-18	929.6	6.5853E-08	4.1
510	3.2115E-18	929.6	6.1217E-08	4.1
520	2.9498E-18	929.6	5.6988E-08	4.0
530	2.7179E-18	929.6	5.3117E-08	4.0
540	2.5109E-18	929.6	4.9563E-08	3.9

TABLE I. PREDICTED ATMOSPHERIC
 GAS PROPERTIES FOR NOMINAL CONDITIONS
 DATE JANUARY 1, 1972 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.9104E-12	470.6	1.3272E-02	26.3
80	2.4314E-12	617.3	4.9578E-03	25.2
90	9.4311E-13	702.6	2.2866E-03	24.1
100	4.3120E-13	752.2	1.1717E-03	23.0
110	2.1682E-13	781.3	6.4132E-04	22.0
120	1.1619E-13	798.3	3.6802E-04	21.0
130	6.5291E-14	808.3	2.1909E-04	20.0
140	3.8108E-14	814.3	1.3437E-04	19.2
150	2.2955E-14	817.6	8.4469E-05	18.5
160	1.4199E-14	819.8	5.4198E-05	17.9
170	8.9812E-15	821.1	3.5380E-05	17.3
180	5.7881E-15	821.6	2.3436E-05	16.9
190	3.7890E-15	822.2	1.5724E-05	16.5
200	2.5130E-15	822.5	1.0672E-05	16.1
210	1.6853E-15	822.7	7.3215E-06	15.7
220	1.1410E-15	822.8	5.0769E-06	15.4
230	7.7915E-16	822.8	3.5593E-06	15.0
240	5.3625E-16	822.9	2.5248E-06	14.5
250	3.7190E-16	822.9	1.8141E-06	14.0
260	2.5993E-16	822.9	1.3222E-06	13.5
270	1.8334E-16	822.9	9.9080E-07	12.7
280	1.3041E-16	822.9	7.4892E-07	11.9
290	9.3698E-17	822.9	5.7701E-07	11.1
300	6.8095E-17	822.9	4.5350E-07	10.3
310	5.0130E-17	822.9	3.6369E-07	9.4
320	3.7441E-17	822.9	2.9747E-07	8.6
330	2.8414E-17	822.9	2.4792E-07	7.8
340	2.1938E-17	822.9	2.1020E-07	7.1
350	1.7247E-17	822.9	1.8099E-07	6.5
360	1.3814E-17	822.9	1.5793E-07	6.0
370	1.1269E-17	822.9	1.3940E-07	5.5
380	9.3575E-18	822.9	1.2424E-07	5.2
390	7.8992E-18	822.9	1.1161E-07	4.8
400	6.7687E-18	822.9	1.0092E-07	4.6
410	5.8772E-18	822.9	9.1752E-08	4.4
420	5.1619E-18	822.9	8.3786E-08	4.2
430	4.5779E-18	822.9	7.6793E-08	4.1
440	4.0932E-18	822.9	7.0597E-08	4.0
450	3.6847E-18	822.9	6.5066E-08	3.9
460	3.3354E-18	822.9	6.0099E-08	3.8
470	3.0331E-18	822.9	5.5616E-08	3.7
480	2.7686E-18	822.9	5.1552E-08	3.7
490	2.5349E-18	822.9	4.7856E-08	3.6
500	2.3269E-18	822.9	4.4484E-08	3.6
510	2.1406E-18	822.9	4.1402E-08	3.5
520	1.9726E-18	822.9	3.8578E-08	3.5
530	1.8207E-18	822.9	3.5987E-08	3.5
540	1.6827E-18	822.9	3.3606E-08	3.4

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE APRIL 1, 1972 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.7945E-12	480.9	1.3383E-02	26.3
80	2.4347E-12	640.9	5.1446E-03	25.2
90	9.6811E-13	734.0	2.4424E-03	24.2
100	4.5420E-13	788.4	1.2849E-03	23.2
110	2.3405E-13	820.3	7.2006E-04	22.2
120	1.2827E-13	839.0	4.2200E-04	21.2
130	7.3554E-14	850.0	2.5604E-04	20.3
140	4.3721E-14	856.5	1.5980E-04	19.5
150	2.6776E-14	860.4	1.0210E-04	18.8
160	1.6819E-14	862.7	6.6536E-05	18.1
170	1.0795E-14	864.1	4.4092E-05	17.6
180	7.0576E-15	864.9	2.9640E-05	17.1
190	4.6862E-15	865.4	2.0174E-05	16.7
200	3.1527E-15	865.7	1.3884E-05	16.3
210	2.1449E-15	865.8	9.6528E-06	16.0
220	1.4733E-15	865.9	6.7767E-06	15.7
230	1.0205E-15	866.0	4.8041E-06	15.3
240	7.1229E-16	866.1	3.4402E-06	14.9
250	5.0072E-16	866.1	2.4902E-06	14.5
260	3.5445E-16	866.1	1.8238E-06	14.0
270	2.5281E-16	866.1	1.3617E-06	13.4
280	1.8161E-16	866.1	1.0266E-06	12.7
290	1.3152E-16	866.1	7.8620E-07	12.0
300	9.6108E-17	866.1	6.1235E-07	11.3
310	7.0938E-17	866.1	4.8540E-07	10.5
320	5.2953E-17	866.1	3.9170E-07	9.7
330	4.0025E-17	866.1	3.2173E-07	9.0
340	3.0674E-17	866.1	2.6877E-07	8.2
350	2.3861E-17	866.1	2.2812E-07	7.5
360	1.8857E-17	866.1	1.9643E-07	6.9
370	1.5149E-17	866.1	1.7131E-07	6.4
380	1.2372E-17	866.1	1.5109E-07	5.9
390	1.0269E-17	866.1	1.3452E-07	5.5
400	8.6554E-18	866.1	1.2074E-07	5.2
410	7.4005E-18	866.1	1.0911E-07	4.9
420	6.4101E-18	866.1	9.9147E-08	4.7
430	5.6165E-18	866.1	9.0514E-08	4.5
440	4.9706E-18	866.1	8.2952E-08	4.3
450	4.4368E-18	866.1	7.6265E-08	4.2
460	3.9893E-18	866.1	7.0305E-08	4.1
470	3.6088E-18	866.1	6.4957E-08	4.0
480	3.2812E-18	866.1	6.0132E-08	3.9
490	2.9959E-18	866.1	5.5757E-08	3.9
500	2.7450E-18	866.1	5.1777E-08	3.8
510	2.5224E-18	866.1	4.8142E-08	3.8
520	2.3235E-18	866.1	4.4816E-08	3.7
530	2.1447E-18	866.1	4.1764E-08	3.7
540	1.9830E-18	866.1	3.8958E-08	3.7

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE JULY 1, 1972		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.0117E-12	461.8	1.3177E-02	26.9
80	2.4269E-12	597.4	4.7968E-03	25.1
90	9.2022E-13	676.1	2.1552E-03	24.0
100	4.1097E-13	722.0	1.0785E-03	22.9
110	2.0213E-13	748.9	5.7797E-04	21.8
120	1.0617E-13	764.6	3.2549E-04	20.7
130	5.8599E-14	773.8	1.9053E-04	19.8
140	3.3657E-14	779.3	1.1506E-04	19.0
150	1.9979E-14	782.5	7.1286E-05	18.2
160	1.2190E-14	784.4	4.5107E-05	17.6
170	7.6099E-15	785.6	2.9048E-05	17.1
180	4.8412E-15	786.2	1.8989E-05	16.7
190	3.1283E-15	786.7	1.2577E-05	16.6
200	2.0479E-15	786.9	8.4309E-06	15.9
210	1.3555E-15	787.0	5.7174E-06	15.9
220	9.0579E-16	787.1	3.9230E-06	15.1
230	6.1059E-16	787.2	2.7256E-06	14.7
240	4.1503E-16	787.2	1.9197E-06	14.2
250	2.8448E-16	787.2	1.3727E-06	13.6
260	1.9671E-16	787.3	9.9833E-07	12.9
270	1.3758E-16	787.3	7.5559E-07	11.9
280	9.7166E-17	787.3	5.7472E-07	11.1
290	6.9485E-17	787.3	4.4694E-07	10.2
300	5.0403E-17	787.3	3.5546E-07	9.6
310	3.7153E-17	787.3	2.8896E-07	8.4
320	2.7878E-17	787.3	2.3979E-07	7.6
330	2.1326E-17	787.3	2.0276E-07	6.9
340	1.6647E-17	787.3	1.7431E-07	6.6
350	1.3265E-17	787.3	1.5200E-07	5.7
360	1.0786E-17	787.3	1.3414E-07	5.6
370	8.9401E-18	787.3	1.1956E-07	4.9
380	7.5415E-18	787.3	1.0744E-07	4.6
390	6.4623E-18	787.3	9.7181E-08	4.4
400	5.6133E-18	787.3	8.8380E-08	4.2
410	4.9325E-18	787.3	8.0731E-08	4.0
420	4.3764E-18	787.3	7.4012E-08	3.9
430	3.9139E-18	787.3	6.8057E-08	3.8
440	3.5230E-18	787.3	6.2741E-08	3.7
450	3.1880E-18	787.3	5.7969E-08	3.6
460	2.8973E-18	787.3	5.3663E-08	3.5
470	2.6424E-18	787.3	4.9762E-08	3.5
480	2.4168E-18	787.3	4.6218E-08	3.4
490	2.2157E-18	787.3	4.2989E-08	3.4
500	2.0354E-18	787.3	4.0041E-08	3.3
510	1.8730E-18	787.3	3.7344E-08	3.3
520	1.7261E-18	787.3	3.4873E-08	3.2
530	1.5928E-18	787.3	3.2606E-08	3.2
540	1.4715E-18	787.3	3.0523E-08	3.2

**TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS**

DATE	OCTOBER 1, 1972				GM TIME	9 0
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)		
70	8.7955E-12	480.8	1.3382E-02	26.3		
80	2.4346E-12	640.7	5.1431E-03	25.2		
90	9.6791E-13	733.8	2.4411E-03	24.2		
100	4.5401E-13	788.1	1.2840E-03	23.2		
110	2.3391E-13	820.0	7.1939E-04	22.2		
120	1.2817E-13	838.7	4.2153E-04	21.2		
130	7.3484E-14	849.7	2.5572E-04	20.3		
140	4.3673E-14	856.2	1.5957E-04	19.5		
150	2.6743E-14	860.0	1.0194E-04	18.8		
160	1.6796E-14	862.3	6.6426E-05	18.1		
170	1.0779E-14	863.7	4.4014E-05	17.6		
180	7.0463E-15	864.5	2.9584E-05	17.1		
190	4.6782E-15	865.0	2.0134E-05	16.7		
200	3.1470E-15	865.3	1.3855E-05	16.3		
210	2.1407E-15	865.5	9.6313E-06	16.0		
220	1.4702E-15	865.6	6.7609E-06	15.7		
230	1.0183E-15	865.6	4.7924E-06	15.3		
240	7.1066E-16	865.7	3.4315E-06	14.9		
250	4.9952E-16	865.7	2.4837E-06	14.5		
260	3.5357E-16	865.7	1.8190E-06	14.0		
270	2.5215E-16	865.7	1.3581E-06	13.4		
280	1.8112E-16	865.7	1.0239E-06	12.7		
290	1.3116E-16	865.7	7.8417E-07	12.0		
300	9.5838E-17	865.7	6.1080E-07	11.3		
310	7.0737E-17	865.7	4.8421E-07	10.5		
320	5.2801E-17	865.7	3.9078E-07	9.7		
330	3.9911E-17	865.7	3.2100E-07	9.0		
340	3.0588E-17	865.7	2.6820E-07	8.2		
350	2.3796E-17	865.7	2.2766E-07	7.5		
360	1.8807E-17	865.7	1.9605E-07	6.9		
370	1.5110E-17	865.7	1.7100E-07	6.4		
380	1.2342E-17	865.7	1.5083E-07	5.9		
390	1.0245E-17	865.7	1.3430E-07	5.5		
400	8.6368E-18	865.7	1.2055E-07	5.2		
410	7.3856E-18	865.7	1.0894E-07	4.9		
420	6.3980E-18	865.7	9.9001E-08	4.7		
430	5.6064E-18	865.7	9.0384E-08	4.5		
440	4.9622E-18	865.7	8.2835E-08	4.3		
450	4.4297E-18	865.7	7.6159E-08	4.2		
460	3.9831E-18	865.7	7.0208E-08	4.1		
470	3.6034E-18	865.7	6.4868E-08	4.0		
480	3.2764E-18	865.7	6.0050E-08	3.9		
490	2.9916E-18	865.7	5.5682E-08	3.9		
500	2.7412E-18	865.7	5.1707E-08	3.8		
510	2.5189E-18	865.7	4.8078E-08	3.8		
520	2.3203E-18	865.7	4.4756E-08	3.7		
530	2.1417E-18	865.7	4.1708E-08	3.7		
540	1.9802E-18	865.7	3.8906E-08	3.7		

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE JANUARY 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.0384E-12	459.5	1.3151E-02	26.3
80	2.4254E-12	592.2	4.7547E-03	25.1
90	9.1404E-13	669.3	2.1214E-03	24.0
100	4.0564E-13	714.3	1.0548E-03	22.8
110	1.9833E-13	740.5	5.6208E-04	21.7
120	1.0361E-13	755.9	3.1497E-04	20.7
130	5.6916E-14	765.0	1.8354E-04	19.7
140	3.2551E-14	770.3	1.1038E-04	18.9
150	1.9247E-14	773.5	6.8121E-05	18.2
160	1.1701E-14	775.4	4.2942E-05	17.6
170	7.2786E-15	776.5	2.7554E-05	17.1
180	4.6142E-15	777.2	1.7948E-05	16.6
190	2.9712E-15	777.6	1.1846E-05	16.2
200	1.9381E-15	777.8	7.9151E-06	15.8
210	1.2782E-15	777.9	5.3512E-06	15.5
220	8.5118E-16	778.0	3.6619E-06	15.0
230	5.7180E-16	778.1	2.5385E-06	14.6
240	3.8739E-16	778.1	1.7849E-06	14.0
250	2.6472E-16	778.1	1.2751E-06	13.4
260	1.8255E-16	778.1	9.2719E-07	12.7
270	1.2743E-16	778.2	7.0460E-07	11.7
280	8.9858E-17	778.2	5.3721E-07	10.8
290	6.4208E-17	778.2	4.1910E-07	9.9
300	4.6578E-17	778.2	3.3456E-07	9.0
310	3.4369E-17	778.2	2.7308E-07	8.1
320	2.5840E-17	778.2	2.2756E-07	7.3
330	1.9823E-17	778.2	1.9319E-07	6.6
340	1.5530E-17	778.2	1.6670E-07	6.0
350	1.2426E-17	778.2	1.4585E-07	5.5
360	1.0148E-17	778.2	1.2909E-07	5.1
370	8.4486E-18	778.2	1.1534E-07	4.7
380	7.1568E-18	778.2	1.0386E-07	4.5
390	6.1560E-18	778.2	9.4106E-08	4.2
400	5.3652E-18	778.2	8.5708E-08	4.1
410	4.7279E-18	778.2	7.8386E-08	3.9
420	4.2046E-18	778.2	7.1938E-08	3.8
430	3.7673E-18	778.2	6.6212E-08	3.7
440	3.3960E-18	778.2	6.1091E-08	3.6
450	3.0765E-18	778.2	5.6488E-08	3.5
460	2.7983E-18	778.2	5.2331E-08	3.5
470	2.5535E-18	778.2	4.8563E-08	3.4
480	2.3365E-18	778.2	4.5137E-08	3.3
490	2.1426E-18	778.2	4.2015E-08	3.3
500	1.9686E-18	778.2	3.9164E-08	3.3
510	1.8117E-18	778.2	3.6555E-08	3.2
520	1.6697E-18	778.2	3.4165E-08	3.2
530	1.5407E-18	778.2	3.1972E-08	3.1
540	1.4234E-18	778.2	2.9957E-08	3.1

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE APRIL 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.9093E-12	470.7	1.3273E-02	26.3
80	2.4315E-12	617.5	4.9595E-03	25.2
90	9.4335E-13	702.8	2.2880E-03	24.1
100	4.3141E-13	752.6	1.1727E-03	23.0
110	2.1698E-13	781.6	6.4203E-04	22.0
120	1.1630E-13	798.7	3.6849E-04	21.0
130	6.5365E-14	808.7	2.1941E-04	20.0
140	3.8158E-14	814.6	1.3459E-04	19.2
150	2.2989E-14	818.1	8.4621E-05	18.5
160	1.4222E-14	820.2	5.4304E-05	17.9
170	8.9969E-15	821.5	3.5454E-05	17.3
180	5.7990E-15	822.2	2.3488E-05	16.9
190	3.7967E-15	822.6	1.5761E-05	16.5
200	2.5184E-15	822.9	1.0698E-05	16.1
210	1.6892E-15	823.1	7.3407E-06	15.7
220	1.1438E-15	823.2	5.0908E-06	15.4
230	7.8116E-16	823.2	3.5694E-06	15.0
240	5.3770E-16	823.2	2.5322E-06	14.5
250	3.7296E-16	823.3	1.8195E-06	14.0
260	2.6070E-16	823.3	1.3262E-06	13.5
270	1.8390E-16	823.3	9.9372E-07	12.7
280	1.3082E-16	823.3	7.5110E-07	11.9
290	9.3998E-17	823.3	5.7864E-07	11.1
300	6.8315E-17	823.3	4.5473E-07	10.3
310	5.0292E-17	823.3	3.6463E-07	9.4
320	3.7562E-17	823.3	2.9820E-07	8.6
330	2.8503E-17	823.3	2.4849E-07	7.9
340	2.2005E-17	823.3	2.1065E-07	7.2
350	1.7298E-17	823.3	1.8135E-07	6.5
360	1.3852E-17	823.3	1.5823E-07	6.0
370	1.1299E-17	823.3	1.3965E-07	5.5
380	9.3805E-18	823.3	1.2445E-07	5.2
390	7.9174E-18	823.3	1.1179E-07	4.8
400	6.7832E-18	823.3	1.0108E-07	4.6
410	5.8890E-18	823.3	9.1889E-08	4.4
420	5.1716E-18	823.3	8.3908E-08	4.2
430	4.5861E-18	823.3	7.6902E-08	4.1
440	4.1002E-18	823.3	7.0695E-08	4.0
450	3.6907E-18	823.3	6.5155E-08	3.9
460	3.3407E-18	823.3	6.0181E-08	3.8
470	3.0378E-18	823.3	5.5690E-08	3.7
480	2.7728E-18	823.3	5.1620E-08	3.7
490	2.5387E-18	823.3	4.7918E-08	3.6
500	2.3304E-18	823.3	4.4542E-08	3.6
510	2.1437E-18	823.3	4.1454E-08	3.5
520	1.9756E-18	823.3	3.8626E-08	3.5
530	1.8234E-18	823.3	3.6031E-08	3.5
540	1.6852E-18	823.3	3.3647E-08	3.4

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE JULY 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.1072E-12	453.7	1.3087E-02	26.3
80	2.4212E-12	579.1	4.6469E-03	25.1
90	8.9785E-13	652.1	2.0354E-03	23.9
100	3.9188E-13	694.6	9.9528E-04	22.7
110	1.8864E-13	719.5	5.2258E-04	21.6
120	9.7185E-14	734.1	2.8902E-04	20.5
130	5.2725E-14	742.7	1.6645E-04	19.6
140	2.9821E-14	747.7	9.9030E-05	18.7
150	1.7455E-14	750.7	6.0493E-05	18.0
160	1.0510E-14	752.5	3.7761E-05	17.4
170	6.4771E-15	753.6	2.3998E-05	16.9
180	4.0683E-15	754.2	1.5486E-05	16.5
190	2.5953E-15	754.6	1.0130E-05	16.1
200	1.6772E-15	754.8	6.7103E-06	15.7
210	1.0958E-15	755.0	4.5014E-06	15.3
220	7.2295E-16	755.0	3.0594E-06	14.8
230	4.8130E-16	755.1	2.1093E-06	14.3
240	3.2331E-16	755.1	1.4775E-06	13.7
250	2.1922E-16	755.1	1.0537E-06	13.1
260	1.5016E-16	755.2	7.6646E-07	12.3
270	1.0438E-16	755.2	5.9075E-07	11.1
280	7.3369E-17	755.2	4.5387E-07	10.2
290	5.2374E-17	755.2	3.5749E-07	9.2
300	3.8051E-17	755.2	2.8850E-07	8.3
310	2.8192E-17	755.2	2.3819E-07	7.4
320	2.1337E-17	755.2	2.0074E-07	6.7
330	1.6515E-17	755.2	1.7224E-07	6.0
340	1.3076E-17	755.2	1.5007E-07	5.5
350	1.0585E-17	755.2	1.3241E-07	5.0
360	8.7476E-18	755.2	1.1805E-07	4.7
370	7.3666E-18	755.2	1.0613E-07	4.4
380	6.3069E-18	755.2	9.6069E-08	4.1
390	5.4763E-18	755.2	8.7436E-08	3.9
400	4.8113E-18	755.2	7.9935E-08	3.8
410	4.2682E-18	755.2	7.3347E-08	3.7
420	3.8163E-18	755.2	6.7510E-08	3.5
430	3.4340E-18	755.2	6.2301E-08	3.5
440	3.1058E-18	755.2	5.7626E-08	3.4
450	2.8206E-18	755.2	5.3410E-08	3.3
460	2.5703E-18	755.2	4.9595E-08	3.3
470	2.3486E-18	755.2	4.6132E-08	3.2
480	2.1510E-18	755.2	4.2979E-08	3.1
490	1.9739E-18	755.2	4.0104E-08	3.1
500	1.8145E-18	755.2	3.7477E-08	3.0
510	1.6705E-18	755.2	3.5072E-08	3.0
520	1.5399E-18	755.2	3.2868E-08	2.9
530	1.4214E-18	755.2	3.0845E-08	2.9
540	1.3134E-18	755.2	2.8986E-08	2.8

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE OCTOBER 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.8807E-12	473.2	1.3301E-02	26.3
80	2.4325E-12	623.3	5.0055E-03	25.2
90	9.4965E-13	710.5	2.3260E-03	24.1
100	4.3712E-13	761.4	1.2001E-03	23.1
110	2.2120E-13	791.1	6.6088E-04	22.0
120	1.1923E-13	808.5	3.8131E-04	21.0
130	6.7350E-14	818.8	2.2812E-04	20.1
140	3.9495E-14	824.9	1.4054E-04	19.3
150	2.3892E-14	828.4	8.8720E-05	18.6
160	1.4837E-14	830.6	5.7156E-05	17.9
170	9.4206E-15	831.8	3.7456E-05	17.4
180	6.0939E-15	832.6	2.4907E-05	16.9
190	4.0040E-15	833.0	1.6773E-05	16.5
200	2.6655E-15	833.3	1.1425E-05	16.2
210	1.7943E-15	833.5	7.8649E-06	15.8
220	1.2194E-15	833.6	5.4708E-06	15.5
230	8.3577E-16	833.6	3.8462E-06	15.1
240	5.7731E-16	833.7	2.7346E-06	14.6
250	4.0177E-16	833.7	1.9683E-06	14.2
260	2.8172E-16	833.7	1.4360E-06	13.6
270	1.9925E-16	833.7	1.0744E-06	12.9
280	1.4206E-16	833.7	8.1121E-07	12.1
290	1.0226E-16	833.7	6.2376E-07	11.4
300	7.4399E-17	833.7	4.8889E-07	10.6
310	5.4787E-17	833.7	3.9074E-07	9.7
320	4.0896E-17	833.7	3.1839E-07	8.9
330	3.0988E-17	833.7	2.6430E-07	8.1
340	2.3867E-17	833.7	2.2321E-07	7.4
350	1.8704E-17	833.7	1.9147E-07	6.8
360	1.4923E-17	833.7	1.6652E-07	6.2
370	1.2122E-17	833.7	1.4654E-07	5.7
380	1.0020E-17	833.7	1.3026E-07	5.3
390	8.4214E-18	833.7	1.1676E-07	5.0
400	7.1860E-18	833.7	1.0540E-07	4.7
410	6.2157E-18	833.7	9.5680E-08	4.5
420	5.4409E-18	833.7	8.7270E-08	4.3
430	4.8116E-18	833.7	7.9909E-08	4.2
440	4.2920E-18	833.7	7.3405E-08	4.1
450	3.8563E-18	833.7	6.7612E-08	4.0
460	3.4856E-18	833.7	6.2417E-08	3.9
470	3.1661E-18	833.7	5.7735E-08	3.8
480	2.8877E-18	833.7	5.3495E-08	3.7
490	2.6425E-18	833.7	4.9640E-08	3.7
500	2.4249E-18	833.7	4.6126E-08	3.6
510	2.2303E-18	833.7	4.2914E-08	3.6
520	2.0552E-18	833.7	3.9972E-08	3.6
530	1.8971E-18	833.7	3.7273E-08	3.5
540	1.7535E-18	833.7	3.4791E-08	3.5

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE JANUARY 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.1413E-12	450.9	1.3055E-02	26.3
80	2.4188E-12	572.7	4.5938E-03	25.1
90	8.8968E-13	643.6	1.9935E-03	23.9
100	3.8505E-13	685.0	9.6659E-04	22.7
110	1.8391E-13	709.2	5.0375E-04	21.5
120	9.4081E-14	723.4	2.7677E-04	20.4
130	5.0724E-14	731.8	1.5846E-04	19.5
140	2.8529E-14	736.7	9.3761E-05	18.6
150	1.6614E-14	739.7	5.6980E-05	17.9
160	9.9533E-15	741.4	3.5391E-05	17.3
170	6.1063E-15	742.4	2.2382E-05	16.8
180	3.8173E-15	743.1	1.4375E-05	16.4
190	2.4237E-15	743.4	9.3604E-06	16.0
200	1.5588E-15	743.7	6.1744E-06	15.6
210	1.0136E-15	743.8	4.1259E-06	15.2
220	6.6557E-16	743.9	2.7951E-06	14.7
230	4.4111E-16	743.9	1.9222E-06	14.2
240	2.9506E-16	743.9	1.3444E-06	13.6
250	1.9931E-16	744.0	9.5825E-07	12.9
260	1.3609E-16	744.0	6.9754E-07	12.1
270	9.4450E-17	744.0	5.4269E-07	10.8
280	6.6319E-17	744.0	4.1890E-07	9.8
290	4.7350E-17	744.0	3.3179E-07	8.8
300	3.4453E-17	744.0	2.6938E-07	7.9
310	2.5601E-17	744.0	2.2377E-07	7.1
320	1.9457E-17	744.0	1.8969E-07	6.3
330	1.5139E-17	744.0	1.6365E-07	5.7
340	1.2057E-17	744.0	1.4326E-07	5.2
350	9.8201E-18	744.0	1.2693E-07	4.8
360	8.1654E-18	744.0	1.1357E-07	4.4
370	6.9157E-18	744.0	1.0241E-07	4.2
380	5.9512E-18	744.0	9.2942E-08	4.0
390	5.1902E-18	744.0	8.4778E-08	3.8
400	4.5768E-18	744.0	7.7656E-08	3.6
410	4.0723E-18	744.0	7.1379E-08	3.5
420	3.6499E-18	744.0	6.5803E-08	3.4
430	3.2903E-18	744.0	6.0817E-08	3.3
440	2.9802E-18	744.0	5.6334E-08	3.3
450	2.7095E-18	744.0	5.2287E-08	3.2
460	2.4710E-18	744.0	4.8620E-08	3.1
470	2.2594E-18	744.0	4.5289E-08	3.1
480	2.0703E-18	744.0	4.2256E-08	3.0
490	1.9006E-18	744.0	3.9488E-08	3.0
500	1.7477E-18	744.0	3.6958E-08	2.9
510	1.6094E-18	744.0	3.4642E-08	2.9
520	1.4841E-18	744.0	3.2518E-08	2.8
530	1.3703E-18	744.0	3.0568E-08	2.8
540	1.2667E-18	744.0	2.8776E-08	2.7

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE APRIL 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.0181E-12	461.3	1.3171E-02	26.3
80	2.4265E-12	596.2	4.7867E-03	25.1
90	9.1876E-13	674.5	2.1471E-03	24.0
100	4.0970E-13	720.2	1.0728E-03	22.9
110	2.0123E-13	746.9	5.7416E-04	21.8
120	1.0556E-13	762.5	3.2297E-04	20.7
130	5.8195E-14	771.7	1.8885E-04	19.6
140	3.3391E-14	777.2	1.1394E-04	18.9
150	1.9803E-14	780.4	7.0522E-05	18.2
160	1.2072E-14	782.3	4.4583E-05	17.6
170	7.5300E-15	783.4	2.8686E-05	17.1
180	4.7864E-15	784.1	1.8737E-05	16.7
190	3.0903E-15	784.5	1.2400E-05	16.3
200	2.0213E-15	784.7	8.3055E-06	15.9
210	1.3367E-15	784.9	5.6283E-06	15.5
220	8.9253E-16	785.0	3.8594E-06	15.1
230	6.0117E-16	785.0	2.6800E-06	14.6
240	4.0831E-16	785.0	1.8868E-06	14.1
250	2.7966E-16	785.1	1.3489E-06	13.5
260	1.9326E-16	785.1	9.8092E-07	12.9
270	1.3510E-16	785.1	7.4308E-07	11.9
280	9.5377E-17	785.1	5.6551E-07	11.0
290	6.8192E-17	785.1	4.4010E-07	10.1
300	4.9465E-17	785.1	3.5032E-07	9.2
310	3.6469E-17	785.1	2.8505E-07	8.4
320	2.7377E-17	785.1	2.3678E-07	7.9
330	2.0956E-17	785.1	2.0040E-07	6.8
340	1.6372E-17	785.1	1.7244E-07	6.2
350	1.3059E-17	785.1	1.5049E-07	5.7
360	1.0629E-17	785.1	1.3290E-07	5.2
370	8.8192E-18	785.1	1.1852E-07	4.9
380	7.4469E-18	785.1	1.0655E-07	4.6
390	6.3870E-18	785.1	9.6424E-08	4.3
400	5.5524E-18	785.1	8.7722E-08	4.1
410	4.8824E-18	785.1	8.0153E-08	4.0
420	4.3343E-18	785.1	7.3500E-08	3.8
430	3.8780E-18	785.1	6.7601E-08	3.7
440	3.4920E-18	785.1	6.2333E-08	3.7
450	3.1609E-18	785.1	5.7602E-08	3.6
460	2.8732E-18	785.1	5.3332E-08	3.5
470	2.6207E-18	785.1	4.9464E-08	3.5
480	2.3972E-18	785.1	4.5949E-08	3.4
490	2.1979E-18	785.1	4.2746E-08	3.4
500	2.0192E-18	785.1	3.9821E-08	3.3
510	1.8581E-18	785.1	3.7146E-08	3.3
520	1.7124E-18	785.1	3.4695E-08	3.2
530	1.5801E-18	785.1	3.2445E-08	3.2
540	1.4598E-18	785.1	3.0379E-08	3.1

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE JULY 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9,1986E-12	446.2	1.3001E-02	26.3
80	2,4145E-12	562.1	4.5052E-03	25.1
90	8,7576E-13	629.7	1.9242E-03	23.8
100	3,7361E-13	669.1	9.1962E-04	22.6
110	1,7607E-13	692.2	4.7321E-04	21.4
120	8,8997E-14	705.8	2.5709E-04	20.3
130	4,7477E-14	713.8	1.4571E-04	19.3
140	2,6451E-14	718.6	8.5420E-05	18.5
150	1,5270E-14	721.4	5.1454E-05	17.8
160	9,0746E-15	723.1	3.1687E-05	17.2
170	5,5210E-15	724.0	1.9873E-05	16.7
180	3,4234E-15	724.6	1.2661E-05	16.3
190	2,1558E-15	725.0	8.1805E-06	15.9
200	1,3751E-15	725.2	5.3574E-06	15.5
210	8,8685E-16	725.3	3.5572E-06	15.0
220	5,7770E-16	725.4	2.3971E-06	14.5
230	3,7995E-16	725.5	1.6422E-06	14.0
240	2,5237E-16	725.5	1.1461E-06	13.3
250	1,6943E-16	725.5	8.1681E-07	12.5
260	1,1512E-16	725.5	5.9573E-07	11.7
270	7,9758E-17	725.5	4.7294E-07	10.2
280	5,5954E-17	725.5	3.6847E-07	9.2
290	4,0008E-17	725.5	2.9493E-07	8.2
300	2,9224E-17	725.5	2.4212E-07	7.3
310	2,1853E-17	725.5	2,0332E-07	6.5
320	1,6748E-17	725.5	1,7412E-07	5.8
330	1,3160E-17	725.5	1,5160E-07	5.2
340	1,0595E-17	725.5	1,3378E-07	4.8
350	8,7233E-18	725.5	1,1936E-07	4.4
360	7,3290E-18	725.5	1,0743E-07	4.1
370	6,2661E-18	725.5	9,7370E-08	3.9
380	5,4368E-18	725.5	8,8752E-08	3.7
390	4,7746E-18	725.5	8,1268E-08	3.5
400	4,2345E-18	725.5	7,4696E-08	3.4
410	3,7852E-18	725.5	6,8876E-08	3.3
420	3,4049E-18	725.5	6,3683E-08	3.2
430	3,0783E-18	725.5	5,9025E-08	3.1
440	2,7943E-18	725.5	5,4826E-08	3.1
450	2,5450E-18	725.5	5,1028E-08	3.0
460	2,3242E-18	725.5	4,7582E-08	2.9
470	2,1276E-18	725.5	4,4447E-08	2.9
480	1,9515E-18	725.5	4,1589E-08	2.8
490	1,7931E-18	725.5	3,8979E-08	2.8
500	1,6501E-18	725.5	3,6591E-08	2.7
510	1,5208E-18	725.5	3,4403E-08	2.7
520	1,4036E-18	725.5	3,2395E-08	2.6
530	1,2971E-18	725.5	3,0550E-08	2.6
540	1,2002E-18	725.5	2,8853E-08	2.5

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE OCTOBER 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.9805E-12	464.5	1.3206E-02	26.3
80	2.4284E-12	603.5	4.8462E-03	25.1
90	9.2737E-13	684.2	2.1952E-03	24.0
100	4.1721E-13	731.2	1.1067E-03	22.9
110	2.0662E-13	758.7	5.9697E-04	21.8
120	1.0920E-13	774.8	3.3816E-04	20.8
130	6.0609E-14	784.3	1.9899E-04	19.9
140	3.4985E-14	789.9	1.2075E-04	19.0
150	2.0862E-14	793.2	7.5147E-05	18.3
160	1.2783E-14	795.2	4.7756E-05	17.7
170	8.0128E-15	796.3	3.0885E-05	17.2
180	5.1182E-15	797.0	2.0273E-05	16.7
190	3.3208E-15	797.4	1.3481E-05	16.3
200	2.1828E-15	797.7	9.0719E-06	16.0
210	1.4507E-15	797.8	6.1741E-06	15.6
220	9.7340E-16	797.9	4.2500E-06	15.2
230	6.5881E-16	798.0	2.9608E-06	14.8
240	4.4954E-16	798.0	2.0896E-06	14.3
250	3.0924E-16	798.0	1.4962E-06	13.7
260	2.1453E-16	798.0	1.0886E-06	13.1
270	1.5041E-16	798.1	8.2067E-07	12.2
280	1.0644E-16	798.1	6.2275E-07	11.3
290	7.6205E-17	798.1	4.8269E-07	10.5
300	5.5290E-17	798.1	3.8233E-07	9.6
310	4.0723E-17	798.1	3.0941E-07	8.7
320	3.0499E-17	798.1	2.5556E-07	7.9
330	2.3263E-17	798.1	2.1510E-07	7.2
340	1.8089E-17	798.1	1.8412E-07	6.5
350	1.4349E-17	798.1	1.5993E-07	6.0
360	1.1610E-17	798.1	1.4066E-07	5.5
370	9.5744E-18	798.1	1.2501E-07	5.1
380	8.0370E-18	798.1	1.1205E-07	4.8
390	6.8556E-18	798.1	1.0115E-07	4.5
400	5.9309E-18	798.1	9.1829E-08	4.3
410	5.1934E-18	798.1	8.3761E-08	4.1
420	4.5944E-18	798.1	7.6696E-08	4.0
430	4.0992E-18	798.1	7.0452E-08	3.9
440	3.6830E-18	798.1	6.4891E-08	3.8
450	3.3281E-18	798.1	5.9905E-08	3.7
460	3.0214E-18	798.1	5.5412E-08	3.6
470	2.7534E-18	798.1	5.1346E-08	3.6
480	2.5170E-18	798.1	4.7654E-08	3.5
490	2.3068E-18	798.1	4.4292E-08	3.5
500	2.1187E-18	798.1	4.1223E-08	3.4
510	1.9495E-18	798.1	3.8416E-08	3.4
520	1.7966E-18	798.1	3.5844E-08	3.3
530	1.6579E-18	798.1	3.3484E-08	3.3
540	1.5318E-18	798.1	3.1316E-08	3.2

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE JANUARY 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL, WT (UNITLESS)
70	9.1872E-12	447.1	1.3012E-02	26.3
80	2.4154E-12	564.2	4.5227E-03	25.1
90	8.7854E-13	632.4	1.9378E-03	23.8
100	3.7588E-13	672.2	9.2883E-04	22.6
110	1.7762E-13	695.6	4.7917E-04	21.4
120	8.9994E-14	709.3	2.6092E-04	20.3
130	4.8110E-14	717.4	1.4818E-04	19.4
140	2.6855E-14	722.2	8.7028E-05	18.5
150	1.5530E-14	725.0	5.2516E-05	17.8
160	9.2446E-15	726.7	3.2396E-05	17.2
170	5.6337E-15	727.7	2.0352E-05	16.7
180	3.4990E-15	728.3	1.2987E-05	16.3
190	2.2071E-15	728.6	8.4042E-06	15.9
200	1.4101E-15	728.8	5.5118E-06	15.5
210	9.1094E-16	729.0	3.6643E-06	15.1
220	5.9434E-16	729.1	2.4718E-06	14.6
230	3.9150E-16	729.1	1.6946E-06	14.0
240	2.6040E-16	729.1	1.1831E-06	13.3
250	1.7503E-16	729.2	8.4316E-07	12.6
260	1.1903E-16	729.2	6.1466E-07	11.7
270	8.2491E-17	729.2	4.8577E-07	10.3
280	5.7876E-17	729.2	3.7772E-07	9.3
290	4.1365E-17	729.2	3.0167E-07	8.3
300	3.0188E-17	729.2	2.4708E-07	7.4
310	2.2541E-17	729.2	2.0703E-07	6.6
320	1.7245E-17	729.2	1.7693E-07	5.9
330	1.3523E-17	729.2	1.5376E-07	5.3
340	1.0862E-17	729.2	1.3548E-07	4.9
350	8.9241E-18	729.2	1.2071E-07	4.5
360	7.4822E-18	729.2	1.0851E-07	4.2
370	6.3853E-18	729.2	9.8254E-08	3.9
380	5.5313E-18	729.2	8.9479E-08	3.7
390	4.8512E-18	729.2	8.1869E-08	3.6
400	4.2977E-18	729.2	7.5197E-08	3.5
410	3.8383E-18	729.2	6.9292E-08	3.4
420	3.4502E-18	729.2	6.4028E-08	3.3
430	3.1176E-18	729.2	5.9309E-08	3.2
440	2.8288E-18	729.2	5.5058E-08	3.1
450	2.5755E-18	729.2	5.1213E-08	3.0
460	2.3514E-18	729.2	4.7726E-08	3.0
470	2.1520E-18	729.2	4.4555E-08	2.9
480	1.9734E-18	729.2	4.1665E-08	2.9
490	1.8128E-18	729.2	3.9026E-08	2.8
500	1.6680E-18	729.2	3.6612E-08	2.8
510	1.5370E-18	729.2	3.4400E-08	2.7
520	1.4183E-18	729.2	3.2371E-08	2.7
530	1.3104E-18	729.2	3.0507E-08	2.6
540	1.2122E-18	729.2	2.8793E-08	2.6

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE APRIL 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.0560E-12	458.1	1.3135E-02	26.3
80	2.4244E-12	588.9	4.7271E-03	25.1
90	9.0994E-13	664.9	2.0992E-03	24.0
100	4.0212E-13	709.2	1.0394E-03	22.8
110	1.9584E-13	735.1	5.5179E-04	21.7
120	1.0195E-13	750.3	3.0817E-04	20.6
130	5.5824E-14	759.2	1.7904E-04	19.7
140	3.1837E-14	764.5	1.0738E-04	18.8
150	1.8776E-14	767.6	6.6099E-05	18.1
160	1.1387E-14	769.5	4.1564E-05	17.5
170	7.0666E-15	770.6	2.6605E-05	17.0
180	4.4694E-15	771.2	1.7289E-05	16.6
190	2.8711E-15	771.6	1.1385E-05	16.2
200	1.8685E-15	771.9	7.5904E-06	15.8
210	1.2294E-15	772.0	5.1214E-06	15.4
220	8.1672E-16	772.1	3.4985E-06	15.0
230	5.4740E-16	772.1	2.4217E-06	14.5
240	3.7005E-16	772.2	1.7010E-06	14.0
250	2.5236E-16	772.2	1.2145E-06	13.3
260	1.7372E-16	772.2	8.8311E-07	12.6
270	1.2112E-16	772.2	6.7317E-07	11.6
280	8.5331E-17	772.2	5.1414E-07	10.7
290	6.0949E-17	772.2	4.0200E-07	9.7
300	4.4223E-17	772.2	3.2176E-07	8.8
310	3.2658E-17	772.2	2.6336E-07	8.0
320	2.4590E-17	772.2	2.2008E-07	7.2
330	1.8904E-17	772.2	1.8735E-07	6.5
340	1.4847E-17	772.2	1.6206E-07	5.9
350	1.1914E-17	772.2	1.4209E-07	5.4
360	9.7585E-18	772.2	1.2600E-07	5.0
370	8.1478E-18	772.2	1.1276E-07	4.6
380	6.9210E-18	772.2	1.0167E-07	4.4
390	5.9679E-18	772.2	9.2231E-08	4.2
400	5.2124E-18	772.2	8.4080E-08	4.0
410	4.6015E-18	772.2	7.6961E-08	3.8
420	4.0981E-18	772.2	7.0680E-08	3.7
430	3.6762E-18	772.2	6.5096E-08	3.6
440	3.3169E-18	772.2	6.0097E-08	3.5
450	3.0069E-18	772.2	5.5599E-08	3.5
460	2.7363E-18	772.2	5.1535E-08	3.4
470	2.4979E-18	772.2	4.7850E-08	3.4
480	2.2861E-18	772.2	4.4498E-08	3.3
490	2.0968E-18	772.2	4.1443E-08	3.2
500	1.9268E-18	772.2	3.8653E-08	3.2
510	1.7733E-18	772.2	3.6100E-08	3.2
520	1.6343E-18	772.2	3.3760E-08	3.1
530	1.5081E-18	772.2	3.1614E-08	3.1
540	1.3933E-18	772.2	2.9642E-08	3.0

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE JULY 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.2323E-12	443.4	1.2969E-02	26.2
80	2.4117E-12	556.0	4.4532E-03	25.0
90	8.6744E-13	621.5	1.8839E-03	23.8
100	3.6687E-13	659.9	8.9265E-04	22.6
110	1.7151E-13	682.4	4.5585E-04	21.4
120	8.6077E-14	695.6	2.4600E-04	20.2
130	4.5630E-14	703.4	1.3859E-04	19.3
140	2.5279E-14	708.0	8.0790E-05	18.4
150	1.4517E-14	710.8	4.8408E-05	17.7
160	8.5843E-15	712.4	2.9657E-05	17.1
170	5.1971E-15	713.4	1.8508E-05	16.7
180	3.2067E-15	714.0	1.1734E-05	16.2
190	2.0094E-15	714.3	7.5463E-06	15.8
200	1.2753E-15	714.5	4.9211E-06	15.4
210	8.1842E-16	714.7	3.2554E-06	14.9
220	5.3057E-16	714.7	2.1872E-06	14.4
230	3.4738E-16	714.8	1.4954E-06	13.8
240	2.2979E-16	714.8	1.0427E-06	13.1
250	1.5373E-16	714.8	7.4339E-07	12.3
260	1.0417E-16	714.8	5.4306E-07	11.4
270	7.2156E-17	714.8	4.3765E-07	9.8
280	5.0627E-17	714.8	3.4315E-07	8.8
290	3.6257E-17	714.8	2.7657E-07	7.8
300	2.6569E-17	714.8	2.2864E-07	6.9
310	1.9958E-17	714.9	1.9329E-07	6.1
320	1.5384E-17	714.9	1.6656E-07	5.5
330	1.2167E-17	714.9	1.4580E-07	5.0
340	9.8613E-18	714.9	1.2928E-07	4.5
350	8.1734E-18	714.9	1.1581E-07	4.2
360	6.9091E-18	714.9	1.0460E-07	3.9
370	5.9392E-18	714.9	9.5093E-08	3.7
380	5.1770E-18	714.9	8.6905E-08	3.5
390	4.5640E-18	714.9	7.9765E-08	3.4
400	4.0603E-18	714.9	7.3473E-08	3.3
410	3.6386E-18	714.9	6.7885E-08	3.2
420	3.2795E-18	714.9	6.2888E-08	3.1
430	2.9697E-18	714.9	5.8398E-08	3.0
440	2.6992E-18	714.9	5.4345E-08	3.0
450	2.4609E-18	714.9	5.0674E-08	2.9
460	2.2494E-18	714.9	4.7340E-08	2.8
470	2.0607E-18	714.9	4.4305E-08	2.8
480	1.8914E-18	714.9	4.1536E-08	2.7
490	1.7391E-18	714.9	3.9005E-08	2.7
500	1.6016E-18	714.9	3.6688E-08	2.6
510	1.4771E-18	714.9	3.4564E-08	2.5
520	1.3643E-18	714.9	3.2613E-08	2.5
530	1.2618E-18	714.9	3.0819E-08	2.4
540	1.1686E-18	714.9	2.9167E-08	2.4

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE OCTOBER 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.9807E-12	464.5	1.3206E-02	26.3
80	2.4284E-12	603.4	4.8460E-03	25.1
90	9.2734E-13	684.1	2.1951E-03	24.0
100	4.1719E-13	731.2	1.1065E-03	22.9
110	2.0660E-13	758.7	5.9689E-04	21.8
120	1.0919E-13	774.8	3.3811E-04	20.8
130	6.0601E-14	784.3	1.9895E-04	19.9
140	3.4980E-14	789.8	1.2072E-04	19.0
150	2.0858E-14	793.1	7.5130E-05	18.3
160	1.2781E-14	795.1	4.7745E-05	17.7
170	8.0111E-15	796.3	3.0877E-05	17.2
180	5.1170E-15	797.0	2.0267E-05	16.7
190	3.3199E-15	797.4	1.3478E-05	16.3
200	2.1822E-15	797.6	9.0691E-06	16.0
210	1.4503E-15	797.8	6.1721E-06	15.6
220	9.7311E-16	797.9	4.2486E-06	15.2
230	6.5860E-16	797.9	2.9598E-06	14.8
240	4.4939E-16	798.0	2.0889E-06	14.3
250	3.0913E-16	798.0	1.4956E-06	13.7
260	2.1445E-16	798.0	1.0882E-06	13.1
270	1.5035E-16	798.0	8.2039E-07	12.2
280	1.0640E-16	798.0	6.2254E-07	11.3
290	7.6176E-17	798.0	4.8253E-07	10.5
300	5.5269E-17	798.0	3.8222E-07	9.6
310	4.0707E-17	798.0	3.0932E-07	8.7
320	3.0488E-17	798.0	2.5549E-07	7.9
330	2.3254E-17	798.0	2.1505E-07	7.2
340	1.8083E-17	798.0	1.8408E-07	6.5
350	1.4345E-17	798.0	1.5990E-07	6.0
360	1.1606E-17	798.0	1.4063E-07	5.5
370	9.5716E-18	798.0	1.2498E-07	5.1
380	8.0349E-18	798.0	1.1203E-07	4.8
390	6.8539E-18	798.0	1.0113E-07	4.5
400	5.9295E-18	798.0	9.1814E-08	4.3
410	5.1923E-18	798.0	8.3748E-08	4.1
420	4.5935E-18	798.0	7.6685E-08	4.0
430	4.0984E-18	798.0	7.0442E-08	3.9
440	3.6824E-18	798.0	6.4881E-08	3.8
450	3.3275E-18	798.0	5.9896E-08	3.7
460	3.0208E-18	798.0	5.5404E-08	3.6
470	2.7529E-18	798.0	5.1339E-08	3.6
480	2.5166E-18	798.0	4.7648E-08	3.5
490	2.3064E-18	798.0	4.4286E-08	3.5
500	2.1184E-18	798.0	4.1218E-08	3.4
510	1.9492E-18	798.0	3.8411E-08	3.4
520	1.7963E-18	798.0	3.5840E-08	3.3
530	1.6576E-18	798.0	3.3480E-08	3.3
540	1.5315E-18	798.0	3.1313E-08	3.2

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE	JANUARY 1, 1976		GM TIME	9	0
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)	
70	9.1755E-12	448.1	1.3023E-02	26.3	
80	2.4163E-12	566.4	4.5408E-03	25.1	
90	8.8140E-13	635.3	1.9519E-03	23.9	
100	3.7822E-13	675.5	9.3837E-04	22.6	
110	1.7921E-13	699.0	4.8535E-04	21.5	
120	9.1027E-14	712.9	2.6489E-04	20.4	
130	4.8768E-14	721.0	1.5075E-04	19.4	
140	2.7275E-14	725.8	8.8707E-05	18.6	
150	1.5801E-14	728.7	5.3626E-05	17.9	
160	9.4220E-15	730.4	3.3139E-05	17.3	
170	5.7514E-15	731.4	2.0855E-05	16.8	
180	3.5781E-15	732.0	1.3330E-05	16.3	
190	2.2608E-15	732.4	8.6398E-06	15.9	
200	1.4469E-15	732.6	5.6746E-06	15.5	
210	9.3627E-16	732.7	3.7775E-06	15.1	
220	6.1188E-16	732.8	2.5509E-06	14.6	
230	4.0368E-16	732.9	1.7502E-06	14.1	
240	2.6889E-16	732.9	1.2224E-06	13.4	
250	1.8096E-16	732.9	8.7114E-07	12.7	
260	1.2319E-16	732.9	6.3479E-07	11.8	
270	8.5396E-17	732.9	4.9949E-07	10.4	
280	5.9922E-17	732.9	3.8761E-07	9.4	
290	4.2811E-17	732.9	3.0889E-07	8.4	
300	3.1217E-17	732.9	2.5241E-07	7.5	
310	2.3278E-17	732.9	2.1102E-07	6.7	
320	1.7777E-17	732.9	1.7997E-07	6.0	
330	1.3911E-17	732.9	1.5611E-07	5.4	
340	1.1149E-17	732.9	1.3732E-07	4.9	
350	9.1392E-18	732.9	1.2217E-07	4.6	
360	7.6463E-18	732.9	1.0970E-07	4.2	
370	6.5128E-18	732.9	9.9224E-08	4.0	
380	5.6324E-18	732.9	9.0281E-08	3.8	
390	4.9329E-18	732.9	8.2538E-08	3.6	
400	4.3651E-18	732.9	7.5757E-08	3.5	
410	3.8949E-18	732.9	6.9762E-08	3.4	
420	3.4986E-18	732.9	6.4423E-08	3.3	
430	3.1595E-18	732.9	5.9639E-08	3.2	
440	2.8655E-18	732.9	5.5331E-08	3.2	
450	2.6080E-18	732.9	5.1438E-08	3.1	
460	2.3804E-18	732.9	4.7908E-08	3.0	
470	2.1780E-18	732.9	4.4698E-08	3.0	
480	1.9968E-18	732.9	4.1773E-08	2.9	
490	1.8340E-18	732.9	3.9103E-08	2.9	
500	1.6872E-18	732.9	3.6660E-08	2.8	
510	1.5544E-18	732.9	3.4424E-08	2.8	
520	1.4340E-18	732.9	3.2372E-08	2.7	
530	1.3247E-18	732.9	3.0487E-08	2.6	
540	1.2251E-18	732.9	2.8754E-08	2.6	

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE APRIL 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.0179E-12	461.3	1.3171E-02	26.3
80	2.4265E-12	596.2	4.7870E-03	25.1
90	9.1879E-13	674.6	2.1473E-03	24.0
100	4.0974E-13	720.2	1.0730E-03	22.9
110	2.0125E-13	746.9	5.7425E-04	21.8
120	1.0557E-13	762.6	3.2303E-04	20.7
130	5.8205E-14	771.8	1.8889E-04	19.8
140	3.3398E-14	777.2	1.1396E-04	18.9
150	1.9808E-14	780.4	7.0541E-05	18.2
160	1.2075E-14	782.3	4.4596E-05	17.6
170	7.5320E-15	783.5	2.8695E-05	17.1
180	4.7877E-15	784.1	1.8743E-05	16.7
190	3.0912E-15	784.5	1.2404E-05	16.3
200	2.0220E-15	784.6	8.3087E-06	15.9
210	1.3372E-15	784.9	5.6305E-06	15.5
220	8.9286E-16	785.0	3.8610E-06	15.1
230	6.0140E-16	785.1	2.6811E-06	14.6
240	4.0847E-16	785.1	1.8876E-06	14.1
250	2.7978E-16	785.1	1.3494E-06	13.5
260	1.9334E-16	785.1	9.8135E-07	12.9
270	1.3516E-16	785.1	7.4339E-07	11.9
280	9.5422E-17	785.1	5.6574E-07	11.0
290	6.8224E-17	785.1	4.4027E-07	10.1
300	4.9488E-17	785.1	3.5045E-07	9.2
310	3.6486E-17	785.1	2.8515E-07	8.4
320	2.7390E-17	785.1	2.3685E-07	7.6
330	2.0966E-17	785.1	2.0046E-07	6.8
340	1.6379E-17	785.1	1.7248E-07	6.2
350	1.3064E-17	785.2	1.5052E-07	5.7
360	1.0633E-17	785.2	1.3293E-07	5.2
370	8.8221E-18	785.2	1.1855E-07	4.9
380	7.4493E-18	785.2	1.0658E-07	4.6
390	6.3889E-18	785.2	9.6443E-08	4.3
400	5.5539E-18	785.2	8.7738E-08	4.1
410	4.8836E-18	785.2	8.0167E-08	4.0
420	4.3354E-18	785.2	7.3513E-08	3.9
430	3.8789E-18	785.2	6.7612E-08	3.7
440	3.4928E-18	785.2	6.2343E-08	3.7
450	3.1615E-18	785.2	5.7611E-08	3.6
460	2.8738E-18	785.2	5.3340E-08	3.5
470	2.6213E-18	785.2	4.9471E-08	3.5
480	2.3977E-18	785.2	4.5955E-08	3.4
490	2.1984E-18	785.2	4.2752E-08	3.4
500	2.0196E-18	785.2	3.9827E-08	3.3
510	1.8585E-18	785.2	3.7151E-08	3.3
520	1.7127E-18	785.2	3.4699E-08	3.2
530	1.5805E-18	785.2	3.2449E-08	3.2
540	1.4601E-18	785.2	3.0383E-08	3.1

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE JULY 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.1182E-12	452.8	1.3076E-02	26.3
80	2.4204E-12	577.1	4.6298E-03	25.1
90	8.9523E-13	649.3	2.0219E-03	23.9
100	3.8968E-13	691.5	9.8598E-04	22.7
110	1.8711E-13	716.1	5.1646E-04	21.6
120	9.6179E-14	730.6	2.8503E-04	20.5
130	5.2075E-14	739.1	1.6384E-04	19.5
140	2.9400E-14	744.2	9.7307E-05	18.7
150	1.7181E-14	747.2	5.9343E-05	18.0
160	1.0329E-14	748.9	3.6983E-05	17.4
170	6.3559E-15	750.0	2.3467E-05	16.9
180	3.9861E-15	750.6	1.5121E-05	16.5
190	2.5390E-15	751.0	9.8761E-06	16.1
200	1.6383E-15	751.2	6.5335E-06	15.7
210	1.0687E-15	751.3	4.3773E-06	15.3
220	7.0404E-16	751.4	2.9719E-06	14.8
230	4.6803E-16	751.5	2.0473E-06	14.3
240	3.1397E-16	751.5	1.4333E-06	13.7
250	2.1262E-16	751.5	1.0220E-06	13.0
260	1.4549E-16	751.5	7.4354E-07	12.2
270	1.0108E-16	751.5	5.7470E-07	11.0
280	7.1022E-17	751.5	4.4218E-07	10.0
290	5.0699E-17	751.5	3.4889E-07	9.1
300	3.6850E-17	751.6	2.8209E-07	8.2
310	2.7326E-17	751.6	2.3335E-07	7.3
320	2.0708E-17	751.6	1.9703E-07	6.6
330	1.6054E-17	751.6	1.6935E-07	5.9
340	1.2735E-17	751.6	1.4778E-07	5.4
350	1.0329E-17	751.6	1.3057E-07	4.9
360	8.5526E-18	751.6	1.1654E-07	4.6
370	7.2157E-18	751.6	1.0488E-07	4.3
380	6.1880E-18	751.6	9.5010E-08	4.1
390	5.3807E-18	751.6	8.6534E-08	3.9
400	4.7331E-18	751.6	7.9159E-08	3.7
410	4.2030E-18	751.6	7.2675E-08	3.6
420	3.7610E-18	751.6	6.6925E-08	3.5
430	3.3863E-18	751.6	6.1790E-08	3.4
440	3.0641E-18	751.6	5.7178E-08	3.3
450	2.7837E-18	751.6	5.3019E-08	3.3
460	2.5373E-18	751.6	4.9253E-08	3.2
470	2.3190E-18	751.6	4.5834E-08	3.2
480	2.1242E-18	751.6	4.2721E-08	3.1
490	1.9496E-18	751.6	3.9881E-08	3.1
500	1.7923E-18	751.6	3.7286E-08	3.0
510	1.6501E-18	751.6	3.4911E-08	3.0
520	1.5213E-18	751.6	3.2733E-08	2.9
530	1.4043E-18	751.6	3.0735E-08	2.9
540	1.2978E-18	751.6	2.8898E-08	2.8

TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS

DATE OCTOBER 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.8315E-12	477.6	1.3347E-02	26.3
80	2.4339E-12	633.3	5.0847E-03	25.2
90	9.6028E-13	723.8	2.3920E-03	24.2
100	4.4688E-13	776.7	1.2480E-03	23.1
110	2.2851E-13	807.6	6.9419E-04	22.1
120	1.2435E-13	825.8	4.0413E-04	21.1
130	7.0847E-14	836.4	2.4373E-04	20.2
140	4.1868E-14	842.8	1.5127E-04	19.4
150	2.5506E-14	846.5	9.6153E-05	18.7
160	1.5943E-14	848.7	6.2354E-05	18.0
170	1.0186E-14	850.0	4.1125E-05	17.5
180	6.6292E-15	850.8	2.7517E-05	17.0
190	4.3821E-15	851.3	1.8644E-05	16.6
200	2.9349E-15	851.6	1.2775E-05	16.3
210	1.9877E-15	851.8	8.8440E-06	15.9
220	1.3591E-15	851.9	6.1843E-06	15.6
230	9.3722E-16	851.9	4.3682E-06	15.2
240	6.5126E-16	852.0	3.1183E-06	14.8
250	4.5584E-16	852.0	2.2514E-06	14.3
260	3.2136E-16	852.0	1.6459E-06	13.8
270	2.2837E-16	852.0	1.2295E-06	13.2
280	1.6351E-16	852.0	9.2724E-07	12.5
290	1.1809E-16	852.0	7.1114E-07	11.8
300	8.6112E-17	852.0	5.5521E-07	11.0
310	6.3482E-17	852.0	4.4154E-07	10.2
320	4.7372E-17	852.0	3.5771E-07	9.4
330	3.5833E-17	852.0	2.9509E-07	8.6
340	2.7510E-17	852.0	2.4765E-07	7.9
350	2.1460E-17	852.0	2.1114E-07	7.2
360	1.7024E-17	852.0	1.8259E-07	6.6
370	1.3738E-17	852.0	1.5987E-07	6.1
380	1.1276E-17	852.0	1.4148E-07	5.6
390	9.4085E-18	852.0	1.2635E-07	5.3
400	7.9721E-18	852.0	1.1369E-07	5.0
410	6.8507E-18	852.0	1.0295E-07	4.7
420	5.9616E-18	852.0	9.3704E-08	4.5
430	5.2452E-18	852.0	8.5659E-08	4.3
440	4.6586E-18	852.0	7.8584E-08	4.2
450	4.1709E-18	852.0	7.2307E-08	4.1
460	3.7594E-18	852.0	6.6697E-08	4.0
470	3.4074E-18	852.0	6.1652E-08	3.9
480	3.1027E-18	852.0	5.7093E-08	3.9
490	2.8360E-18	852.0	5.2954E-08	3.8
500	2.6005E-18	852.0	4.9184E-08	3.7
510	2.3908E-18	852.0	4.5740E-08	3.7
520	2.2028E-18	852.0	4.2587E-08	3.7
530	2.0333E-18	852.0	3.9693E-08	3.6
540	1.8798E-18	852.0	3.7034E-08	3.6

**TABLE I. PREDICTED ATMOSPHERIC
GAS PROPERTIES FOR NOMINAL CONDITIONS**

DATE JANUARY 1, 1977		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.9738E-12	465.1	1.3212E-02	26.3
80	2.4288E-12	604.8	4.8568E-03	25.1
90	9.2889E-13	685.9	2.2039E-03	24.0
100	4.1855E-13	733.2	1.1128E-03	22.9
110	2.0759E-13	760.8	6.0111E-04	21.8
120	1.0986E-13	777.0	3.4093E-04	20.8
130	6.1047E-14	786.6	2.0084E-04	19.9
140	3.5276E-14	792.2	1.2200E-04	19.0
150	2.1055E-14	795.5	7.5998E-05	18.3
160	1.2913E-14	797.5	4.8342E-05	17.7
170	8.1015E-15	798.6	3.1292E-05	17.2
180	5.1793E-15	799.3	2.0558E-05	16.7
190	3.3633E-15	799.8	1.3683E-05	16.3
200	2.2127E-15	800.0	9.2150E-06	16.0
210	1.4718E-15	800.2	6.2763E-06	15.6
220	9.8846E-16	800.3	4.3234E-06	15.2
230	6.6957E-16	800.3	3.0136E-06	14.8
240	4.5726E-16	800.4	2.1279E-06	14.3
250	3.1479E-16	800.4	1.5241E-06	13.7
260	2.1853E-16	800.4	1.1090E-06	13.1
270	1.5330E-16	800.4	8.3545E-07	12.2
280	1.0853E-16	800.4	6.3367E-07	11.4
290	7.7729E-17	800.4	4.9083E-07	10.5
300	5.6401E-17	800.4	3.8847E-07	9.7
310	4.1536E-17	800.4	3.1407E-07	8.8
320	3.1097E-17	800.4	2.5916E-07	8.0
330	2.3705E-17	800.4	2.1792E-07	7.2
340	1.8419E-17	800.4	1.8636E-07	6.6
350	1.4597E-17	800.4	1.6174E-07	6.0
360	1.1799E-17	800.4	1.4215E-07	5.5
370	9.7195E-18	800.4	1.2625E-07	5.1
380	8.1502E-18	800.4	1.1310E-07	4.8
390	6.9453E-18	800.4	1.0205E-07	4.5
400	6.0031E-18	800.4	9.2615E-08	4.3
410	5.2527E-18	800.4	8.4452E-08	4.1
420	4.6438E-18	800.4	7.7310E-08	4.0
430	4.1411E-18	800.4	7.1000E-08	3.9
440	3.7191E-18	800.4	6.5383E-08	3.8
450	3.3596E-18	800.4	6.0349E-08	3.7
460	3.0492E-18	800.4	5.5814E-08	3.6
470	2.7782E-18	800.4	5.1711E-08	3.6
480	2.5394E-18	800.4	4.7986E-08	3.5
490	2.3272E-18	800.4	4.4594E-08	3.5
500	2.1373E-18	800.4	4.1498E-08	3.4
510	1.9666E-18	800.4	3.8667E-08	3.4
520	1.8123E-18	800.4	3.6072E-08	3.3
530	1.6725E-18	800.4	3.3692E-08	3.3
540	1.5453E-18	800.4	3.1505E-08	3.3

**TABLE II. PREDICTED ATMOSPHERIC GAS
PROPERTIES FOR PLUS TWO SIGMA CONDITIONS**

DATE JANUARY 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.4430E-12	513.9	1.3718E-02	26.3
80	2.4295E-12	719.0	5.7287E-03	25.4
90	1.0344E-12	840.8	2.9549E-03	24.5
100	5.2173E-13	913.4	1.6782E-03	23.6
110	2.8849E-13	956.7	1.0084E-03	22.8
120	1.6895E-13	982.7	6.2963E-04	21.9
130	1.0300E-13	998.3	4.0475E-04	21.1
140	6.4759E-14	1007.7	2.6637E-04	20.4
150	4.1751E-14	1013.5	1.7886E-04	19.7
160	2.7502E-14	1016.9	1.2216E-04	19.0
170	1.8458E-14	1019.0	8.4682E-05	18.5
180	1.2594E-14	1020.3	5.9472E-05	18.0
190	8.7186E-15	1021.1	4.2246E-05	17.5
200	6.1129E-15	1021.6	3.0315E-05	17.1
210	4.3339E-15	1021.9	2.1950E-05	16.8
220	3.1026E-15	1022.0	1.6025E-05	16.5
230	2.2401E-15	1022.1	1.1789E-05	16.2
240	1.6296E-15	1022.2	8.7359E-06	15.9
250	1.1934E-15	1022.3	6.5199E-06	15.6
260	8.7928E-16	1022.3	4.9012E-06	15.3
270	6.5152E-16	1022.3	3.7151E-06	14.9
280	4.8531E-16	1022.3	2.8363E-06	14.5
290	3.6338E-16	1022.3	2.1836E-06	14.1
300	2.7350E-16	1022.3	1.6963E-06	13.7
310	2.0695E-16	1022.3	1.3305E-06	13.2
320	1.5746E-16	1022.3	1.0546E-06	12.7
330	1.2052E-16	1022.3	8.4513E-07	12.1
340	9.2841E-17	1022.3	6.8518E-07	11.5
350	7.2019E-17	1022.3	5.6222E-07	10.9
360	5.6293E-17	1022.3	4.6699E-07	10.2
370	4.4368E-17	1022.3	3.9266E-07	9.6
380	3.5286E-17	1022.3	3.3414E-07	9.0
390	2.8335E-17	1022.3	2.8762E-07	8.4
400	2.2989E-17	1022.3	2.5029E-07	7.8
410	1.8853E-17	1022.3	2.1999E-07	7.3
420	1.5634E-17	1022.3	1.9515E-07	6.8
430	1.3112E-17	1022.3	1.7454E-07	6.4
440	1.1120E-17	1022.3	1.5725E-07	6.0
450	9.5355E-18	1022.3	1.4258E-07	5.7
460	8.2629E-18	1022.3	1.3001E-07	5.4
470	7.2316E-18	1022.3	1.1911E-07	5.2
480	6.3876E-18	1022.3	1.0958E-07	5.0
490	5.6898E-18	1022.3	1.0117E-07	4.8
500	5.1068E-18	1022.3	9.3689E-08	4.6
510	4.6146E-18	1022.3	8.6986E-08	4.5
520	4.1947E-18	1022.3	8.0941E-08	4.4
530	3.8330E-18	1022.3	7.5460E-08	4.3
540	3.5183E-18	1022.3	7.0465E-08	4.2

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE APRIL 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.3666E-12	521.5	1.3790E-02	26.3
80	2.4248E-12	737.6	5.8597E-03	25.4
90	1.0453E-12	867.1	3.0756E-03	24.5
100	5.3562E-13	944.5	1.7749E-03	23.7
110	3.0061E-13	992.0	1.0836E-03	22.9
120	1.7862E-13	1020.4	6.8633E-04	22.1
130	1.1040E-13	1037.6	4.4705E-04	21.5
140	7.0310E-14	1048.1	2.9788E-04	20.6
150	4.5876E-14	1054.4	2.0230E-04	19.9
160	3.0557E-14	1058.3	1.3967E-04	19.3
170	2.0724E-14	1060.7	9.7825E-05	18.7
180	1.4280E-14	1062.2	6.9388E-05	18.2
190	9.9799E-15	1063.1	4.9769E-05	17.7
200	7.0620E-15	1063.7	3.6052E-05	17.3
210	5.0525E-15	1064.0	2.6347E-05	17.0
220	3.6500E-15	1064.2	1.9409E-05	16.6
230	2.6593E-15	1064.4	1.4404E-05	16.3
240	1.9521E-15	1064.4	1.0764E-05	16.1
250	1.4426E-15	1064.5	8.0985E-06	15.8
260	1.0726E-15	1064.5	6.1332E-06	15.5
270	8.0187E-16	1064.5	4.6789E-06	15.2
280	6.0257E-16	1064.6	3.5927E-06	14.8
290	4.5504E-16	1064.6	2.7790E-06	14.5
300	3.4528E-16	1064.6	2.1664E-06	14.1
310	2.6326E-16	1064.6	1.7030E-06	13.7
320	2.0172E-16	1064.6	1.3507E-06	13.2
330	1.5536E-16	1064.6	1.0816E-06	12.7
340	1.2031E-16	1064.6	8.7485E-07	12.2
350	9.3721E-17	1064.6	7.1516E-07	11.6
360	7.3471E-17	1064.6	5.9106E-07	11.0
370	5.7995E-17	1064.6	4.9396E-07	10.4
380	4.6123E-17	1064.6	4.1745E-07	9.8
390	3.6978E-17	1064.6	3.5669E-07	9.2
400	2.9905E-17	1064.6	3.0803E-07	8.6
410	2.4408E-17	1064.6	2.6871E-07	8.0
420	2.0115E-17	1064.6	2.3664E-07	7.5
430	1.6744E-17	1064.6	2.1021E-07	7.1
440	1.4082E-17	1064.6	1.8822E-07	6.6
450	1.1965E-17	1064.6	1.6973E-07	6.2
460	1.0269E-17	1064.6	1.5403E-07	5.9
470	8.9015E-18	1064.6	1.4055E-07	5.6
480	7.7887E-18	1064.6	1.2887E-07	5.4
490	6.8757E-18	1064.6	1.1866E-07	5.1
500	6.1197E-18	1064.6	1.0966E-07	4.9
510	5.4878E-18	1064.6	1.0166E-07	4.6
520	4.9548E-18	1064.6	9.4493E-08	4.6
530	4.5007E-18	1064.6	8.8038E-08	4.5
540	4.1103E-18	1064.6	8.2189E-08	4.4

TABLE II. PREDICTED ATMOSPHERIC GAS
PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JULY 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.5882E-12	500.0	1.3579E-02	26.3
80	2.4346E-12	685.4	5.4841E-03	25.3
90	1.0090E-12	794.2	2.7353E-03	24.4
100	4.9441E-13	858.2	1.5054E-03	23.4
110	2.6569E-13	896.2	8.7912E-04	22.5
120	1.5141E-13	918.7	5.3466E-04	21.6
130	8.9989E-14	932.0	3.3549E-04	20.8
140	5.5259E-14	939.9	2.1593E-04	20.0
150	3.4862E-14	944.7	1.4200E-04	19.3
160	2.2507E-14	947.5	9.5095E-05	18.6
170	1.4825E-14	949.3	6.4695E-05	18.1
180	9.9360E-15	950.3	4.4617E-05	17.6
190	6.7605E-15	950.9	3.1137E-05	17.2
200	4.6602E-15	951.3	2.1958E-05	16.8
210	3.2487E-15	951.5	1.5632E-05	16.4
220	2.2867E-15	951.7	1.1226E-05	16.1
230	1.6233E-15	951.7	8.1283E-06	15.6
240	1.1610E-15	951.8	5.9336E-06	15.5
250	8.3599E-16	951.8	4.3674E-06	15.2
260	6.0573E-16	951.8	3.2425E-06	14.8
270	4.4157E-16	951.9	2.4344E-06	14.4
280	3.2376E-16	951.9	1.8433E-06	13.9
290	2.3880E-16	951.9	1.4110E-06	13.4
300	1.7725E-16	951.9	1.0929E-06	12.8
310	1.3244E-16	951.9	8.5731E-07	12.2
320	9.9683E-17	951.9	6.8163E-07	11.6
330	7.5629E-17	951.9	5.4961E-07	10.9
340	5.7888E-17	951.9	4.4957E-07	10.4
350	4.4741E-17	951.9	3.7305E-07	9.5
360	3.4948E-17	951.9	3.1393E-07	8.8
370	2.7615E-17	951.9	2.6774E-07	8.2
380	2.2089E-17	951.9	2.3123E-07	7.6
390	1.7897E-17	951.9	2.0199E-07	7.0
400	1.4694E-17	951.9	1.7827E-07	6.5
410	1.2225E-17	951.9	1.5878E-07	6.1
420	1.0305E-17	951.9	1.4254E-07	5.7
430	8.7960E-18	951.9	1.2884E-07	5.4
440	7.5979E-18	951.9	1.1714E-07	5.1
450	6.6354E-18	951.9	1.0703E-07	4.9
460	5.8528E-18	951.9	9.8203E-08	4.7
470	5.2086E-18	951.9	9.0421E-08	4.6
480	4.6717E-18	951.9	8.3505E-08	4.4
490	4.2187E-18	951.9	7.7312E-08	4.3
500	3.8321E-18	951.9	7.1731E-08	4.2
510	3.4985E-18	951.9	6.6675E-08	4.2
520	3.2075E-18	951.9	6.2072E-08	4.1
530	2.9514E-18	951.9	5.7866E-08	4.0
540	2.7240E-18	951.9	5.4009E-08	4.0

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE OCTOBER 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.3718E-12	520.9	1.3785E-02	26.3
80	2.4252E-12	736.3	5.8506E-03	25.4
90	1.0455E-12	865.3	3.0673E-03	24.5
100	5.3468E-13	942.8	1.7690E-03	23.7
110	2.9977E-13	989.5	1.0782E-03	22.9
120	1.7794E-13	1017.7	6.8225E-04	22.1
130	1.0988E-13	1034.8	4.4400E-04	21.3
140	6.9913E-14	1045.2	2.9558E-04	20.6
150	4.5579E-14	1051.5	2.0058E-04	19.9
160	3.0336E-14	1055.3	1.3837E-04	19.2
170	2.0558E-14	1057.7	9.6847E-05	18.7
180	1.4156E-14	1059.2	6.8646E-05	18.2
190	9.8867E-15	1060.1	4.9204E-05	17.7
200	6.9916E-15	1060.6	3.5618E-05	17.3
210	4.9989E-15	1061.0	2.6013E-05	17.0
220	3.6090E-15	1061.2	1.9151E-05	16.6
230	2.6278E-15	1061.3	1.4204E-05	16.3
240	1.9278E-15	1061.4	1.0609E-05	16.0
250	1.4237E-15	1061.4	7.9767E-06	15.8
260	1.0578E-15	1061.5	6.0378E-06	15.5
270	7.9037E-16	1061.5	4.6039E-06	15.2
280	5.9356E-16	1061.5	3.5336E-06	14.8
290	4.4796E-16	1061.5	2.7323E-06	14.5
300	3.3972E-16	1061.5	2.1294E-06	14.1
310	2.5888E-16	1061.5	1.6736E-06	13.7
320	1.9826E-16	1061.5	1.3272E-06	13.2
330	1.5263E-16	1061.5	1.0628E-06	12.7
340	1.1815E-16	1061.5	8.5974E-07	12.1
350	9.2003E-17	1061.5	7.0296E-07	11.6
360	7.2106E-17	1061.5	5.8114E-07	11.0
370	5.6908E-17	1061.5	4.8586E-07	10.3
380	4.5255E-17	1061.5	4.1079E-07	9.7
390	3.6284E-17	1061.5	3.5117E-07	9.1
400	2.9348E-17	1061.5	3.0342E-07	8.5
410	2.3960E-17	1061.5	2.6483E-07	8.0
420	1.9753E-17	1061.5	2.3334E-07	7.5
430	1.6450E-17	1061.5	2.0738E-07	7.0
440	1.3842E-17	1061.5	1.8577E-07	6.6
450	1.1768E-17	1061.5	1.6759E-07	6.2
460	1.0107E-17	1061.5	1.5214E-07	5.9
470	8.7665E-18	1061.5	1.3887E-07	5.6
480	7.6758E-18	1061.5	1.2737E-07	5.3
490	6.7804E-18	1061.5	1.1730E-07	5.1
500	6.0386E-18	1061.5	1.0842E-07	4.9
510	5.4182E-18	1061.5	1.0052E-07	4.8
520	4.8944E-18	1061.5	9.3450E-08	4.6
530	4.4480E-18	1061.5	8.7072E-08	4.5
540	4.0638E-18	1061.5	8.1289E-08	4.4

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JANUARY 1, 1972					GM TIME 9 0				
ALT	DENSITY	TEMP	PRESSURE	MOL, WT					
(NM)	(GM/CM ³)	(OK)	(DYNE/CM ²)	(UNITLESS)					
70	8.6133E-12	497.6	1.3555E-02	26.6					
80	2.4351E-12	679.8	5.4423E-03	25.3					
90	1.0043E-12	786.6	2.6985E-03	24.3					
100	4.8959E-13	849.4	1.4774E-03	23.4					
110	2.6178E-13	886.4	8.5834E-04	22.5					
120	1.4849E-13	908.4	5.1967E-04	21.6					
130	8.7864E-14	921.4	3.2474E-04	20.7					
140	5.3739E-14	929.1	2.0823E-04	19.9					
150	3.3779E-14	933.7	1.3645E-04	19.2					
160	2.1735E-14	936.5	9.1075E-05	18.6					
170	1.4271E-14	938.1	6.1763E-05	18.0					
180	9.5356E-15	939.1	4.2463E-05	17.5					
190	6.4690E-15	939.7	2.9544E-05	17.1					
200	4.4462E-15	940.1	2.0773E-05	16.7					
210	3.0905E-15	940.3	1.4746E-05	16.4					
220	2.1690E-15	940.5	1.0560E-05	16.1					
230	1.5352E-15	940.5	7.6257E-06	15.7					
240	1.0948E-15	940.6	5.5529E-06	15.4					
250	7.8602E-16	940.6	4.0781E-06	15.1					
260	5.6789E-16	940.6	3.0218E-06	14.7					
270	4.1285E-16	940.7	2.2659E-06	14.6					
280	3.0191E-16	940.7	1.7139E-06	13.8					
290	2.2214E-16	940.7	1.3112E-06	13.6					
300	1.6452E-16	940.7	1.0157E-06	12.7					
310	1.2270E-16	940.7	7.9721E-07	12.0					
320	9.2211E-17	940.7	6.3458E-07	11.4					
330	6.9886E-17	940.7	5.1253E-07	10.7					
340	5.3462E-17	940.7	4.2011E-07	10.0					
350	4.1320E-17	940.7	3.4945E-07	9.2					
360	3.2295E-17	940.7	2.9483E-07	8.6					
370	2.5549E-17	940.7	2.5213E-07	7.9					
380	2.0473E-17	940.7	2.1631E-07	7.3					
390	1.6626E-17	940.7	1.9119E-07	6.8					
400	1.3687E-17	940.7	1.6913E-07	6.6					
410	1.1422E-17	940.7	1.5094E-07	5.9					
420	9.6591E-18	940.7	1.3575E-07	5.6					
430	8.2721E-18	940.7	1.2289E-07	5.3					
440	7.1683E-18	940.7	1.1187E-07	5.0					
450	6.2793E-18	940.7	1.0231E-07	4.8					
460	5.5542E-18	940.7	9.3946E-08	4.6					
470	4.9553E-18	940.7	8.6552E-08	4.5					
480	4.4542E-18	940.7	7.9965E-08	4.4					
490	4.0298E-18	940.7	7.4055E-08	4.3					
500	3.6662E-18	940.7	6.8720E-08	4.2					
510	3.3511E-18	940.7	6.3879E-08	4.1					
520	3.0754E-18	940.7	5.9468E-08	4.0					
530	2.8319E-18	940.7	5.5434E-08	4.0					
540	2.6151E-18	940.7	5.1732E-08	4.0					

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE APRIL 1, 1972		GM TIME 9 00		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.4855E-12	509.8	1.3677E-02	26.5
80	2.4315E-12	708.9	5.6566E-03	25.5
90	1.0273E-12	826.7	2.8893E-03	24.6
100	5.1384E-13	896.6	1.6260E-03	23.6
110	2.8178E-13	938.2	9.6881E-04	22.7
120	1.6371E-13	963.1	6.0024E-04	21.8
130	9.9058E-14	978.0	3.8310E-04	21.0
140	6.1844E-14	986.9	2.5048E-04	20.3
150	3.9614E-14	992.3	1.6713E-04	19.6
160	2.5938E-14	995.5	1.1348E-04	18.9
170	1.7311E-14	997.5	7.8231E-05	18.4
180	1.1749E-14	998.7	5.4646E-05	17.9
190	8.0920E-15	999.4	3.8615E-05	17.4
200	5.6452E-15	999.8	2.7567E-05	17.0
210	3.9824E-15	1000.1	1.9861E-05	16.7
220	2.8369E-15	1000.3	1.4429E-05	16.4
230	2.0381E-15	1000.4	1.0564E-05	16.0
240	1.4753E-15	1000.4	7.7931E-06	15.7
250	1.0750E-15	1000.5	5.7917E-06	15.4
260	7.8816E-16	1000.5	4.3369E-06	15.1
270	5.8118E-16	1000.5	3.2770E-06	14.8
280	4.3087E-16	1000.5	2.4948E-06	14.4
290	3.2115E-16	1000.5	1.9166E-06	13.9
300	2.4068E-16	1000.5	1.4068E-06	13.5
310	1.8139E-16	1000.5	1.1656E-06	12.9
320	1.3753E-16	1000.6	9.2414E-07	12.4
330	1.0495E-16	1000.6	7.4147E-07	11.8
340	8.0654E-17	1000.6	6.0235E-07	11.1
350	6.2460E-17	1000.6	4.9562E-07	10.5
360	4.8778E-17	1000.6	4.1308E-07	9.8
370	3.8445E-17	1000.6	3.4868E-07	9.2
380	3.0602E-17	1000.6	2.9795E-07	8.5
390	2.4619E-17	1000.6	2.5757E-07	8.0
400	2.0029E-17	1000.6	2.2509E-07	7.4
410	1.6484E-17	1000.6	1.9866E-07	6.9
420	1.3728E-17	1000.6	1.7689E-07	6.5
430	1.1569E-17	1000.6	1.5875E-07	6.1
440	9.8626E-18	1000.6	1.4346E-07	5.7
450	8.5024E-18	1000.6	1.3042E-07	5.4
460	7.4074E-18	1000.6	1.1917E-07	5.2
470	6.5168E-18	1000.6	1.0938E-07	5.0
480	5.7846E-18	1000.6	1.0077E-07	4.8
490	5.1760E-18	1000.6	9.3138E-08	4.6
500	4.6645E-18	1000.6	8.6318E-08	4.5
510	4.2300E-18	1000.6	8.0184E-08	4.4
520	3.8570E-18	1000.6	7.4634E-08	4.3
530	3.5335E-18	1000.6	6.9588E-08	4.2
540	3.2503E-18	1000.6	6.4978E-08	4.2

TABLE II. PREDICTED ATMOSPHERIC GAS
PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JULY 1, 1972		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.7134E-12	488.3	1.3460E-02	26.3
80	2.4356E-12	658.0	5.2770E-03	25.3
90	9.8477E-13	757.0	2.5551E-03	24.3
100	4.7015E-13	815.0	1.3686E-03	23.3
110	2.4635E-13	849.0	7.7952E-04	22.3
120	1.3712E-13	869.0	4.6356E-04	21.4
130	7.9743E-14	880.9	2.8499E-04	20.5
140	4.8007E-14	887.9	1.8003E-04	19.7
150	2.9743E-14	892.1	1.1633E-04	19.0
160	1.8885E-14	894.5	7.6629E-05	18.3
170	1.2245E-14	896.0	5.1310E-05	17.8
180	8.0840E-15	896.9	3.4842E-05	17.3
190	5.4199E-15	897.5	2.3950E-05	16.9
200	3.6818E-15	897.8	1.6642E-05	16.5
210	2.5293E-15	898.0	1.1678E-05	16.2
220	1.7543E-15	898.1	8.2714E-06	15.8
230	1.2271E-15	898.2	5.9116E-06	15.5
240	8.6483E-16	898.2	4.2640E-06	15.1
250	6.1373E-16	898.2	3.1054E-06	14.8
260	4.3841E-16	898.2	2.2850E-06	14.3
270	3.1532E-16	898.3	1.7073E-06	13.8
280	2.2826E-16	898.3	1.2878E-06	13.2
290	1.6642E-16	898.3	9.8471E-07	12.6
300	1.2227E-16	898.3	7.6414E-07	12.0
310	9.0596E-17	898.3	6.0231E-07	11.2
320	6.7764E-17	898.3	4.8252E-07	10.5
330	5.1221E-17	898.3	3.9295E-07	9.7
340	3.9169E-17	898.3	3.2525E-07	9.0
350	3.0337E-17	898.3	2.7343E-07	8.3
360	2.3821E-17	898.3	2.3325E-07	7.6
370	1.8978E-17	898.3	2.0165E-07	7.0
380	1.5349E-17	898.3	1.7643E-07	6.5
390	1.2603E-17	898.3	1.5599E-07	6.0
400	1.0505E-17	898.3	1.3917E-07	5.6
410	8.8820E-18	898.3	1.2512E-07	5.3
420	7.6116E-18	898.3	1.1323E-07	5.0
430	6.6038E-18	898.3	1.0303E-07	4.8
440	5.7932E-18	898.3	9.4175E-08	4.6
450	5.1318E-18	898.3	8.6411E-08	4.4
460	4.5845E-18	898.3	7.9540E-08	4.3
470	4.1254E-18	898.3	7.3411E-08	4.2
480	3.7351E-18	898.3	6.7906E-08	4.1
490	3.3993E-18	898.3	6.2935E-08	4.0
500	3.1072E-18	898.3	5.8424E-08	4.0
510	2.8505E-18	898.3	5.4314E-08	3.9
520	2.6229E-18	898.3	5.0557E-08	3.9
530	2.4197E-18	898.3	4.7112E-08	3.8
540	2.2370E-18	898.3	4.3948E-08	3.8

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE OCTOBER 1, 1972		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM3)	TEMP (OK)	PRESSURE (DYNE/CM2)	MOL. WT (UNITLESS)
70	8.4641E-12	511.9	1.3698E-02	26.3
80	2.4305E-12	713.9	5.6929E-03	25.3
90	1.0309E-12	833.8	2.9223E-03	24.5
100	5.1784E-13	905.0	1.6522E-03	23.6
110	2.8517E-13	947.5	9.8861E-04	22.7
120	1.6635E-13	972.9	6.1491E-04	21.9
130	1.0104E-13	988.2	3.9388E-04	21.1
140	6.3302E-14	997.3	2.5839E-04	20.3
150	4.0681E-14	1002.9	1.7295E-04	19.6
160	2.6717E-14	1006.2	1.1778E-04	19.0
170	1.7881E-14	1008.2	8.1421E-05	18.4
180	1.2168E-14	1009.5	5.7029E-05	17.9
190	8.4025E-15	1010.2	4.0406E-05	17.5
200	5.8766E-15	1010.7	2.8920E-05	17.1
210	4.1561E-15	1011.0	2.0888E-05	16.7
220	2.9680E-15	1011.1	1.5213E-05	16.4
230	2.1377E-15	1011.2	1.1165E-05	16.1
240	1.5512E-15	1011.3	8.2548E-06	15.8
250	1.1332E-15	1011.4	6.1479E-06	15.5
260	8.3290E-16	1011.4	4.6126E-06	15.2
270	6.1567E-16	1011.4	3.4907E-06	14.8
280	4.5753E-16	1011.4	2.6612E-06	14.5
290	3.4180E-16	1011.4	2.0465E-06	14.0
300	2.5671E-16	1011.4	1.5887E-06	13.6
310	1.9385E-16	1011.4	1.2457E-06	13.1
320	1.4724E-16	1011.4	9.8743E-07	12.5
330	1.1252E-16	1011.4	7.9172E-07	12.0
340	8.6573E-17	1011.4	6.4248E-07	11.6
350	6.7097E-17	1011.4	5.2787E-07	10.7
360	5.2420E-17	1011.4	4.3918E-07	10.0
370	4.1312E-17	1011.4	3.6997E-07	9.4
380	3.2867E-17	1011.4	3.1547E-07	8.8
390	2.6414E-17	1011.4	2.7213E-07	8.2
400	2.1458E-17	1011.4	2.3730E-07	7.6
410	1.7627E-17	1011.4	2.0901E-07	7.1
420	1.4647E-17	1011.4	1.8575E-07	6.6
430	1.2313E-17	1011.4	1.6642E-07	6.2
440	1.0469E-17	1011.4	1.5017E-07	5.9
450	9.0009E-18	1011.4	1.3634E-07	5.6
460	7.8205E-18	1011.4	1.2446E-07	5.3
470	6.8623E-18	1011.4	1.1413E-07	5.1
480	6.0764E-18	1011.4	1.0508E-07	4.9
490	5.4249E-18	1011.4	9.7068E-08	4.7
500	4.8791E-18	1011.4	8.9927E-08	4.6
510	4.4169E-18	1011.4	8.3517E-08	4.4
520	4.0214E-18	1011.4	7.7726E-08	4.4
530	3.6795E-18	1011.4	7.2468E-08	4.3
540	3.3812E-18	1011.4	6.7670E-08	4.2

TABLE II. PREDICTED ATMOSPHERIC GAS
PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JANUARY 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.6920E-12	490.3	1.3480E-02	26.3
80	2.4356E-12	662.6	5.3122E-03	25.3
90	9.8905E-13	763.2	2.5853E-03	24.3
100	4.7433E-13	822.2	1.3914E-03	23.3
110	2.4963E-13	856.8	7.9585E-04	22.3
120	1.3951E-13	877.2	4.7508E-04	21.4
130	8.1433E-14	889.3	2.9310E-04	20.5
140	4.9190E-14	896.5	1.8574E-04	19.7
150	3.0570E-14	900.7	1.2038E-04	19.0
160	1.9465E-14	903.2	7.9520E-05	18.4
170	1.2655E-14	904.8	5.3390E-05	17.8
180	8.3761E-15	905.7	3.6351E-05	17.4
190	5.6300E-15	906.2	2.5053E-05	16.9
200	3.8341E-15	906.6	1.7452E-05	16.6
210	2.6406E-15	906.8	1.2277E-05	16.2
220	1.8362E-15	906.9	8.7157E-06	15.9
230	1.2877E-15	906.9	6.2427E-06	15.6
240	9.0981E-16	907.0	4.5118E-06	15.2
250	6.4725E-16	907.0	3.2915E-06	14.8
260	4.6348E-16	907.0	2.4253E-06	14.4
270	3.3410E-16	907.0	1.8132E-06	13.9
280	2.4237E-16	907.1	1.3682E-06	13.4
290	1.7704E-16	907.1	1.0461E-06	12.8
300	1.3028E-16	907.1	8.1123E-07	12.1
310	9.6651E-17	907.1	6.3870E-07	11.4
320	7.2352E-17	907.1	5.1085E-07	10.7
330	5.4708E-17	907.1	4.1520E-07	9.9
340	4.1828E-17	907.1	3.4288E-07	9.2
350	3.2372E-17	907.1	2.8757E-07	8.5
360	2.5386E-17	907.1	2.4472E-07	7.8
370	2.0189E-17	907.1	2.1107E-07	7.2
380	1.6291E-17	907.1	1.8427E-07	6.7
390	1.3342E-17	907.1	1.6260E-07	6.2
400	1.1089E-17	907.1	1.4481E-07	5.8
410	9.3491E-18	907.1	1.3001E-07	5.4
420	7.9890E-18	907.1	1.1751E-07	5.1
430	6.9123E-18	907.1	1.0682E-07	4.8
440	6.0486E-18	907.1	9.7561E-08	4.7
450	5.3461E-18	907.1	8.9464E-08	4.5
460	4.7667E-18	907.1	8.2313E-08	4.4
470	4.2822E-18	907.1	7.5945E-08	4.3
480	3.8719E-18	907.1	7.0235E-08	4.2
490	3.5200E-18	907.1	6.5085E-08	4.1
500	3.2149E-18	907.1	6.0416E-08	4.0
510	2.9474E-18	907.1	5.6164E-08	4.0
520	2.7110E-18	907.1	5.2280E-08	3.9
530	2.5003E-18	907.1	4.8721E-08	3.9
540	2.3111E-18	907.1	4.5451E-08	3.8

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE APRIL 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.5753E-12	501.2	1.3592E-02	26.3
80	2.4344E-12	688.3	5.5057E-03	25.3
90	1.0114E-12	798.2	2.7543E-03	24.4
100	4.9688E-13	863.0	1.5205E-03	23.5
110	2.6770E-13	901.3	8.8997E-04	22.5
120	1.5293E-13	924.0	5.4251E-04	21.7
130	9.1094E-14	937.6	3.4114E-04	20.8
140	5.6053E-14	945.6	2.2000E-04	20.0
150	3.5430E-14	950.4	1.4493E-04	19.3
160	2.2914E-14	953.3	9.7228E-05	18.7
170	1.5117E-14	955.1	6.6256E-05	18.1
180	1.0148E-14	956.1	4.5766E-05	17.6
190	6.9152E-15	956.7	3.1989E-05	17.2
200	4.7740E-15	957.1	2.2594E-05	16.8
210	3.3330E-15	957.4	1.6108E-05	16.5
220	2.3496E-15	957.5	1.1584E-05	16.1
230	1.6705E-15	957.6	8.3996E-06	15.8
240	1.1965E-15	957.6	6.1395E-06	15.5
250	8.6286E-16	957.7	4.5243E-06	15.2
260	6.2611E-16	957.7	3.3623E-06	14.8
270	4.5708E-16	957.7	2.5261E-06	14.4
280	3.3559E-16	957.7	1.9138E-06	14.0
290	2.4785E-16	957.7	1.4655E-06	13.5
300	1.8417E-16	957.7	1.1351E-06	12.9
310	1.3775E-16	957.7	8.9026E-07	12.3
320	1.0377E-16	957.7	7.0746E-07	11.7
330	7.8775E-17	957.7	5.6999E-07	11.0
340	6.0317E-17	957.7	4.6577E-07	10.3
350	4.6622E-17	957.7	3.8604E-07	9.6
360	3.6410E-17	957.7	3.2443E-07	8.9
370	2.8754E-17	957.7	2.7632E-07	8.3
380	2.2982E-17	957.7	2.3831E-07	7.7
390	1.8600E-17	957.7	2.0791E-07	7.1
400	1.5251E-17	957.7	1.8328E-07	6.6
410	1.2669E-17	957.7	1.6306E-07	6.2
420	1.0662E-17	957.7	1.4625E-07	5.8
430	9.0854E-18	957.7	1.3208E-07	5.5
440	7.8349E-18	957.7	1.2001E-07	5.2
450	6.8315E-18	957.7	1.0959E-07	5.0
460	6.0168E-18	957.7	1.0051E-07	4.8
470	5.3474E-18	957.7	9.2514E-08	4.6
480	4.7905E-18	957.7	8.5417E-08	4.5
490	4.3217E-18	957.7	7.9069E-08	4.4
500	3.9223E-18	957.7	7.3355E-08	4.3
510	3.5783E-18	957.7	6.8181E-08	4.2
520	3.2789E-18	957.7	6.3475E-08	4.1
530	3.0158E-18	957.7	5.9176E-08	4.1
540	2.7826E-18	957.7	5.5236E-08	4.0

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JULY 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.7944E-12	480.9	1.3383E-02	26.6
80	2.4347E-12	640.9	5.1448E-03	25.2
90	9.6813E-13	734.1	2.4425E-03	24.2
100	4.5422E-13	788.5	1.2851E-03	23.2
110	2.3407E-13	820.3	7.2016E-04	22.2
120	1.2829E-13	839.0	4.2207E-04	21.2
130	7.3564E-14	850.1	2.5609E-04	20.6
140	4.3728E-14	856.6	1.5983E-04	19.9
150	2.6780E-14	860.4	1.0212E-04	18.8
160	1.6822E-14	862.7	6.6552E-05	18.1
170	1.0798E-14	864.1	4.4104E-05	17.6
180	7.0592E-15	864.9	2.9648E-05	17.1
190	4.6873E-15	865.4	2.0180E-05	16.7
200	3.1535E-15	865.7	1.3888E-05	16.6
210	2.1455E-15	865.9	9.6559E-06	16.0
220	1.4737E-15	866.0	6.7790E-06	15.7
230	1.0208E-15	866.1	4.8058E-06	15.6
240	7.1252E-16	866.1	3.4414E-06	14.9
250	5.0089E-16	866.1	2.4911E-06	14.9
260	3.5458E-16	866.1	1.8245E-06	14.0
270	2.5290E-16	866.2	1.3622E-06	13.4
280	1.8168E-16	866.2	1.0269E-06	12.7
290	1.3157E-16	866.2	7.8649E-07	12.0
300	9.6146E-17	866.2	6.1257E-07	11.3
310	7.0967E-17	866.2	4.8557E-07	10.9
320	5.2974E-17	866.2	3.9183E-07	9.7
330	4.0041E-17	866.2	3.2183E-07	9.0
340	3.0686E-17	866.2	2.6885E-07	8.2
350	2.3870E-17	866.2	2.2819E-07	7.5
360	1.8864E-17	866.2	1.9648E-07	6.9
370	1.5154E-17	866.2	1.7136E-07	6.4
380	1.2376E-17	866.2	1.5112E-07	5.9
390	1.0272E-17	866.2	1.3455E-07	5.5
400	8.6581E-18	866.2	1.2077E-07	5.2
410	7.4027E-18	866.2	1.0913E-07	4.9
420	6.4119E-18	866.2	9.9168E-08	4.7
430	5.6179E-18	866.2	9.0533E-08	4.5
440	4.9718E-18	866.2	8.2969E-08	4.3
450	4.4379E-18	866.2	7.6280E-08	4.2
460	3.9902E-18	866.2	7.0319E-08	4.1
470	3.6095E-18	866.2	6.4970E-08	4.0
480	3.2819E-18	866.2	6.0143E-08	3.9
490	2.9965E-18	866.2	5.5768E-08	3.9
500	2.7456E-18	866.2	5.1787E-08	3.8
510	2.5229E-18	866.2	4.8152E-08	3.8
520	2.3240E-18	866.2	4.4824E-08	3.7
530	2.1451E-18	866.2	4.1772E-08	3.7
540	1.9833E-18	866.2	3.8966E-08	3.7

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE OCTOBER 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.5678E-12	501.9	1.3599E-02	26.3
80	2.4342E-12	689.9	5.5181E-03	25.3
90	1.0127E-12	800.5	2.7653E-03	24.4
100	4.9830E-13	865.7	1.5290E-03	23.5
110	2.6886E-13	904.3	8.9627E-04	22.6
120	1.5381E-13	927.2	5.4708E-04	21.7
130	9.1735E-14	940.8	3.4443E-04	20.8
140	5.6515E-14	948.9	2.2238E-04	20.1
150	3.5760E-14	953.8	1.4665E-04	19.3
160	2.3151E-14	956.7	9.8478E-05	18.7
170	1.5288E-14	958.4	6.7171E-05	18.1
180	1.0272E-14	959.5	4.6441E-05	17.6
190	7.0058E-15	960.1	3.2490E-05	17.2
200	4.8407E-15	960.5	2.2968E-05	16.8
210	3.3824E-15	960.8	1.6389E-05	16.5
220	2.3866E-15	960.9	1.1796E-05	16.2
230	1.6982E-15	961.0	8.5598E-06	15.9
240	1.2175E-15	961.0	6.2613E-06	15.5
250	8.7871E-16	961.1	4.6171E-06	15.2
260	6.3815E-16	961.1	3.4334E-06	14.9
270	4.6625E-16	961.1	2.5806E-06	14.4
280	3.4259E-16	961.1	1.9558E-06	14.0
290	2.5321E-16	961.1	1.4979E-06	13.5
300	1.8828E-16	961.1	1.1603E-06	13.0
310	1.4091E-16	961.1	9.0989E-07	12.4
320	1.0620E-16	961.1	7.2286E-07	11.7
330	8.0649E-17	961.1	5.8215E-07	11.1
340	6.1766E-17	961.1	4.7544E-07	10.4
350	4.7745E-17	961.1	3.9379E-07	9.7
360	3.7283E-17	961.1	3.3070E-07	9.0
370	2.9436E-17	961.1	2.8144E-07	8.4
380	2.3516E-17	961.1	2.4254E-07	7.7
390	1.9021E-17	961.1	2.1144E-07	7.2
400	1.5584E-17	961.1	1.8626E-07	6.7
410	1.2935E-17	961.1	1.6561E-07	6.2
420	1.0875E-17	961.1	1.4845E-07	5.9
430	9.2587E-18	961.1	1.3401E-07	5.5
440	7.9767E-18	961.1	1.2171E-07	5.2
450	6.9487E-18	961.1	1.1111E-07	5.0
460	6.1148E-18	961.1	1.0187E-07	4.8
470	5.4302E-18	961.1	9.3751E-08	4.6
480	4.8613E-18	961.1	8.6547E-08	4.5
490	4.3829E-18	961.1	8.0108E-08	4.4
500	3.9759E-18	961.1	7.4314E-08	4.3
510	3.6256E-18	961.1	6.9071E-08	4.2
520	3.3211E-18	961.1	6.4303E-08	4.1
530	3.0539E-18	961.1	5.9950E-08	4.1
540	2.8172E-18	961.1	5.5960E-08	4.0

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS
 DATE JANUARY 1, 1974 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.8233E-12	478.3	1.3355E-02	26.3
80	2.4341E-12	635.0	5.0980E-03	25.2
90	9.6203E-13	726.1	2.4032E-03	24.2
100	4.4851E-13	779.3	1.2562E-03	23.1
110	2.2973E-13	810.4	6.9987E-04	22.1
120	1.2521E-13	828.7	4.0804E-04	21.1
130	7.1442E-14	839.4	2.4642E-04	20.2
140	4.2274E-14	845.6	1.5313E-04	19.4
150	2.5784E-14	849.6	9.7446E-05	18.7
160	1.6134E-14	851.8	6.3262E-05	18.1
170	1.0319E-14	853.1	4.1768E-05	17.5
180	6.7223E-15	853.9	2.7977E-05	17.1
190	4.4481E-15	854.4	1.8975E-05	16.7
200	2.9821E-15	854.7	1.3014E-05	16.3
210	2.0217E-15	854.9	9.0180E-06	15.9
220	1.3838E-15	855.0	6.3115E-06	15.6
230	9.5518E-16	855.0	4.4617E-06	15.2
240	6.6439E-16	855.1	3.1871E-06	14.8
250	4.6548E-16	855.1	2.3024E-06	14.4
260	3.2846E-16	855.1	1.6839E-06	13.9
270	2.3360E-16	855.1	1.2576E-06	13.2
280	1.6737E-16	855.1	9.4835E-07	12.5
290	1.2095E-16	855.1	7.2708E-07	11.8
300	8.8239E-17	855.1	5.6733E-07	11.1
310	6.5066E-17	855.1	4.5083E-07	10.3
320	4.8556E-17	855.1	3.6491E-07	9.5
330	3.6721E-17	855.1	3.0073E-07	8.7
340	2.8179E-17	855.1	2.5212E-07	7.9
350	2.1968E-17	855.1	2.1474E-07	7.3
360	1.7411E-17	855.1	1.8552E-07	6.7
370	1.4036E-17	855.1	1.6230E-07	6.1
380	1.1507E-17	855.1	1.4352E-07	5.7
390	9.5901E-18	855.1	1.2809E-07	5.3
400	8.1165E-18	855.1	1.1519E-07	5.0
410	6.9671E-18	855.1	1.0426E-07	4.8
420	6.0566E-18	855.1	9.4865E-08	4.5
430	5.3240E-18	855.1	8.6696E-08	4.4
440	4.7250E-18	855.1	7.9517E-08	4.2
450	4.2276E-18	855.1	7.3153E-08	4.1
460	3.8085E-18	855.1	6.7468E-08	4.0
470	3.4505E-18	855.1	6.2359E-08	3.9
480	3.1410E-18	855.1	5.7742E-08	3.9
490	2.8704E-18	855.1	5.3553E-08	3.8
500	2.6316E-18	855.1	4.9738E-08	3.8
510	2.4192E-18	855.1	4.6253E-08	3.7
520	2.2288E-18	855.1	4.3062E-08	3.7
530	2.0574E-18	855.1	4.0134E-08	3.6
540	1.9021E-18	855.1	3.7443E-08	3.6

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE	APRIL 1, 1974				GM TIME	9	0
ALT (NM)	DENSITY (GM/CM3)	TEMP (OK)	PRESSURE (DYNE/CM2)	MOL. WT (UNITLESS)			
70	8,8666E-12	474.5	1.3314E-02	26.3			
80	2,4329E-12	626.1	5.0281E-03	25.2			
90	9,5271E-13	714.3	2.3448E-03	24.1			
100	4,3991E-13	765.7	1.2137E-03	23.1			
110	2,2328E-13	795.8	6.7027E-04	22.0			
120	1,2068E-13	813.4	3.8772E-04	21.1			
130	6,8337E-14	823.8	2.3249E-04	20.1			
140	4,0162E-14	829.9	1.4354E-04	19.3			
150	2,4345E-14	833.6	9.0790E-05	18.6			
160	1,5147E-14	835.7	5.8600E-05	18.0			
170	9,6342E-15	837.0	3,8473E-05	17.4			
180	6,2429E-15	837.8	2,5629E-05	17.0			
190	4,1090E-15	838.2	1,7289E-05	16.6			
200	2,7402E-15	838.5	1,1796E-05	16.2			
210	1,8478E-15	838.7	8,1339E-06	15.8			
220	1,2580E-15	838.8	5,6664E-06	15.5			
230	8,6372E-16	838.8	3,9890E-06	15.1			
240	5,9763E-16	838.8	2,8393E-06	14.7			
250	4,1660E-16	838.9	2,0454E-06	14.2			
260	2,9256E-16	838.9	1,4931E-06	13.7			
270	2,0720E-16	838.9	1,1164E-06	12.9			
280	1,4790E-16	838.9	8,4262E-07	12.2			
290	1,0656E-16	838.9	6,4738E-07	11.5			
300	7,7573E-17	838.9	5,0679E-07	10.7			
310	5,7138E-17	838.9	4,0444E-07	9.9			
320	4,2644E-17	838.9	3,2899E-07	9.0			
330	3,2293E-17	838.9	2,7260E-07	8.3			
340	2,4847E-17	838.9	2,2980E-07	7.5			
350	1,9445E-17	838.9	1,9678E-07	6.9			
360	1,5487E-17	838.9	1,7086E-07	6.3			
370	1,2556E-17	838.9	1,5014E-07	5.8			
380	1,0358E-17	838.9	1,3330E-07	5.4			
390	8,6867E-18	838.9	1,1936E-07	5.1			
400	7,3975E-18	838.9	1,0765E-07	4.8			
410	6,3869E-18	838.9	9,7654E-08	4.6			
420	5,5816E-18	838.9	8,9020E-08	4.4			
430	4,9290E-18	838.9	8,1473E-08	4.2			
440	4,3916E-18	838.9	7,4814E-08	4.1			
450	3,9420E-18	838.9	6,8889E-08	4.0			
460	3,5604E-18	838.9	6,3582E-08	3.9			
470	3,2322E-18	838.9	5,8800E-08	3.8			
480	2,9467E-18	838.9	5,4472E-08	3.8			
490	2,6957E-18	838.9	5,0540E-08	3.7			
500	2,4732E-18	838.9	4,6956E-08	3.7			
510	2,2745E-18	838.9	4,3680E-08	3.6			
520	2,0959E-18	838.9	4,0679E-08	3.6			
530	1,9347E-18	838.9	3,7926E-08	3.6			
540	1,7884E-18	838.9	3,5396E-08	3.5			

TABLE II. PREDICTED ATMOSPHERIC GAS
PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JULY 1, 1974		GM TIME 9 0.		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,9092E-12	470.7	1.3274E-02	26.3
80	2,4315E-12	617.6	4,9598E-03	25.2
90	9,4338E-13	702.9	2.2882E-03	24.1
100	4,3145E-13	752.6	1.1729E-03	23.0
110	2,1700E-13	781.7	6,4213E-04	22.0
120	1,1632E-13	798.8	3,6857E-04	21.0
130	6,5376E-14	808.8	2,1946E-04	20.0
140	3,8166E-14	814.7	1,3463E-04	19.2
150	2,2994E-14	818.2	8,4644E-05	18.5
160	1,4225E-14	820.3	5,4320E-05	17.9
170	8,9993E-15	821.5	3,5465E-05	17.3
180	5,8007E-15	822.2	2,3496E-05	16.9
190	3,7978E-15	822.7	1,5767E-05	16.5
200	2,5193E-15	823.0	1,0702E-05	16.1
210	1,6897E-15	823.1	7,3436E-06	15.7
220	1,1442E-15	823.2	5,0929E-06	15.4
230	7,8146E-16	823.3	3,5709E-06	15.0
240	5,3792E-16	823.3	2,5333E-06	14.5
250	3,7312E-16	823.3	1,8204E-06	14.0
260	2,6082E-16	823.3	1,3268E-06	13.5
270	1,8399E-16	823.3	9,9416E-07	12.7
280	1,3088E-16	823.4	7,5142E-07	11.9
290	9,4043E-17	823.4	5,7888E-07	11.1
300	6,8348E-17	823.4	4,5492E-07	10.3
310	5,0317E-17	823.4	3,6477E-07	9.4
320	3,7580E-17	823.4	2,9831E-07	8.6
330	2,8517E-17	823.4	2,4857E-07	7.9
340	2,2015E-17	823.4	2,1072E-07	7.2
350	1,7306E-17	823.4	1,8141E-07	6.5
360	1,3858E-17	823.4	1,5828E-07	6.0
370	1,1303E-17	823.4	1,3969E-07	5.5
380	9,3839E-18	823.4	1,2448E-07	5.2
390	7,9201E-18	823.4	1,1181E-07	4.8
400	6,7854E-18	823.4	1,0110E-07	4.6
410	5,8908E-18	823.4	9,1910E-08	4.4
420	5,1731E-18	823.4	8,3927E-08	4.2
430	4,5873E-18	823.4	7,6918E-08	4.1
440	4,1012E-18	823.4	7,0710E-08	4.0
450	3,6916E-18	823.4	6,5169E-08	3.9
460	3,3415E-18	823.4	6,0193E-08	3.8
470	3,0385E-18	823.4	5,5701E-08	3.7
480	2,7734E-18	823.4	5,1630E-08	3.7
490	2,5393E-18	823.4	4,7927E-08	3.6
500	2,3309E-18	823.4	4,4550E-08	3.6
510	2,1442E-18	823.4	4,1462E-08	3.5
520	1,9760E-18	823.4	3,8634E-08	3.5
530	1,8238E-18	823.4	3,6038E-08	3.5
540	1,6856E-18	823.4	3,3653E-08	3.4

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE OCTOBER 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.7161E-12	488.0	1.3457E-02	26.3
80	2.4356E-12	657.4	5.2725E-03	25.3
90	9.8422E-13	756.2	2.5512E-03	24.3
100	4.6961E-13	814.1	1.3657E-03	23.3
110	2.4593E-13	848.0	7.7744E-04	22.3
120	1.3682E-13	868.0	4.6209E-04	21.4
130	7.9527E-14	879.8	2.8397E-04	20.5
140	4.7856E-14	886.8	1.7931E-04	19.7
150	2.9639E-14	891.0	1.1582E-04	19.0
160	1.8811E-14	893.4	7.6265E-05	18.3
170	1.2193E-14	894.9	5.1048E-05	17.8
180	8.0472E-15	895.8	3.4653E-05	17.3
190	5.3935E-15	896.3	2.3812E-05	16.9
200	3.6626E-15	896.7	1.6541E-05	16.5
210	2.5153E-15	896.8	1.1604E-05	16.2
220	1.7441E-15	897.0	8.2159E-06	15.8
230	1.2195E-15	897.0	5.8703E-06	15.5
240	8.5921E-16	897.1	4.2332E-06	15.1
250	6.0954E-16	897.1	3.0822E-06	14.8
260	4.3529E-16	897.1	2.2676E-06	14.3
270	3.1298E-16	897.1	1.6942E-06	13.8
280	2.2651E-16	897.1	1.2778E-06	13.2
290	1.6510E-16	897.1	9.7712E-07	12.6
300	1.2127E-16	897.1	7.5832E-07	11.9
310	8.9846E-17	897.1	5.9782E-07	11.2
320	6.7197E-17	897.1	4.7902E-07	10.5
330	5.0791E-17	897.1	3.9021E-07	9.7
340	3.8842E-17	897.1	3.2307E-07	9.0
350	3.0086E-17	897.1	2.7169E-07	8.3
360	2.3629E-17	897.1	2.3184E-07	7.6
370	1.8829E-17	897.1	2.0049E-07	7.0
380	1.5233E-17	897.1	1.7546E-07	6.5
390	1.2512E-17	897.1	1.5517E-07	6.0
400	1.0433E-17	897.1	1.3847E-07	5.6
410	8.8245E-18	897.1	1.2451E-07	5.3
420	7.5652E-18	897.1	1.1270E-07	5.0
430	6.5658E-18	897.1	1.0256E-07	4.8
440	5.7617E-18	897.1	9.3754E-08	4.6
450	5.1053E-18	897.1	8.6031E-08	4.4
460	4.5620E-18	897.1	7.9195E-08	4.3
470	4.1059E-18	897.1	7.3095E-08	4.2
480	3.7181E-18	897.1	6.7616E-08	4.1
490	3.3843E-18	897.1	6.2667E-08	4.0
500	3.0938E-18	897.1	5.8176E-08	4.0
510	2.8384E-18	897.1	5.4083E-08	3.9
520	2.6119E-18	897.1	5.0342E-08	3.9
530	2.4096E-18	897.1	4.6912E-08	3.8
540	2.2277E-18	897.1	4.3760E-08	3.8

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JANUARY 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM3)	TEMP (OK)	PRESSURE (DYNE/CM2)	MOL. WT (UNITLESS)
70	8.9448E-12	467.6	1.3240E-02	26.3
80	2.4301E-12	610.5	4.9029E-03	25.2
90	9.3544E-13	693.5	2.2415E-03	24.1
100	4.2434E-13	741.8	1.1395E-03	23.0
110	2.1179E-13	770.1	6.1925E-04	21.9
120	1.1273E-13	786.7	3.5311E-04	20.9
130	6.2963E-14	796.4	2.0902E-04	20.0
140	3.6551E-14	802.2	1.2753E-04	19.1
150	2.1908E-14	805.6	7.9776E-05	18.4
160	1.3489E-14	807.6	5.0948E-05	17.8
170	8.4945E-15	808.8	3.3106E-05	17.3
180	5.4507E-15	809.5	2.1833E-05	16.8
190	3.5527E-15	810.0	1.4585E-05	16.4
200	2.3460E-15	810.2	9.8573E-06	16.0
210	1.5664E-15	810.4	6.7361E-06	15.7
220	1.0559E-15	810.5	4.6541E-06	15.3
230	7.1789E-16	810.5	3.2526E-06	14.9
240	4.9201E-16	810.5	2.3014E-06	14.4
250	3.3986E-16	810.6	1.6506E-06	13.9
260	2.3666E-16	810.6	1.2018E-06	13.3
270	1.6642E-16	810.6	9.0287E-07	12.4
280	1.1806E-16	810.6	6.8360E-07	11.6
290	8.4670E-17	810.6	5.2811E-07	10.8
300	6.1472E-17	810.6	4.1657E-07	9.9
310	4.5255E-17	810.6	3.3549E-07	9.1
320	3.3838E-17	810.6	2.7569E-07	8.3
330	2.5736E-17	810.6	2.3086E-07	7.5
340	1.9935E-17	810.6	1.9665E-07	6.8
350	1.5738E-17	810.6	1.7005E-07	6.2
360	1.2666E-17	810.6	1.4897E-07	5.7
370	1.0387E-17	810.6	1.3194E-07	5.3
380	8.6703E-18	810.6	1.1792E-07	5.0
390	7.3568E-18	810.6	1.0619E-07	4.7
400	6.3340E-18	810.6	9.6215E-08	4.4
410	5.5232E-18	810.6	8.7616E-08	4.2
420	4.8688E-18	810.6	8.0117E-08	4.1
430	4.3313E-18	810.6	7.3510E-08	4.0
440	3.8824E-18	810.6	6.7640E-08	3.9
450	3.5018E-18	810.6	6.2389E-08	3.8
460	3.1747E-18	810.6	5.7665E-08	3.7
470	2.8902E-18	810.6	5.3396E-08	3.6
480	2.6403E-18	810.6	4.9521E-08	3.6
490	2.4187E-18	810.6	4.5995E-08	3.5
500	2.2209E-18	810.6	4.2778E-08	3.5
510	2.0433E-18	810.6	3.9836E-08	3.5
520	1.8831E-18	810.6	3.7140E-08	3.4
530	1.7379E-18	810.6	3.4667E-08	3.4
540	1.6059E-18	810.6	3.2394E-08	3.3

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE APRIL 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,8349E-12	477.3	1.3344E-02	26.3
80	2,4338E-12	632.6	5,0792E-03	25.2
90	9,5955E-13	722.9	2,3874E-03	24.2
100	4,4620E-13	775.6	1,2446E-03	23.1
110	2,2799E-13	806.4	6,9182E-04	22.1
120	1,2399E-13	824.5	4,0250E-04	21.1
130	7,0598E-14	835.2	2,4261E-04	20.2
140	4,1699E-14	841.5	1,5050E-04	19.4
150	2,5391E-14	845.2	9,5617E-05	18.7
160	1,5864E-14	847.4	6,1978E-05	18.0
170	1,0131E-14	848.7	4,0858E-05	17.5
180	6,5905E-15	849.5	2,7327E-05	17.0
190	4,3547E-15	850.0	1,8508E-05	16.6
200	2,9154E-15	850.3	1,2676E-05	16.3
210	1,9736E-15	850.5	8,7720E-06	15.9
220	1,3489E-15	850.6	6,1317E-06	15.6
230	9,2979E-16	850.6	4,3297E-06	15.2
240	6,4583E-16	850.7	3,0899E-06	14.8
250	4,5186E-16	850.7	2,2304E-06	14.3
260	3,1844E-16	850.7	1,6303E-06	13.8
270	2,2621E-16	850.7	1,2179E-06	13.1
280	1,6191E-16	850.7	9,1856E-07	12.5
290	1,1691E-16	850.7	7,0459E-07	11.7
300	8,5237E-17	850.7	5,5023E-07	11.0
310	6,2831E-17	850.7	4,3772E-07	10.2
320	4,6886E-17	850.7	3,5475E-07	9.3
330	3,5468E-17	850.7	2,9278E-07	8.6
340	2,7236E-17	850.7	2,4581E-07	7.8
350	2,1252E-17	850.7	2,0966E-07	7.2
360	1,6865E-17	850.7	1,8138E-07	6.6
370	1,3616E-17	850.7	1,5887E-07	6.1
380	1,1181E-17	850.7	1,4064E-07	5.6
390	9,3340E-18	850.7	1,2563E-07	5.3
400	7,9128E-18	850.7	1,1307E-07	5.0
410	6,8030E-18	850.7	1,0240E-07	4.7
420	5,9225E-18	850.7	9,3225E-08	4.5
430	5,2127E-18	850.7	8,5231E-08	4.3
440	4,6313E-18	850.7	7,8199E-08	4.2
450	4,1475E-18	850.7	7,1958E-08	4.1
460	3,7391E-18	850.7	6,6379E-08	4.0
470	3,3896E-18	850.7	6,1361E-08	3.9
480	3,0868E-18	850.7	5,6825E-08	3.8
490	2,8218E-18	850.7	5,2707E-08	3.8
500	2,5876E-18	850.7	4,8956E-08	3.7
510	2,3790E-18	850.7	4,5529E-08	3.7
520	2,1920E-18	850.7	4,2391E-08	3.7
530	2,0234E-18	850.7	3,9512E-08	3.6
540	1,8706E-18	850.7	3,6865E-08	3.6

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JULY 1, 1975

GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	9.0210E-12	461.0	1.3168E-02	26.3
80	2.4264E-12	595.6	4.7822E-03	25.1
90	9.1809E-13	673.8	2.1435E-03	24.0
100	4.0913E-13	719.3	1.0703E-03	22.9
110	2.0082E-13	746.0	5.7245E-04	21.8
120	1.0528E-13	761.6	3.2183E-04	20.7
130	5.8014E-14	770.8	1.8809E-04	19.8
140	3.3272E-14	776.2	1.1343E-04	18.9
150	1.9724E-14	779.4	7.0180E-05	18.2
160	1.2020E-14	781.3	4.4349E-05	17.6
170	7.4942E-15	782.4	2.8525E-05	17.1
180	4.7618E-15	783.1	1.8624E-05	16.7
190	3.0733E-15	783.5	1.2320E-05	16.3
200	2.0094E-15	783.7	8.2496E-06	15.9
210	1.3284E-15	783.9	5.5885E-06	15.5
220	8.8661E-16	784.0	3.8310E-06	15.1
230	5.9696E-16	784.0	2.6596E-06	14.6
240	4.0530E-16	784.1	1.8721E-06	14.1
250	2.7751E-16	784.1	1.3382E-06	13.5
260	1.9172E-16	784.1	9.7317E-07	12.8
270	1.3400E-16	784.1	7.3752E-07	11.8
280	9.4581E-17	784.1	5.6142E-07	11.0
290	6.7617E-17	784.1	4.3706E-07	10.1
300	4.9047E-17	784.1	3.4804E-07	9.2
310	3.6165E-17	784.1	2.8332E-07	8.3
320	2.7155E-17	784.1	2.3544E-07	7.5
330	2.0792E-17	784.1	1.9936E-07	6.8
340	1.6250E-17	784.1	1.7161E-07	6.2
350	1.2967E-17	784.1	1.4981E-07	5.6
360	1.0559E-17	784.1	1.3234E-07	5.2
370	8.7654E-18	784.1	1.1806E-07	4.8
380	7.4049E-18	784.1	1.0616E-07	4.5
390	6.3536E-18	784.1	9.6088E-08	4.3
400	5.5253E-18	784.1	8.7430E-08	4.1
410	4.8601E-18	784.1	7.9896E-08	4.0
420	4.3156E-18	784.1	7.3273E-08	3.8
430	3.8621E-18	784.1	6.7399E-08	3.7
440	3.4782E-18	784.1	6.2152E-08	3.6
450	3.1487E-18	784.1	5.7439E-08	3.6
460	2.8624E-18	784.1	5.3186E-08	3.5
470	2.6111E-18	784.1	4.9332E-08	3.5
480	2.3885E-18	784.1	4.5830E-08	3.4
490	2.1900E-18	784.1	4.2638E-08	3.3
500	2.0119E-18	784.1	3.9724E-08	3.3
510	1.8514E-18	784.1	3.7059E-08	3.3
520	1.7062E-18	784.1	3.4616E-08	3.2
530	1.5745E-18	784.1	3.2375E-08	3.2
540	1.4546E-18	784.1	3.0316E-08	3.1

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE OCTOBER 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,7503E-12	484.9	1.3425E-02	26.3
80	2,4353E-12	650.1	5.2165E-03	25.2
90	9,7727E-13	746.4	2.5033E-03	24.2
100	4,6290E-13	802.7	1.3300E-03	23.2
110	2,4073E-13	835.8	7.5197E-04	22.2
120	1,3305E-13	855.2	4.4422E-04	21.3
130	7,6881E-14	866.6	2.7147E-04	20.4
140	4,6016E-14	873.4	1.7054E-04	19.6
150	2,8360E-14	877.4	1,0964E-04	18.9
160	1,7918E-14	879.8	7.1868E-05	18.2
170	1,1565E-14	881.3	4,7896E-05	17.7
180	7,6011E-15	882.1	3,2375E-05	17.2
190	5,0738E-15	882.6	2,2155E-05	16.8
200	3,4316E-15	882.9	1,5327E-05	16.4
210	2,3471E-15	883.1	1,0710E-05	16.1
220	1,6208E-15	883.2	7,5552E-06	15.8
230	1,1287E-15	883.3	5,3796E-06	15.4
240	7,9199E-16	883.3	3,8673E-06	15.0
250	5,5962E-16	883.4	2,8084E-06	14.6
260	3,9810E-16	883.4	2,0619E-06	14.2
270	2,8523E-16	883.4	1,5396E-06	13.6
280	2,0574E-16	883.4	1,1608E-06	13.0
290	1,4953E-16	883.4	8,8802E-07	12.4
300	1,0957E-16	883.4	6,9009E-07	11.7
310	8,1033E-17	883.4	5,4520E-07	10.9
320	6,0542E-17	883.4	4,3812E-07	10.2
330	4,5750E-17	883.4	3,5812E-07	9.4
340	3,5010E-17	883.4	2,9763E-07	8.6
350	2,7161E-17	883.4	2,5128E-07	7.9
360	2,1383E-17	883.4	2,1527E-07	7.3
370	1,7096E-17	883.4	1,8686E-07	6.7
380	1,3885E-17	883.4	1,6409E-07	6.2
390	1,1455E-17	883.4	1,4555E-07	5.8
400	9,5960E-18	883.4	1,3023E-07	5.4
410	8,1549E-18	883.4	1,1737E-07	5.1
420	7,0231E-18	883.4	1,0642E-07	4.8
430	6,1213E-18	883.4	9,6987E-08	4.6
440	5,3922E-18	883.4	8,8764E-08	4.5
450	4,7941E-18	883.4	8,1524E-08	4.3
460	4,2962E-18	883.4	7,5095E-08	4.2
470	3,8760E-18	883.4	6,9344E-08	4.1
480	3,5166E-18	883.4	6,4167E-08	4.0
490	3,2057E-18	883.4	5,9482E-08	4.0
500	2,9338E-18	883.4	5,5226E-08	3.9
510	2,6938E-18	883.4	5,1343E-08	3.9
520	2,4802E-18	883.4	4,7791E-08	3.8
530	2,2888E-18	883.4	4,4534E-08	3.8
540	2,1162E-18	883.4	4,1540E-08	3.7

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE	JANUARY 1, 1976				GM TIME	9	0
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)			
70	8,9135E-12	470.3	1.3269E-02	26.3			
80	2,4313E-12	616.7	4.9528E-03	25.2			
90	9,4242E-13	701.7	2.2825E-03	24.1			
100	4,3058E-13	751.3	1,1688E-03	23.0			
110	2,1636E-13	780.3	6,3930E-04	22.0			
120	1,1588E-13	797.3	3,6665E-04	21.0			
130	6,5078E-14	807.3	2,1816E-04	20.0			
140	3,7966E-14	813.2	1,3374E-04	19.2			
150	2,2859E-14	816.6	8,4035E-05	18.5			
160	1,4134E-14	818.7	5,3897E-05	17.9			
170	8,9363E-15	819.9	3,5169E-05	17.3			
180	5,7569E-15	820.7	2,3287E-05	16.9			
190	3,7671E-15	821.1	1,5618E-05	16.5			
200	2,4975E-15	821.4	1,0596E-05	16.1			
210	1,6742E-15	821.5	7,2668E-06	15.7			
220	1,1331E-15	821.6	5,0373E-06	15.4			
230	7,7344E-16	821.7	3,5305E-06	15.0			
240	5,3212E-16	821.7	2,5038E-06	14.5			
250	3,6890E-16	821.8	1,7987E-06	14.0			
260	2,5775E-16	821.8	1,3108E-06	13.4			
270	1,8175E-16	821.8	9,8248E-07	12.6			
280	1,2924E-16	821.8	7,4273E-07	11.9			
290	9,2845E-17	821.8	5,7237E-07	11.1			
300	6,7468E-17	821.8	4,4999E-07	10.2			
310	4,9668E-17	821.8	3,6101E-07	9.4			
320	3,7099E-17	821.8	2,9540E-07	8.6			
330	2,8159E-17	821.8	2,4630E-07	7.8			
340	2,1747E-17	821.8	2,0891E-07	7.1			
350	1,7104E-17	821.8	1,7995E-07	6.5			
360	1,3704E-17	821.8	1,5708E-07	6.0			
370	1,1185E-17	821.8	1,3870E-07	5.5			
380	9,2920E-18	821.8	1,2364E-07	5.1			
390	7,8476E-18	821.8	1,1109E-07	4.8			
400	6,7274E-18	821.8	1,0048E-07	4.6			
410	5,8436E-18	821.8	9,1361E-08	4.4			
420	5,1341E-18	821.8	8,3439E-08	4.2			
430	4,5546E-18	821.8	7,6482E-08	4.1			
440	4,0734E-18	821.8	7,0317E-08	4.0			
450	3,6675E-18	821.8	6,4813E-08	3.9			
460	3,3204E-18	821.8	5,9869E-08	3.8			
470	3,0197E-18	821.8	5,5405E-08	3.7			
480	2,7566E-18	821.8	5,1359E-08	3.7			
490	2,5241E-18	821.8	4,7679E-08	3.6			
500	2,3170E-18	821.8	4,4322E-08	3.6			
510	2,1315E-18	821.8	4,1252E-08	3.5			
520	1,9643E-18	821.8	3,8440E-08	3.5			
530	1,8130E-18	821.8	3,5860E-08	3.5			
540	1,6755E-18	821.8	3,3489E-08	3.4			

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE APRIL 1, 1976

GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.6935E-12	490.1	1.3479E-02	26.3
80	2.4356E-12	662.2	5.3096E-03	25.3
90	9.8874E-13	762.6	2.5831E-03	24.3
100	4.7403E-13	821.6	1.3897E-03	23.3
110	2.4939E-13	856.2	7.9466E-04	22.3
120	1.3934E-13	876.6	4.7424E-04	21.4
130	8.1310E-14	888.7	2.9251E-04	20.5
140	4.9104E-14	895.6	1.8532E-04	19.7
150	3.0510E-14	900.1	1.2008E-04	19.0
160	1.9422E-14	902.6	7.9308E-05	18.4
170	1.2625E-14	904.1	5.3238E-05	17.8
180	8.3548E-15	905.0	3.6241E-05	17.4
190	5.6146E-15	905.6	2.4972E-05	16.9
200	3.8230E-15	905.9	1.7393E-05	16.6
210	2.6324E-15	906.1	1.2233E-05	16.2
220	1.8302E-15	906.2	8.6829E-06	15.9
230	1.2832E-15	906.3	6.2183E-06	15.6
240	9.0649E-16	906.4	4.4935E-06	15.2
250	6.4478E-16	906.4	3.2777E-06	14.8
260	4.6163E-16	906.4	2.4149E-06	14.4
270	3.3271E-16	906.4	1.8053E-06	13.9
280	2.4133E-16	906.4	1.3622E-06	13.4
290	1.7625E-16	906.4	1.0415E-06	12.8
300	1.2968E-16	906.4	8.0773E-07	12.1
310	9.6201E-17	906.4	6.3599E-07	11.4
320	7.2011E-17	906.4	5.0874E-07	10.7
330	5.4449E-17	906.4	4.1354E-07	9.9
340	4.1630E-17	906.4	3.4157E-07	9.2
350	3.2220E-17	906.4	2.8652E-07	8.5
360	2.5269E-17	906.4	2.4387E-07	7.8
370	2.0098E-17	906.4	2.1037E-07	7.2
380	1.6221E-17	906.4	1.8368E-07	6.7
390	1.3287E-17	906.4	1.6210E-07	6.2
400	1.1046E-17	906.4	1.4439E-07	5.8
410	9.3142E-18	906.4	1.2964E-07	5.4
420	7.9608E-18	906.4	1.1719E-07	5.1
430	6.8893E-18	906.4	1.0654E-07	4.9
440	6.0296E-18	906.4	9.7310E-08	4.7
450	5.3301E-18	906.4	8.9238E-08	4.5
460	4.7531E-18	906.4	8.2108E-08	4.4
470	4.2706E-18	906.4	7.5758E-08	4.2
480	3.8618E-18	906.4	7.0063E-08	4.2
490	3.5111E-18	906.4	6.4926E-08	4.1
500	3.2069E-18	906.4	6.0269E-08	4.0
510	2.9403E-18	906.4	5.6028E-08	4.0
520	2.7045E-18	906.4	5.2153E-08	3.9
530	2.4943E-18	906.4	4.8602E-08	3.9
540	2.3057E-18	906.4	4.5340E-08	3.8

TABLE II. PREDICTED ATMOSPHERIC GAS
PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE JULY 1, 1976		LGM TIME 9 0		
ALT (NM)	DENSITY (GM/CM3)	TEMP (OK)	PRESSURE (DYNE/CM2)	MOL. WT (UNITLESS)
70	8.7311E-12	486.7	1.3443E-02	26.3
80	2.4355E-12	654.2	5.2480E-03	25.2
90	9.8119E-13	751.9	2.5302E-03	24.2
100	4.6668E-13	809.1	1.3500E-03	23.3
110	2.4365E-13	842.6	7.6621E-04	22.3
120	1.3516E-13	862.4	4.5419E-04	21.3
130	7.8361E-14	874.0	2.7844E-04	20.5
140	4.7044E-14	880.9	1.7542E-04	19.6
150	2.9073E-14	885.0	1.1308E-04	18.9
160	1.8416E-14	887.4	7.4310E-05	18.3
170	1.1914E-14	888.9	4.9645E-05	17.7
180	7.8491E-15	889.8	3.3638E-05	17.3
190	5.2514E-15	890.3	2.3073E-05	16.9
200	3.5599E-15	890.6	1.5999E-05	16.5
210	2.4404E-15	890.8	1.1204E-05	16.1
220	1.6891E-15	890.9	7.9202E-06	15.8
230	1.1790E-15	891.0	5.6504E-06	15.5
240	8.2916E-16	891.0	4.0690E-06	15.1
250	5.8720E-16	891.1	2.9592E-06	14.7
260	4.1863E-16	891.1	2.1751E-06	14.3
270	3.0053E-16	891.1	1.6246E-06	13.7
280	2.1718E-16	891.1	1.2251E-06	13.1
290	1.5810E-16	891.1	9.3694E-07	12.5
300	1.1601E-16	891.1	7.2753E-07	11.8
310	8.5875E-17	891.1	5.7406E-07	11.1
320	6.4195E-17	891.1	4.6055E-07	10.3
330	4.8514E-17	891.1	3.7571E-07	9.6
340	3.7110E-17	891.1	3.1157E-07	8.8
350	2.8763E-17	891.1	2.6247E-07	8.1
360	2.2612E-17	891.1	2.2436E-07	7.5
370	1.8045E-17	891.1	1.9434E-07	6.9
380	1.4622E-17	891.1	1.7033E-07	6.4
390	1.2034E-17	891.1	1.5083E-07	5.9
400	1.0054E-17	891.1	1.3476E-07	5.5
410	8.5214E-18	891.1	1.2130E-07	5.2
420	7.3200E-18	891.1	1.0988E-07	4.9
430	6.3650E-18	891.1	1.0006E-07	4.7
440	5.5949E-18	891.1	9.1514E-08	4.5
450	4.9650E-18	891.1	8.4009E-08	4.4
460	4.4423E-18	891.1	7.7356E-08	4.3
470	4.0026E-18	891.1	7.1413E-08	4.2
480	3.6277E-18	891.1	6.6070E-08	4.1
490	3.3043E-18	891.1	6.1240E-08	4.0
500	3.0222E-18	891.1	5.6853E-08	3.9
510	2.7737E-18	891.1	5.2855E-08	3.9
520	2.5531E-18	891.1	4.9198E-08	3.8
530	2.3557E-18	891.1	4.5845E-08	3.8
540	2.1780E-18	891.1	4.2764E-08	3.8

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE OCTOBER 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM3)	TEMP (OK)	PRESSURE (DYNE/CM2)	MOL. WT (UNITLESS)
70	8.2905E-12	529.1	1.3862E-02	26.3
80	2.4184E-12	757.0	5.9915E-03	25.4
90	1.0571E-12	895.1	3.2002E-03	24.6
100	5.4896E-13	979.1	1.8786E-03	23.8
110	3.1268E-13	1030.3	1.1644E-03	23.0
120	1.8851E-13	1061.5	7.4835E-04	22.2
130	1.1817E-13	1080.7	4.9418E-04	21.5
140	7.6262E-14	1092.5	3.3351E-04	20.8
150	5.0386E-14	1099.7	2.2922E-04	20.1
160	3.3955E-14	1104.2	1.6005E-04	19.5
170	2.3282E-14	1107.0	1.1332E-04	18.9
180	1.6210E-14	1108.7	8.1212E-05	18.4
190	1.1441E-14	1109.6	5.8837E-05	17.9
200	8.1741E-15	1110.5	4.3040E-05	17.5
210	5.9033E-15	1110.9	3.1757E-05	17.2
220	4.3044E-15	1111.2	2.3615E-05	16.8
230	3.1653E-15	1111.3	1.7687E-05	16.5
240	2.3452E-15	1111.4	1.3335E-05	16.3
250	1.7493E-15	1111.5	1.0118E-05	16.0
260	1.3127E-15	1111.5	7.7248E-06	15.7
270	9.9045E-16	1111.6	5.9359E-06	15.4
280	7.5108E-16	1111.6	4.5884E-06	15.1
290	5.7227E-16	1111.6	3.5698E-06	14.8
300	4.3801E-16	1111.6	2.7962E-06	14.5
310	3.3675E-16	1111.6	2.2060E-06	14.1
320	2.6005E-16	1111.6	1.7537E-06	13.7
330	2.0173E-16	1111.6	1.4055E-06	13.3
340	1.5723E-16	1111.6	1.1362E-06	12.8
350	1.2316E-16	1111.6	9.2697E-07	12.3
360	9.6988E-17	1111.6	7.6351E-07	11.7
370	7.6814E-17	1111.6	6.3512E-07	11.2
380	6.1212E-17	1111.6	5.3368E-07	10.6
390	4.9104E-17	1111.6	4.5300E-07	10.0
400	3.9673E-17	1111.6	3.8841E-07	9.4
410	3.2301E-17	1111.6	3.3630E-07	8.9
420	2.6513E-17	1111.6	2.9393E-07	8.3
430	2.1950E-17	1111.6	2.5919E-07	7.8
440	1.8335E-17	1111.6	2.3046E-07	7.4
450	1.5456E-17	1111.6	2.0647E-07	6.9
460	1.3151E-17	1111.6	1.8627E-07	6.5
470	1.1293E-17	1111.6	1.6909E-07	6.2
480	9.7871E-18	1111.6	1.5434E-07	5.9
490	8.5571E-18	1111.6	1.4157E-07	5.6
500	7.5450E-18	1111.6	1.3042E-07	5.3
510	6.7057E-18	1111.6	1.2060E-07	5.1
520	6.0040E-18	1111.6	1.1188E-07	5.0
530	5.4124E-18	1111.6	1.0409E-07	4.8
540	4.9093E-18	1111.6	9.7078E-08	4.7

TABLE II. PREDICTED ATMOSPHERIC GAS
 PROPERTIES FOR PLUS TWO SIGMA CONDITIONS

DATE	JANUARY 1, 1977				GM TIME	9	0
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL, WT (UNITLESS)			
70	8.3528E-12	522.8	1.3804E-02	26.3			
80	2.4238E-12	741.1	5.8835E-03	25.4			
90	1.0484E-12	872.1	3.0980E-03	24.5			
100	5.3808E-13	951.0	1.7941E-03	23.7			
110	3.0280E-13	998.7	1.0978E-03	22.9			
120	1.8039E-13	1027.6	6.9714E-04	22.1			
130	1.1178E-13	1045.1	4.5522E-04	21.3			
140	7.1357E-14	1055.8	3.0400E-04	20.6			
150	4.6663E-14	1062.3	2.0690E-04	19.9			
160	3.1146E-14	1066.3	1.4313E-04	19.3			
170	2.1164E-14	1068.7	1.0044E-04	18.7			
180	1.4610E-14	1070.2	7.1373E-05	18.2			
190	1.0228E-14	1071.2	5.1284E-05	17.8			
200	7.2502E-15	1071.8	3.7214E-05	17.4			
210	5.1959E-15	1072.1	2.7243E-05	17.0			
220	3.7597E-15	1072.3	2.0103E-05	16.7			
230	2.7438E-15	1072.5	1.4943E-05	16.4			
240	2.0175E-15	1072.6	1.1185E-05	16.1			
250	1.4934E-15	1072.6	8.4273E-06	15.8			
260	1.1122E-15	1072.6	6.3913E-06	15.5			
270	8.3285E-16	1072.7	4.8818E-06	15.2			
280	6.2687E-16	1072.7	3.7528E-06	14.9			
290	4.7413E-16	1072.7	2.9057E-06	14.6			
300	3.6032E-16	1072.7	2.2669E-06	14.2			
310	2.7513E-16	1072.7	1.7830E-06	13.8			
320	2.1110E-16	1072.7	1.4146E-06	13.3			
330	1.6279E-16	1072.7	1.1327E-06	12.8			
340	1.2620E-16	1072.7	9.1602E-07	12.3			
350	9.8396E-17	1072.7	7.4845E-07	11.7			
360	7.7190E-17	1072.7	6.1811E-07	11.1			
370	6.0959E-17	1072.7	5.1608E-07	10.5			
380	4.8490E-17	1072.7	4.3565E-07	9.9			
390	3.8874E-17	1072.7	3.7176E-07	9.3			
400	3.1427E-17	1072.7	3.2062E-07	8.7			
410	2.5635E-17	1072.7	2.7931E-07	8.2			
420	2.1107E-17	1072.7	2.4563E-07	7.7			
430	1.7550E-17	1072.7	2.1792E-07	7.2			
440	1.4739E-17	1072.7	1.9489E-07	6.7			
450	1.2504E-17	1072.7	1.7555E-07	6.4			
460	1.0714E-17	1072.7	1.5915E-07	6.0			
470	9.2710E-18	1072.7	1.4510E-07	5.7			
480	8.0979E-18	1072.7	1.3295E-07	5.4			
490	7.1364E-18	1072.7	1.2234E-07	5.2			
500	6.3413E-18	1072.7	1.1301E-07	5.0			
510	5.6779E-18	1072.7	1.0472E-07	4.8			
520	5.1191E-18	1072.7	9.7313E-08	4.7			
530	4.6442E-18	1072.7	9.0648E-08	4.6			
540	4.2367E-18	1072.7	8.4615E-08	4.5			

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JANUARY 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (°K)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.1381E-12	544.7	1.4004E-02	26.3
80	2.3990E-12	799.2	6.2617E-03	25.2
90	1.0738E-12	958.1	3.4639E-03	24.7
100	5.7352E-13	1058.7	2.1066E-03	24.0
110	3.3660E-13	1121.7	1.3502E-03	23.3
120	2.0922E-13	1161.4	8.9590E-04	22.6
130	1.3517E-13	1186.7	6.0996E-04	21.9
140	8.9826E-14	1202.7	4.2363E-04	21.2
150	6.1031E-14	1212.5	2.9918E-04	20.6
160	4.2235E-14	1219.4	2.1434E-04	20.0
170	2.9694E-14	1223.5	1.5551E-04	19.4
180	2.1171E-14	1226.2	1.1410E-04	18.9
190	1.5285E-14	1227.9	8.4561E-05	18.5
200	1.1161E-14	1229.0	6.3237E-05	18.0
210	8.2327E-15	1229.7	4.7675E-05	17.7
220	6.1289E-15	1230.1	3.6209E-05	17.3
230	4.6005E-15	1230.4	2.7685E-05	17.0
240	3.4789E-15	1230.6	2.1299E-05	16.7
250	2.6483E-15	1230.8	1.6480E-05	16.4
260	2.0282E-15	1230.8	1.2821E-05	16.2
270	1.5617E-15	1230.9	1.0028E-05	15.9
280	1.2085E-15	1230.9	7.8829E-06	15.7
290	9.3939E-16	1231.0	6.2282E-06	15.4
300	7.3332E-16	1231.0	4.9462E-06	15.2
310	5.7473E-16	1231.0	3.9489E-06	14.9
320	4.5217E-16	1231.0	3.1699E-06	14.6
330	3.5707E-16	1231.0	2.5593E-06	14.3
340	2.8302E-16	1231.0	2.0788E-06	13.9
350	2.2515E-16	1231.0	1.6993E-06	13.6
360	1.7980E-16	1231.0	1.3984E-06	13.2
370	1.4415E-16	1231.0	1.1589E-06	12.7
380	1.1605E-16	1231.0	9.6758E-07	12.3
390	9.3826E-17	1231.0	8.1403E-07	11.8
400	7.6211E-17	1231.0	6.9026E-07	11.3
410	6.2207E-17	1231.0	5.9002E-07	10.8
420	5.1042E-17	1231.0	5.0841E-07	10.3
430	4.2116E-17	1231.0	4.4163E-07	9.8
440	3.4956E-17	1231.0	3.8665E-07	9.3
450	2.9196E-17	1231.0	3.4111E-07	8.8
460	2.4546E-17	1231.0	3.0316E-07	8.3
470	2.0778E-17	1231.0	2.7131E-07	7.8
480	1.7714E-17	1231.0	2.4439E-07	7.4
490	1.5210E-17	1231.0	2.2148E-07	7.0
500	1.3157E-17	1231.0	2.0184E-07	6.7
510	1.1464E-17	1231.0	1.8488E-07	6.3
520	1.0062E-17	1231.0	1.7012E-07	6.1
530	8.8941E-18	1231.0	1.5718E-07	5.8
540	7.9157E-18	1231.0	1.4577E-07	5.6

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE APRIL 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0970E-12	549.0	1.4042E-02	26.3
80	2.3916E-12	811.7	6.3364E-03	25.5
90	1.0767E-12	977.5	3.5396E-03	24.7
100	5.7939E-13	1084.3	2.1752E-03	24.0
110	3.4288E-13	1151.9	1.4082E-03	23.3
120	2.1501E-13	1194.8	9.4340E-04	22.6
130	1.4016E-13	1222.8	6.4849E-04	22.0
140	9.3981E-14	1240.6	4.5447E-04	21.3
150	6.4412E-14	1252.1	3.2373E-04	20.7
160	4.4949E-14	1259.5	2.3384E-04	20.1
170	3.1856E-14	1264.3	1.7099E-04	19.6
180	2.2887E-14	1267.4	1.2640E-04	19.1
190	1.6644E-14	1269.4	9.4360E-05	18.6
200	1.2239E-14	1270.7	7.1062E-05	18.2
210	9.0890E-15	1271.6	5.3942E-05	17.8
220	6.8111E-15	1272.2	4.1243E-05	17.5
230	5.1457E-15	1272.5	3.1741E-05	17.2
240	3.9161E-15	1272.8	2.4576E-05	16.9
250	3.0002E-15	1272.9	1.9136E-05	16.6
260	2.3122E-15	1273.0	1.4978E-05	16.3
270	1.7916E-15	1273.1	1.1784E-05	16.1
280	1.3951E-15	1273.2	9.3157E-06	15.9
290	1.0913E-15	1273.2	7.3996E-06	15.6
300	8.5720E-16	1273.2	5.9059E-06	15.4
310	6.7596E-16	1273.2	4.7366E-06	15.1
320	5.3502E-16	1273.2	3.8179E-06	14.8
330	4.2499E-16	1273.2	3.0933E-06	14.5
340	3.3877E-16	1273.2	2.5198E-06	14.2
350	2.7098E-16	1273.2	2.0643E-06	13.9
360	2.1751E-16	1273.2	1.7013E-06	13.5
370	1.7522E-16	1273.2	1.4110E-06	13.1
380	1.4167E-16	1273.2	1.1779E-06	12.7
390	1.1499E-16	1273.2	9.9005E-07	12.3
400	9.3711E-17	1273.2	8.3811E-07	11.8
410	7.6697E-17	1273.2	7.1468E-07	11.4
420	6.3058E-17	1273.2	6.1397E-07	10.9
430	5.2094E-17	1273.2	5.3140E-07	10.4
440	4.3258E-17	1273.2	4.6338E-07	9.9
450	3.6116E-17	1273.2	4.0704E-07	9.4
460	3.0326E-17	1273.2	3.6011E-07	8.9
470	2.5618E-17	1273.2	3.2080E-07	8.5
480	2.1776E-17	1273.2	2.8766E-07	8.0
490	1.8631E-17	1273.2	2.5954E-07	7.6
500	1.6046E-17	1273.2	2.3553E-07	7.2
510	1.3914E-17	1273.2	2.1489E-07	6.9
520	1.2146E-17	1273.2	1.9702E-07	6.5
530	1.0675E-17	1273.2	1.8145E-07	6.2
540	9.4445E-18	1273.2	1.6780E-07	6.0

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JULY 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,2213E-12	536.1	1.3927E-02	26.3
80	2,4109E-12	775.5	6.1132E-03	25.4
90	1,0656E-12	922.3	3.3171E-03	24.6
100	5,6056E-13	1012.9	1.9780E-03	23.9
110	3,2363E-13	1068.6	1.2441E-03	23.1
120	1,9778E-13	1103.3	8.1088E-04	22.4
130	1,2563E-13	1124.8	5.4258E-04	21.7
140	8,2121E-14	1138.1	3.7073E-04	21.0
150	5,4917E-14	1146.5	2.5779E-04	20.3
160	3,7433E-14	1151.7	1.8200E-04	19.7
170	2,5943E-14	1154.9	1.3021E-04	19.1
180	1,8247E-14	1157.0	9.4264E-05	18.6
190	1,3004E-14	1158.3	6.8961E-05	18.2
200	9,3777E-15	1159.1	5.0926E-05	17.7
210	6,8345E-15	1159.6	3.7926E-05	17.4
220	5,0282E-15	1160.0	2.8460E-05	17.0
230	3,7305E-15	1160.2	2.1506E-05	16.7
240	2,7886E-15	1160.3	1.6355E-05	16.5
250	2,0985E-15	1160.4	1.2514E-05	16.2
260	1,5887E-15	1160.4	9.6308E-06	15.9
270	1,2093E-15	1160.5	7.4558E-06	15.7
280	9,2513E-16	1160.5	5.8037E-06	15.4
290	7,1100E-16	1160.5	4.5438E-06	15.1
300	5,4883E-16	1160.5	3.5787E-06	14.8
310	4,2543E-16	1160.5	2.8363E-06	14.5
320	3,3113E-16	1160.5	2.2627E-06	14.1
330	2,5880E-16	1160.5	1.8177E-06	13.7
340	2,0311E-16	1160.5	1.4711E-06	13.3
350	1,6010E-16	1160.5	1.1999E-06	12.9
360	1,2677E-16	1160.5	9.8688E-07	12.4
370	1,0087E-16	1160.5	8.1868E-07	11.9
380	8,0665E-17	1160.5	6.8523E-07	11.4
390	6,4866E-17	1160.5	5.7878E-07	10.8
400	5,2470E-17	1160.5	4.9339E-07	10.3
410	4,2712E-17	1160.5	4.2448E-07	9.7
420	3,5005E-17	1160.5	3.6849E-07	9.2
430	2,8896E-17	1160.5	3.2268E-07	8.6
440	2,4034E-17	1160.5	2.8492E-07	8.1
450	2,0149E-17	1160.5	2.5356E-07	7.7
460	1,7031E-17	1160.5	2.2731E-07	7.2
470	1,4515E-17	1160.5	2.0514E-07	6.8
480	1,2476E-17	1160.5	1.8626E-07	6.5
490	1,0813E-17	1160.5	1.7005E-07	6.1
500	9,4494E-18	1160.5	1.5602E-07	5.8
510	8,3235E-18	1160.5	1.4377E-07	5.6
520	7,3876E-18	1160.5	1.3300E-07	5.4
530	6,6042E-18	1160.5	1.2345E-07	5.2
540	5,9435E-18	1160.5	1.1493E-07	5.0

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE OCTOBER 1, 1971

GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNF/CM ²)	MOL. WT (UNITLESS)
70	8.0998E-12	548.7	1.4039E-02	26.0
80	2.3922E-12	810.8	6.3313E-03	25.2
90	1.0766E-12	976.9	3.5371E-03	24.7
100	5.7901E-13	1082.5	2.1704E-03	24.0
110	3.4246E-13	1149.8	1.4041E-03	23.3
120	2.1462E-13	1192.7	9.4034E-04	22.6
130	1.3982E-13	1220.3	6.4576E-04	22.0
140	9.3692E-14	1237.9	4.5227E-04	21.3
150	6.4175E-14	1249.3	3.2196E-04	20.7
160	4.4757E-14	1256.6	2.3243E-04	20.1
170	3.1702E-14	1261.3	1.6986E-04	19.6
180	2.2764E-14	1264.4	1.2550E-04	19.1
190	1.6546E-14	1266.4	9.3641E-05	18.6
200	1.2161E-14	1267.7	7.0485E-05	18.2
210	9.0268E-15	1268.6	5.3479E-05	17.8
220	6.7613E-15	1269.1	4.0870E-05	17.5
230	5.1057E-15	1269.5	3.1439E-05	17.1
240	3.8840E-15	1269.7	2.4332E-05	16.9
250	2.9742E-15	1269.9	1.8937E-05	16.6
260	2.2912E-15	1270.0	1.4816E-05	16.3
270	1.7746E-15	1270.1	1.1652E-05	16.1
280	1.3812E-15	1270.1	9.2073E-06	15.8
290	1.0799E-15	1270.1	7.3107E-06	15.6
300	8.4791E-16	1270.1	5.8328E-06	15.4
310	6.6834E-16	1270.2	4.6765E-06	15.1
320	5.2877E-16	1270.2	3.7683E-06	14.8
330	4.1985E-16	1270.2	3.0523E-06	14.5
340	3.3453E-16	1270.2	2.4858E-06	14.2
350	2.6749E-16	1270.2	2.0361E-06	13.9
360	2.1463E-16	1270.2	1.6779E-06	13.5
370	1.7284E-16	1270.2	1.3914E-06	13.1
380	1.3970E-16	1270.2	1.1615E-06	12.7
390	1.1336E-16	1270.2	9.7635E-07	12.3
400	9.2358E-17	1270.2	8.2659E-07	11.8
410	7.5573E-17	1270.2	7.0495E-07	11.3
420	6.2123E-17	1270.2	6.0572E-07	10.8
430	5.1316E-17	1270.2	5.2439E-07	10.3
440	4.2609E-17	1270.2	4.5738E-07	9.8
450	3.5574E-17	1270.2	4.0188E-07	9.3
460	2.9872E-17	1270.2	3.5566E-07	8.9
470	2.5237E-17	1270.2	3.1693E-07	8.4
480	2.1456E-17	1270.2	2.8428E-07	8.0
490	1.8361E-17	1270.2	2.5658E-07	7.6
500	1.5818E-17	1270.2	2.3291E-07	7.2
510	1.3720E-17	1270.2	2.1256E-07	6.8
520	1.1981E-17	1270.2	1.9494E-07	6.5
530	1.0534E-17	1270.2	1.7958E-07	6.2
540	9.3237E-18	1270.2	1.6610E-07	5.9

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JANUARY 1, 1972		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.2363E-12	534.6	1.3913E-02	26.3
80	2.4127E-12	771.4	6.0867E-03	25.4
90	1.0639E-12	916.4	3.2919E-03	24.6
100	5.5810E-13	1005.3	1.9560E-03	23.9
110	3.2126E-13	1060.1	1.2263E-03	23.1
120	1.9575E-13	1093.9	7.9679E-04	22.3
130	1.2398E-13	1114.8	5.3159E-04	21.6
140	8.0814E-14	1127.7	3.6222E-04	20.9
150	5.3897E-14	1135.8	2.5122E-04	20.3
160	3.6645E-14	1140.8	1.7692E-04	19.6
170	2.5336E-14	1144.0	1.2628E-04	19.1
180	1.7780E-14	1146.0	9.1216E-05	18.6
190	1.2644E-14	1147.2	6.6587E-05	18.1
200	9.0989E-15	1148.0	4.9069E-05	17.7
210	6.6178E-15	1148.5	3.6467E-05	17.3
220	4.8591E-15	1148.8	2.7310E-05	17.0
230	3.5980E-15	1149.0	2.0596E-05	16.7
240	2.6842E-15	1149.1	1.5634E-05	16.4
250	2.0160E-15	1149.2	1.1939E-05	16.1
260	1.5233E-15	1149.3	9.1720E-06	15.9
270	1.1573E-15	1149.3	7.0886E-06	15.6
280	8.8358E-16	1149.3	5.5091E-06	15.3
290	6.7776E-16	1149.3	4.3069E-06	15.0
300	5.2218E-16	1149.3	3.3878E-06	14.7
310	4.0403E-16	1149.3	2.6820E-06	14.4
320	3.1392E-16	1149.3	2.1377E-06	14.0
330	2.4493E-16	1149.3	1.7162E-06	13.6
340	1.9192E-16	1149.3	1.3884E-06	13.2
350	1.5106E-16	1149.3	1.1324E-06	12.7
360	1.1946E-16	1149.3	9.3150E-07	12.3
370	9.4939E-17	1149.3	7.7309E-07	11.7
380	7.5856E-17	1149.3	6.4754E-07	11.2
390	6.0957E-17	1149.3	5.4747E-07	10.6
400	4.9287E-17	1149.3	4.6725E-07	10.1
410	4.0116E-17	1149.3	4.0252E-07	9.5
420	3.2882E-17	1149.3	3.4993E-07	9.0
430	2.7155E-17	1149.3	3.0689E-07	8.5
440	2.2603E-17	1149.3	2.7140E-07	8.0
450	1.8969E-17	1149.3	2.4189E-07	7.5
460	1.6054E-17	1149.3	2.1716E-07	7.1
470	1.3704E-17	1149.3	1.9624E-07	6.7
480	1.1799E-17	1149.3	1.7841E-07	6.3
490	1.0245E-17	1149.3	1.6307E-07	6.0
500	8.9703E-18	1149.3	1.4976E-07	5.7
510	7.9171E-18	1149.3	1.3812E-07	5.3
520	7.0407E-18	1149.3	1.2786E-07	5.3
530	6.3061E-18	1149.3	1.1875E-07	5.1
540	5.6856E-18	1149.3	1.1061E-07	4.9

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE APRIL 1, 1972 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.1618E-12	542.3	1.3982E-02	26.3
80	2.4028E-12	792.3	6.2191E-03	25.5
90	1.0717E-12	947.8	3.4226E-03	24.7
100	5.6996E-13	1044.9	2.0687E-03	23.9
110	3.3293E-13	1105.7	1.3186E-03	23.2
120	2.0592E-13	1143.8	8.7041E-04	22.5
130	1.3238E-13	1167.8	5.8950E-04	21.8
140	8.7544E-14	1182.9	4.0743E-04	21.1
150	5.9200E-14	1192.5	2.8641E-04	20.5
160	4.0783E-14	1198.5	2.0429E-04	19.9
170	2.8550E-14	1202.4	1.4760E-04	19.3
180	2.0273E-14	1204.8	1.0786E-04	18.8
190	1.4579E-14	1206.4	7.9627E-05	18.4
200	1.0606E-14	1207.4	5.9323E-05	18.0
210	7.7951E-15	1208.0	4.4561E-05	17.6
220	5.7827E-15	1208.5	3.3722E-05	17.2
230	4.3255E-15	1208.7	2.5693E-05	16.9
240	3.2597E-15	1208.9	1.9698E-05	16.6
250	2.4730E-15	1209.0	1.5191E-05	16.4
260	1.8875E-15	1209.1	1.1780E-05	16.1
270	1.4484E-15	1209.1	9.1848E-06	15.9
280	1.1170E-15	1209.2	7.1985E-06	15.6
290	8.6533E-16	1209.2	5.6715E-06	15.3
300	6.7324E-16	1209.2	4.4925E-06	15.1
310	5.2591E-16	1209.2	3.5783E-06	14.8
320	4.1243E-16	1209.2	2.8667E-06	14.5
330	3.2467E-16	1209.2	2.3106E-06	14.1
340	2.5656E-16	1209.2	1.8743E-06	13.8
350	2.0353E-16	1209.2	1.5307E-06	13.4
360	1.6210E-16	1209.2	1.2591E-06	12.9
370	1.2965E-16	1209.2	1.0435E-06	12.5
380	1.0414E-16	1209.2	8.7156E-07	12.0
390	8.4046E-17	1209.2	7.3389E-07	11.5
400	6.8164E-17	1209.2	6.2310E-07	11.0
410	5.5576E-17	1209.2	5.3350E-07	10.5
420	4.5570E-17	1209.2	4.6062E-07	9.9
430	3.7591E-17	1209.2	4.0100E-07	9.4
440	3.1208E-17	1209.2	3.5192E-07	8.9
450	2.6083E-17	1209.2	3.1126E-07	8.4
460	2.1955E-17	1209.2	2.7733E-07	8.0
470	1.8615E-17	1209.2	2.4882E-07	7.5
480	1.5902E-17	1209.2	2.2469E-07	7.1
490	1.3688E-17	1209.2	2.0410E-07	6.7
500	1.1873E-17	1209.2	1.8640E-07	6.4
510	1.0377E-17	1209.2	1.7107E-07	6.1
520	9.1369E-18	1209.2	1.5769E-07	5.8
530	8.1030E-18	1209.2	1.4592E-07	5.6
540	7.2356E-18	1209.2	1.3551E-07	5.4

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
 FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JULY 1, 1972		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.2977E-12	528.4	1.3856E-02	26.3
80	2.4191E-12	755.1	5.9791E-03	25.4
90	1.0561E-12	892.4	3.1883E-03	24.6
100	5.4773E-13	975.8	1.8687E-03	23.8
110	3.1154E-13	1026.5	1.1565E-03	23.0
120	1.8757E-13	1057.5	7.4225E-04	22.2
130	1.1742E-13	1076.4	4.8951E-04	21.5
140	7.5683E-14	1088.1	3.2994E-04	20.8
150	4.9942E-14	1095.3	2.2651E-04	20.1
160	3.3619E-14	1099.7	1.5799E-04	19.5
170	2.3027E-14	1102.4	1.1174E-04	18.9
180	1.6016E-14	1104.1	8.0001E-05	18.4
190	1.1294E-14	1105.2	5.7904E-05	17.9
200	8.0611E-15	1105.8	4.2317E-05	17.5
210	5.8165E-15	1106.2	3.1194E-05	17.2
220	4.2373E-15	1106.5	2.3176E-05	16.8
230	3.1132E-15	1106.7	1.7343E-05	16.5
240	2.3046E-15	1106.8	1.3065E-05	16.2
250	1.7174E-15	1106.8	9.9047E-06	16.0
260	1.2876E-15	1106.9	7.5558E-06	15.7
270	9.7069E-16	1106.9	5.8018E-06	15.4
280	7.3546E-16	1106.9	4.4818E-06	15.1
290	5.5988E-16	1106.9	3.4848E-06	14.8
300	4.2817E-16	1106.9	2.7282E-06	14.4
310	3.2891E-16	1106.9	2.1515E-06	14.1
320	2.5380E-16	1106.9	1.7099E-06	13.7
330	1.9674E-16	1106.9	1.3702E-06	13.2
340	1.5325E-16	1106.9	1.1077E-06	12.7
350	1.1997E-16	1106.9	9.0376E-07	12.2
360	9.4428E-17	1106.9	7.4457E-07	11.7
370	7.4757E-17	1106.9	6.1960E-07	11.1
380	5.9556E-17	1106.9	5.2088E-07	10.5
390	4.7769E-17	1106.9	4.4240E-07	9.9
400	3.8594E-17	1106.9	3.7956E-07	9.4
410	3.1426E-17	1106.9	3.2887E-07	8.8
420	2.5803E-17	1106.9	2.8764E-07	8.3
430	2.1370E-17	1106.9	2.5382E-07	7.8
440	1.7861E-17	1106.9	2.2584E-07	7.3
450	1.5066E-17	1106.9	2.0247E-07	6.8
460	1.2829E-17	1106.9	1.8276E-07	6.5
470	1.1026E-17	1106.9	1.6600E-07	6.1
480	9.5644E-18	1106.9	1.5159E-07	5.8
490	8.3700E-18	1106.9	1.3911E-07	5.5
500	7.3868E-18	1106.9	1.2820E-07	5.3
510	6.5710E-18	1106.9	1.1858E-07	5.1
520	5.8884E-18	1106.9	1.1003E-07	4.9
530	5.3123E-18	1106.9	1.0238E-07	4.8
540	4.8220E-18	1106.9	9.5501E-08	4.6

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE OCTOBER 1, 1972 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.1498E-12	543.5	1.3994E-02	26.3
80	2.4009E-12	795.8	6.2407E-03	25.2
90	1.0728E-12	953.3	3.4444E-03	24.7
100	5.7179E-13	1051.9	2.0878E-03	24.0
110	3.3480E-13	1113.7	1.3345E-03	23.2
120	2.0760E-13	1152.7	8.8327E-04	22.5
130	1.3379E-13	1177.3	5.9975E-04	21.8
140	8.8694E-14	1192.8	4.1554E-04	21.2
150	6.0121E-14	1202.7	2.9278E-04	20.5
160	4.1512E-14	1208.9	2.0930E-04	19.9
170	2.9123E-14	1212.9	1.5154E-04	19.4
180	2.0722E-14	1215.5	1.1096E-04	18.9
190	1.4932E-14	1217.1	8.2078E-05	18.4
200	1.0882E-14	1218.2	6.1265E-05	18.0
210	8.0130E-15	1218.8	4.6105E-05	17.6
220	5.9549E-15	1219.3	3.4953E-05	17.3
230	4.4621E-15	1219.6	2.6678E-05	17.0
240	3.3685E-15	1219.7	2.0489E-05	16.7
250	2.5599E-15	1219.9	1.5827E-05	16.4
260	1.9572E-15	1219.9	1.2293E-05	16.2
270	1.5045E-15	1220.0	9.6003E-06	15.9
280	1.1622E-15	1220.0	7.5354E-06	15.6
290	9.0191E-16	1220.0	5.9453E-06	15.4
300	7.0289E-16	1220.1	4.7154E-06	15.1
310	5.4998E-16	1220.1	3.7602E-06	14.8
320	4.3200E-16	1220.1	3.0154E-06	14.5
330	3.4061E-16	1220.1	2.4325E-06	14.2
340	2.6957E-16	1220.1	1.9744E-06	13.9
350	2.1415E-16	1220.1	1.6132E-06	13.5
360	1.7079E-16	1220.1	1.3272E-06	13.1
370	1.3676E-16	1220.1	1.0999E-06	12.6
380	1.0997E-16	1220.1	9.1846E-07	12.1
390	8.8832E-17	1220.1	7.7301E-07	11.7
400	7.2098E-17	1220.1	6.5588E-07	11.2
410	5.8815E-17	1220.1	5.6107E-07	10.6
420	4.8241E-17	1220.1	4.8393E-07	10.1
430	3.9798E-17	1220.1	4.2082E-07	9.6
440	3.3035E-17	1220.1	3.6886E-07	9.1
450	2.7600E-17	1220.1	3.2583E-07	8.6
460	2.3216E-17	1220.1	2.8994E-07	8.1
470	1.9667E-17	1220.1	2.5980E-07	7.7
480	1.6783E-17	1220.1	2.3431E-07	7.3
490	1.4428E-17	1220.1	2.1259E-07	6.9
500	1.2497E-17	1220.1	1.9395E-07	6.5
510	1.0906E-17	1220.1	1.7782E-07	6.2
520	9.5867E-18	1220.1	1.6377E-07	5.9
530	8.4877E-18	1220.1	1.5144E-07	5.7
540	7.5665E-18	1220.1	1.4054E-07	5.5

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JANUARY 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.2843E-12	529.7	1.3868E-02	26.3
80	2.4178E-12	758.6	6.0024E-03	25.4
90	1.0579E-12	897.5	3.2105E-03	24.6
100	5.5002E-13	982.0	1.8873E-03	23.8
110	3.1366E-13	1033.6	1.1712E-03	23.0
120	1.8933E-13	1065.1	7.5369E-04	22.2
130	1.1882E-13	1084.4	4.9828E-04	21.5
140	7.6769E-14	1096.3	3.3663E-04	20.8
150	5.0773E-14	1103.7	2.3161E-04	20.1
160	3.4250E-14	1108.2	1.6187E-04	19.5
170	2.3506E-14	1111.0	1.1471E-04	18.9
180	1.6380E-14	1112.8	8.2280E-05	18.4
190	1.1571E-14	1113.9	5.9662E-05	18.0
200	8.2735E-15	1114.6	4.3679E-05	17.6
210	5.9799E-15	1115.0	3.2254E-05	17.2
220	4.3636E-15	1115.3	2.4004E-05	16.9
230	3.2113E-15	1115.4	1.7992E-05	16.6
240	2.3812E-15	1115.5	1.3575E-05	16.5
250	1.7775E-15	1115.6	1.0308E-05	16.0
260	1.3348E-15	1115.7	7.8750E-06	15.7
270	1.0080E-15	1115.7	6.0551E-06	15.4
280	7.6494E-16	1115.7	4.6834E-06	15.2
290	5.8327E-16	1115.7	3.6456E-06	14.8
300	4.4676E-16	1115.7	2.8568E-06	14.5
310	3.4371E-16	1115.7	2.2546E-06	14.1
320	2.6560E-16	1115.7	1.7928E-06	13.7
330	2.0617E-16	1115.7	1.4371E-06	13.6
340	1.6079E-16	1115.7	1.1618E-06	12.8
350	1.2601E-16	1115.7	9.4774E-07	12.6
360	9.9276E-17	1115.7	7.8047E-07	11.8
370	7.8653E-17	1115.7	6.4903E-07	11.2
380	6.2693E-17	1115.7	5.4514E-07	10.7
390	5.0299E-17	1115.7	4.6251E-07	10.1
400	4.0640E-17	1115.7	3.9634E-07	9.5
410	3.3085E-17	1115.7	3.4296E-07	9.0
420	2.7150E-17	1115.7	2.9957E-07	8.4
430	2.2470E-17	1115.7	2.6400E-07	7.9
440	1.8760E-17	1115.7	2.3459E-07	7.4
450	1.5806E-17	1115.7	2.1006E-07	7.0
460	1.3439E-17	1115.7	1.8940E-07	6.6
470	1.1533E-17	1115.7	1.7185E-07	6.2
480	9.9872E-18	1115.7	1.5679E-07	5.9
490	8.7251E-18	1115.7	1.4377E-07	5.6
500	7.6870E-18	1115.7	1.3240E-07	5.4
510	6.8267E-18	1115.7	1.2240E-07	5.2
520	6.1078E-18	1115.7	1.1353E-07	5.0
530	5.5021E-18	1115.7	1.0560E-07	4.8
540	4.9874E-18	1115.7	9.8479E-08	4.7

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE APRIL 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.2136E-12	536.9	1.3934E-02	26.3
80	2.4099E-12	777.6	6.1267E-03	25.4
90	1.0664E-12	925.6	3.3310E-03	24.6
100	5.6180E-13	1016.9	1.9893E-03	23.9
110	3.2483E-13	1073.3	1.2534E-03	23.1
120	1.9882E-13	1108.3	8.1820E-04	22.4
130	1.2648E-13	1130.0	5.4829E-04	21.7
140	8.2796E-14	1143.6	3.7517E-04	21.0
150	5.5445E-14	1152.0	2.6123E-04	20.3
160	3.7843E-14	1157.3	1.8466E-04	19.7
170	2.6260E-14	1160.7	1.3227E-04	19.2
180	1.8491E-14	1162.8	9.5870E-05	18.6
190	1.3193E-14	1164.1	7.0215E-05	18.2
200	9.5242E-15	1164.9	5.1908E-05	17.8
210	6.9484E-15	1165.5	3.8699E-05	17.4
220	5.1173E-15	1165.8	2.9070E-05	17.1
230	3.8005E-15	1166.0	2.1989E-05	16.8
240	2.8437E-15	1166.1	1.6740E-05	16.5
250	2.1422E-15	1166.2	1.2821E-05	16.2
260	1.6234E-15	1166.3	9.8760E-06	15.9
270	1.2370E-15	1166.3	7.6522E-06	15.7
280	9.4724E-16	1166.4	5.9616E-06	15.4
290	7.2872E-16	1166.4	4.6710E-06	15.1
300	5.6305E-16	1166.4	3.6814E-06	14.8
310	4.3687E-16	1166.4	2.9193E-06	14.5
320	3.4035E-16	1166.4	2.3300E-06	14.2
330	2.6624E-16	1166.4	1.8725E-06	13.8
340	2.0913E-16	1166.4	1.5158E-06	13.4
350	1.6497E-16	1166.4	1.2365E-06	12.9
360	1.3072E-16	1166.4	1.0169E-06	12.5
370	1.0407E-16	1166.4	8.4339E-07	12.0
380	8.3265E-17	1166.4	7.0567E-07	11.4
390	6.6982E-17	1166.4	5.9577E-07	10.9
400	5.4195E-17	1166.4	5.0759E-07	10.4
410	4.4122E-17	1166.4	4.3640E-07	9.8
420	3.6159E-17	1166.4	3.7856E-07	9.3
430	2.9843E-17	1166.4	3.3125E-07	8.7
440	2.4813E-17	1166.4	2.9226E-07	8.2
450	2.0792E-17	1166.4	2.5989E-07	7.8
460	1.7563E-17	1166.4	2.3280E-07	7.3
470	1.4958E-17	1166.4	2.0995E-07	6.9
480	1.2846E-17	1166.4	1.9050E-07	6.5
490	1.1123E-17	1166.4	1.7382E-07	6.2
500	9.7109E-18	1166.4	1.5940E-07	5.9
510	8.5451E-18	1166.4	1.4681E-07	5.6
520	7.5767E-18	1166.4	1.3576E-07	5.4
530	6.7665E-18	1166.4	1.2597E-07	5.2
540	6.0838E-18	1166.4	1.1724E-07	5.0

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JULY 1, 1973 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.3492E-12	523.2	1.3807E-02	26.5
80	2.4235E-12	742.0	5.8897E-03	25.4
90	1.0489E-12	873.4	3.1038E-03	24.5
100	5.3871E-13	952.6	1.7989E-03	23.7
110	3.0337E-13	1000.4	1.1015E-03	22.9
120	1.8085E-13	1029.4	6.9997E-04	22.1
130	1.1214E-13	1047.0	4.5735E-04	21.5
140	7.1630E-14	1057.8	3.0561E-04	20.9
150	4.6868E-14	1064.3	2.0810E-04	19.9
160	3.1300E-14	1068.4	1.4404E-04	19.5
170	2.1279E-14	1070.8	1.0113E-04	18.7
180	1.4697E-14	1072.3	7.1898E-05	18.2
190	1.0294E-14	1073.3	5.1685E-05	17.8
200	7.2998E-15	1073.9	3.7522E-05	17.4
210	5.2337E-15	1074.2	2.7480E-05	17.0
220	3.7887E-15	1074.5	2.0287E-05	16.7
230	2.7662E-15	1074.6	1.5086E-05	16.4
240	2.0348E-15	1074.7	1.1297E-05	16.1
250	1.5069E-15	1074.7	8.5149E-06	15.8
260	1.1227E-15	1074.8	6.4601E-06	15.5
270	8.4108E-16	1074.8	4.9360E-06	15.2
280	6.3333E-16	1074.8	3.7956E-06	14.9
290	4.7922E-16	1074.8	2.9395E-06	14.6
300	3.6433E-16	1074.8	2.2938E-06	14.2
310	2.7830E-16	1074.8	1.8044E-06	13.8
320	2.1360E-16	1074.8	1.4317E-06	13.5
330	1.6477E-16	1074.8	1.1465E-06	12.8
340	1.2778E-16	1074.8	9.2708E-07	12.5
350	9.9648E-17	1074.8	7.5739E-07	11.8
360	7.8188E-17	1074.8	6.2538E-07	11.2
370	6.1755E-17	1074.8	5.2202E-07	10.6
380	4.9127E-17	1074.8	4.4054E-07	10.0
390	3.9384E-17	1074.8	3.7582E-07	9.4
400	3.1837E-17	1074.8	3.2400E-07	8.8
410	2.5965E-17	1074.8	2.8215E-07	8.2
420	2.1375E-17	1074.8	2.4805E-07	7.7
430	1.7767E-17	1074.8	2.1999E-07	7.2
440	1.4916E-17	1074.8	1.9668E-07	6.8
450	1.2649E-17	1074.8	1.7711E-07	6.4
460	1.0834E-17	1074.8	1.6052E-07	6.0
470	9.3707E-18	1074.8	1.4632E-07	5.7
480	8.1813E-18	1074.8	1.3404E-07	5.5
490	7.2066E-18	1074.8	1.2332E-07	5.2
500	6.4010E-18	1074.8	1.1390E-07	5.0
510	5.7290E-18	1074.8	1.0554E-07	4.9
520	5.1633E-18	1074.8	9.8064E-08	4.7
530	4.6827E-18	1074.8	9.1342E-08	4.6
540	4.2705E-18	1074.8	8.5260E-08	4.5

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE OCTOBER 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.2093E-12	537.4	1.3939E-02	26.3
80	2.4094E-12	778.8	6.1345E-03	25.4
90	1.0669E-12	927.4	3.3386E-03	24.6
100	5.6250E-13	1019.2	1.9959E-03	23.9
110	3.2521E-13	1075.9	1.2587E-03	23.1
120	1.9941E-13	1111.1	8.2243E-04	22.4
130	1.2697E-13	1133.0	5.5161E-04	21.7
140	8.3185E-14	1146.7	3.7775E-04	21.0
150	5.5750E-14	1155.3	2.6323E-04	20.3
160	3.8080E-14	1160.6	1.8621E-04	19.7
170	2.6443E-14	1164.0	1.3348E-04	19.2
180	1.8633E-14	1166.1	9.6806E-05	18.7
190	1.3303E-14	1167.5	7.0947E-05	18.2
200	9.6094E-15	1168.3	5.2483E-05	17.8
210	7.0149E-15	1168.8	3.9151E-05	17.4
220	5.1693E-15	1169.2	2.9428E-05	17.1
230	3.8413E-15	1169.4	2.2273E-05	16.8
240	2.8760E-15	1169.5	1.6966E-05	16.5
250	2.1677E-15	1169.6	1.3001E-05	16.2
260	1.6437E-15	1169.7	1.0020E-05	16.0
270	1.2532E-15	1169.7	7.7678E-06	15.7
280	9.6020E-16	1169.8	6.0545E-06	15.4
290	7.3912E-16	1169.8	4.7459E-06	15.1
300	5.7141E-16	1169.8	3.7419E-06	14.9
310	4.4360E-16	1169.8	2.9683E-06	14.5
320	3.4578E-16	1169.8	2.3698E-06	14.2
330	2.7062E-16	1169.8	1.9049E-06	13.8
340	2.1267E-16	1169.8	1.5422E-06	13.4
350	1.6784E-16	1169.8	1.2581E-06	13.0
360	1.3305E-16	1169.8	1.0346E-06	12.5
370	1.0596E-16	1169.8	8.5803E-07	12.0
380	8.4803E-17	1169.8	7.1778E-07	11.5
390	6.8235E-17	1169.8	6.0584E-07	11.0
400	5.5218E-17	1169.8	5.1600E-07	10.4
410	4.4958E-17	1169.8	4.4347E-07	9.9
420	3.6844E-17	1169.8	3.8453E-07	9.3
430	3.0405E-17	1169.8	3.3633E-07	8.8
440	2.5276E-17	1169.8	2.9661E-07	8.3
450	2.1174E-17	1169.8	2.6364E-07	7.8
460	1.7880E-17	1169.8	2.3606E-07	7.4
470	1.5221E-17	1169.8	2.1280E-07	7.0
480	1.3066E-17	1169.8	1.9301E-07	6.6
490	1.1308E-17	1169.8	1.7605E-07	6.2
500	9.8663E-18	1169.8	1.6139E-07	5.9
510	8.6769E-18	1169.8	1.4861E-07	5.7
520	7.6890E-18	1169.8	1.3739E-07	5.4
530	6.8629E-18	1169.8	1.2746E-07	5.2
540	6.1671E-18	1169.8	1.1861E-07	5.1

TABLE IXI. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JANUARY 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,3679E-12	521.3	1.3789E-02	26.3
80	2,4249E-12	737.3	5,8573E-03	25.4
90	1,0461E-12	866.7	3,0736E-03	24.5
100	5,3538E-13	944.5	1,7741E-03	23.7
110	3,0039E-13	991.4	1,0822E-03	22.9
120	1,7844E-13	1019.7	6,8527E-04	22.1
130	1,1027E-13	1036.9	4,4627E-04	21.3
140	7,0206E-14	1047.3	2,9728E-04	20.6
150	4,5799E-14	1053.7	2,0185E-04	19.9
160	3,0500E-14	1057.6	1,3933E-04	19.3
170	2,0681E-14	1059.9	9,7570E-05	18.7
180	1,4248E-14	1061.4	6,9195E-05	18.2
190	9,9586E-15	1062.3	4,9622E-05	17.7
200	7,0437E-15	1062.9	3,5939E-05	17.3
210	5,0386E-15	1063.2	2,6260E-05	17.0
220	3,6393E-15	1063.4	1,9342E-05	16.6
230	2,6511E-15	1063.6	1,4352E-05	16.3
240	1,9458E-15	1063.6	1,0724E-05	16.0
250	1,4377E-15	1063.7	8,0666E-06	15.8
260	1,0687E-15	1063.7	6,1083E-06	15.5
270	7,9887E-16	1063.8	4,6593E-06	15.2
280	6,0022E-16	1063.8	3,5773E-06	14.8
290	4,5319E-16	1063.8	2,7668E-06	14.5
300	3,4383E-16	1063.8	2,1567E-06	14.1
310	2,6212E-16	1063.8	1,6953E-06	13.7
320	2,0081E-16	1063.8	1,3446E-06	13.2
330	1,5465E-16	1063.8	1,0767E-06	12.7
340	1,1975E-16	1063.8	8,7089E-07	12.2
350	9,3272E-17	1063.8	7,1197E-07	11.6
360	7,3114E-17	1063.8	5,8846E-07	11.0
370	5,7711E-17	1063.8	4,9184E-07	10.4
380	4,5896E-17	1063.8	4,1571E-07	9.8
390	3,6796E-17	1063.8	3,5525E-07	9.2
400	2,9759E-17	1063.8	3,0682E-07	8.6
410	2,4291E-17	1063.8	2,6769E-07	8.0
420	2,0020E-17	1063.8	2,3577E-07	7.5
430	1,6667E-17	1063.8	2,0947E-07	7.0
440	1,4019E-17	1063.8	1,8758E-07	6.6
450	1,1913E-17	1063.8	1,6917E-07	6.2
460	1,0227E-17	1063.8	1,5353E-07	5.9
470	8,8661E-18	1063.8	1,4011E-07	5.6
480	7,7591E-18	1063.8	1,2848E-07	5.3
490	6,8507E-18	1063.8	1,1831E-07	5.1
500	6,0984E-18	1063.8	1,0934E-07	4.9
510	5,4696E-18	1063.8	1,0136E-07	4.8
520	4,9390E-18	1063.8	9,4221E-08	4.6
530	4,4869E-18	1063.8	8,7786E-08	4.5
540	4,0981E-18	1063.8	8,1954E-08	4.4

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE APRIL 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.3964E-12	518.5	1.3762E-02	26.3
80	2.4268E-12	730.2	5.8084E-03	25.4
90	1.0418E-12	856.7	3.0281E-03	24.5
100	5.3025E-13	932.4	1.7372E-03	23.7
110	2.9588E-13	977.9	1.0536E-03	22.8
120	1.7481E-13	1005.3	6.6358E-04	22.0
130	1.0747E-13	1021.9	4.3000E-04	21.2
140	6.8094E-14	1031.9	2.8512E-04	20.5
150	4.4220E-14	1038.0	1.9276E-04	19.8
160	2.9325E-14	1041.7	1.3252E-04	19.2
170	1.9806E-14	1043.9	9.2438E-05	18.6
180	1.3595E-14	1045.3	6.5310E-05	18.1
190	9.4653E-15	1046.2	4.6666E-05	17.6
200	6.6736E-15	1046.7	3.3678E-05	17.2
210	4.7575E-15	1047.0	2.4523E-05	16.9
220	3.4247E-15	1047.2	1.8001E-05	16.6
230	2.4863E-15	1047.4	1.3313E-05	16.3
240	1.8186E-15	1047.4	9.9157E-06	16.0
250	1.3392E-15	1047.5	7.4362E-06	15.7
260	9.9214E-16	1047.5	5.6150E-06	15.4
270	7.3914E-16	1047.5	4.2723E-06	15.1
280	5.5351E-16	1047.6	3.2728E-06	14.7
290	4.1658E-16	1047.6	2.5266E-06	14.4
300	3.1508E-16	1047.6	1.9666E-06	14.0
310	2.3950E-16	1047.6	1.5444E-06	13.5
320	1.8299E-16	1047.6	1.2243E-06	13.0
330	1.4058E-16	1047.6	9.8049E-07	12.5
340	1.0863E-16	1047.6	7.9364E-07	11.9
350	8.4463E-17	1047.6	6.4960E-07	11.3
360	6.6125E-17	1047.6	5.3783E-07	10.7
370	5.2154E-17	1047.6	4.5048E-07	10.1
380	4.1467E-17	1047.6	3.8169E-07	9.5
390	3.3258E-17	1047.6	3.2706E-07	8.9
400	2.6923E-17	1047.6	2.8327E-07	8.3
410	2.2009E-17	1047.6	2.4785E-07	7.7
420	1.8178E-17	1047.6	2.1890E-07	7.2
430	1.5173E-17	1047.6	1.9499E-07	6.8
440	1.2800E-17	1047.6	1.7503E-07	6.4
450	1.0914E-17	1047.6	1.5820E-07	6.0
460	9.4018E-18	1047.6	1.4384E-07	5.7
470	8.1802E-18	1047.6	1.3148E-07	5.4
480	7.1845E-18	1047.6	1.2073E-07	5.2
490	6.3654E-18	1047.6	1.1130E-07	5.0
500	5.6849E-18	1047.6	1.0295E-07	4.8
510	5.1140E-18	1047.6	9.5503E-08	4.7
520	4.6304E-18	1047.6	8.8817E-08	4.5
530	4.2167E-18	1047.6	8.2777E-08	4.4
540	3.8594E-18	1047.6	7.7290E-08	4.3

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JULY 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.4248E-12	515.7	1.3735E-02	26.3
80	2.4285E-12	723.3	5.7598E-03	25.4
90	1.0373E-12	846.9	2.9833E-03	24.5
100	5.2508E-13	920.7	1.7010E-03	23.6
110	2.9138E-13	964.9	1.0258E-03	22.8
120	1.7123E-13	991.4	6.4269E-04	22.0
130	1.0473E-13	1007.4	4.1443E-04	21.2
140	6.6045E-14	1017.0	2.7356E-04	20.4
150	4.2700E-14	1022.9	1.8416E-04	19.7
160	2.8201E-14	1026.4	1.2610E-04	19.1
170	1.8974E-14	1028.6	8.7626E-05	18.5
180	1.2976E-14	1029.9	6.1683E-05	18.0
190	9.0028E-15	1030.7	4.3917E-05	17.6
200	6.3259E-15	1031.2	3.1584E-05	17.2
210	4.4945E-15	1031.5	2.2919E-05	16.8
220	3.2245E-15	1031.7	1.6768E-05	16.5
230	2.3331E-15	1031.8	1.2361E-05	16.2
240	1.7009E-15	1031.9	9.1777E-06	15.9
250	1.2483E-15	1031.9	6.8625E-06	15.6
260	9.2169E-16	1032.0	5.1675E-06	15.3
270	6.8439E-16	1032.0	3.9227E-06	15.0
280	5.1085E-16	1032.0	2.9986E-06	14.6
290	3.8327E-16	1032.0	2.3109E-06	14.2
300	2.8901E-16	1032.0	1.7965E-06	13.8
310	2.1907E-16	1032.0	1.4097E-06	13.3
320	1.6695E-16	1032.0	1.1173E-06	12.8
330	1.2796E-16	1032.0	8.9510E-07	12.3
340	9.8686E-17	1032.0	7.2519E-07	11.7
350	7.6619E-17	1032.0	5.9442E-07	11.1
360	5.9922E-17	1032.0	4.9309E-07	10.4
370	4.7237E-17	1032.0	4.1396E-07	9.8
380	3.7560E-17	1032.0	3.5165E-07	9.2
390	3.0144E-17	1032.0	3.0215E-07	8.6
400	2.4433E-17	1032.0	2.6245E-07	8.0
410	2.0010E-17	1032.0	2.3027E-07	7.5
420	1.6566E-17	1032.0	2.0392E-07	7.0
430	1.3867E-17	1032.0	1.8210E-07	6.5
440	1.1736E-17	1032.0	1.6384E-07	6.1
450	1.0040E-17	1032.0	1.4838E-07	5.8
460	8.6804E-18	1032.0	1.3515E-07	5.5
470	7.5797E-18	1032.0	1.2372E-07	5.3
480	6.6804E-18	1032.0	1.1374E-07	5.0
490	5.9384E-18	1032.0	1.0495E-07	4.9
500	5.3199E-18	1032.0	9.7150E-08	4.7
510	4.7991E-18	1032.0	9.0173E-08	4.6
520	4.3560E-18	1032.0	8.3891E-08	4.5
530	3.9754E-18	1032.0	7.8202E-08	4.4
540	3.6451E-18	1032.0	7.3025E-08	4.3

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE OCTOBER 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,2994E-12	528.2	1.3854E-02	26.3
80	2,4193E-12	754.7	5.9761E-03	25.4
90	1,0559E-12	891.6	3.1854E-03	24.6
100	5,4743E-13	975.0	1.8663E-03	23.8
110	3,1127E-13	1025.6	1.1546E-03	23.0
120	1,8734E-13	1056.5	7.4079E-04	22.2
130	1,1724E-13	1075.4	4.8839E-04	21.5
140	7,5544E-14	1087.0	3,2909E-04	20.7
150	4,9836E-14	1094.2	2,2587E-04	20.1
160	3,3538E-14	1098.6	1,5750E-04	19.5
170	2,2966E-14	1101.3	1,1136E-04	18.9
180	1,5970E-14	1103.0	7,9712E-05	18.4
190	1,1258E-14	1104.1	5,7681E-05	17.9
200	8,0342E-15	1104.7	4,2145E-05	17.5
210	5,7958E-15	1105.1	3,1061E-05	17.1
220	4,2213E-15	1105.4	2,3072E-05	16.8
230	3,1008E-15	1105.5	1,7261E-05	16.5
240	2,2949E-15	1105.6	1,3000E-05	16.2
250	1,7099E-15	1105.7	9,8541E-06	16.0
260	1,2817E-15	1105.7	7,5157E-06	15.7
270	9,6600E-16	1105.8	5,7701E-06	15.4
280	7,3175E-16	1105.8	4,4566E-06	15.1
290	5,5695E-16	1105.8	3,4647E-06	14.8
300	4,2584E-16	1105.8	2,7122E-06	14.4
310	3,2706E-16	1105.8	2,1386E-06	14.1
320	2,5232E-16	1105.8	1,6995E-06	13.7
330	1,9557E-16	1105.8	1,3618E-06	13.2
340	1,5230E-16	1105.8	1,1009E-06	12.7
350	1,1922E-16	1105.8	8,9828E-07	12.2
360	9,3823E-17	1105.8	7,4011E-07	11.7
370	7,4272E-17	1105.8	6,1594E-07	11.1
380	5,9166E-17	1105.8	5,1786E-07	10.5
390	4,7454E-17	1105.8	4,3990E-07	9.9
400	3,8340E-17	1105.8	3,7747E-07	9.3
410	3,1220E-17	1105.8	3,2711E-07	8.8
420	2,5635E-17	1105.8	2,8615E-07	8.2
430	2,1234E-17	1105.8	2,5256E-07	7.7
440	1,7749E-17	1105.8	2,2475E-07	7.3
450	1,4975E-17	1105.8	2,0152E-07	6.8
460	1,2753E-17	1105.8	1,8194E-07	6.4
470	1,0964E-17	1105.8	1,6527E-07	6.1
480	9,5120E-18	1105.8	1,5094E-07	5.8
490	8,3260E-18	1105.8	1,3853E-07	5.5
500	7,3496E-18	1105.8	1,2767E-07	5.3
510	6,5392E-18	1105.8	1,1810E-07	5.1
520	5,8611E-18	1105.8	1,0959E-07	4.9
530	5,2887E-18	1105.8	1,0198E-07	4.8
540	4,8014E-18	1105.8	9,5128E-08	4.6

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JANUARY 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.4489E-12	513.4	1.3712E-02	26.3
80	2.4298E-12	717.6	5.7187E-03	25.4
90	1.0334E-12	838.8	2.9458E-03	24.5
100	5.2065E-13	911.0	1.6709E-03	23.6
110	2.8756E-13	954.1	1.0028E-03	22.8
120	1.6823E-13	980.0	6.2550E-04	21.9
130	1.0245E-13	995.5	4.0170E-04	21.1
140	6.4350E-14	1004.8	2.6414E-04	20.4
150	4.1450E-14	1010.5	1.7719E-04	19.7
160	2.7281E-14	1013.9	1.2092E-04	19.0
170	1.8296E-14	1016.0	8.3760E-05	18.5
180	1.2474E-14	1017.3	5.8781E-05	18.0
190	8.6293E-15	1018.0	4.1725E-05	17.5
200	6.0461E-15	1018.5	2.9919E-05	17.1
210	4.2836E-15	1018.8	2.1649E-05	16.8
220	3.0645E-15	1019.0	1.5794E-05	16.4
230	2.2111E-15	1019.1	1.1611E-05	16.1
240	1.6074E-15	1019.2	8.5990E-06	15.8
250	1.1763E-15	1019.2	6.4139E-06	15.5
260	8.6610E-16	1019.2	4.8189E-06	15.2
270	6.4133E-16	1019.2	3.6511E-06	14.9
280	4.7741E-16	1019.3	2.7863E-06	14.5
290	3.5724E-16	1019.3	2.1444E-06	14.1
300	2.6871E-16	1019.3	1.6655E-06	13.7
310	2.0321E-16	1019.3	1.3063E-06	13.2
320	1.5454E-16	1019.3	1.0353E-06	12.7
330	1.1823E-16	1019.3	8.2982E-07	12.1
340	9.1047E-17	1019.3	6.7294E-07	11.5
350	7.0609E-17	1019.3	5.5237E-07	10.8
360	5.5183E-17	1019.3	4.5902E-07	10.2
370	4.3491E-17	1019.3	3.8616E-07	9.5
380	3.4591E-17	1019.3	3.2878E-07	8.9
390	2.7783E-17	1019.3	2.8318E-07	8.3
400	2.2549E-17	1019.3	2.4656E-07	7.8
410	1.8500E-17	1019.3	2.1685E-07	7.2
420	1.5350E-17	1019.3	1.9246E-07	6.8
430	1.2882E-17	1019.3	1.7222E-07	6.3
440	1.0933E-17	1019.3	1.5522E-07	6.0
450	9.3817E-18	1019.3	1.4080E-07	5.6
460	8.1358E-18	1019.3	1.2842E-07	5.4
470	7.1255E-18	1019.3	1.1769E-07	5.1
480	6.2983E-18	1019.3	1.0830E-07	4.9
490	5.6138E-18	1019.3	1.0000E-07	4.8
500	5.0416E-18	1019.3	9.2618E-08	4.6
510	4.5580E-18	1019.3	8.5999E-08	4.5
520	4.1452E-18	1019.3	8.0027E-08	4.4
530	3.7892E-18	1019.3	7.4609E-08	4.3
540	3.4792E-18	1019.3	6.9670E-08	4.2

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE APRIL 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.3755E-12	520.6	1.3782E-02	26.3
80	2.4254E-12	735.4	5.8442E-03	25.4
90	1.0450E-12	864.0	3.0614E-03	24.5
100	5.3401E-13	941.2	1.7642E-03	23.7
110	2.9919E-13	987.7	1.0745E-03	22.9
120	1.7747E-13	1015.8	6.7940E-04	22.1
130	1.0951E-13	1032.8	4.4185E-04	21.3
140	6.9636E-14	1043.1	2.9398E-04	20.5
150	4.5371E-14	1049.4	1.9937E-04	19.9
160	3.0181E-14	1053.3	1.3747E-04	19.2
170	2.0443E-14	1055.6	9.6167E-05	18.7
180	1.4070E-14	1057.1	6.8131E-05	18.2
190	9.8219E-15	1057.9	4.8811E-05	17.7
200	6.9426E-15	1058.5	3.5318E-05	17.3
210	4.9617E-15	1058.8	2.5782E-05	16.9
220	3.5805E-15	1059.0	1.8973E-05	16.6
230	2.6059E-15	1059.2	1.4066E-05	16.3
240	1.9109E-15	1059.3	1.0501E-05	16.0
250	1.4106E-15	1059.3	7.8924E-06	15.7
260	1.0476E-15	1059.3	5.9718E-06	15.5
270	7.8240E-16	1059.4	4.5521E-06	15.1
280	5.8732E-16	1059.4	3.4928E-06	14.8
290	4.4307E-16	1059.4	2.7001E-06	14.5
300	3.3587E-16	1059.4	2.1039E-06	14.1
310	2.5585E-16	1059.4	1.6533E-06	13.6
320	1.9587E-16	1059.4	1.3111E-06	13.2
330	1.5074E-16	1059.4	1.0498E-06	12.6
340	1.1665E-16	1059.4	8.4933E-07	12.1
350	9.0818E-17	1059.4	6.9455E-07	11.5
360	7.1165E-17	1059.4	5.7432E-07	10.9
370	5.6159E-17	1059.4	4.8028E-07	10.3
380	4.4658E-17	1059.4	4.0620E-07	9.7
390	3.5806E-17	1059.4	3.4737E-07	9.1
400	2.8965E-17	1059.4	3.0024E-07	8.5
410	2.3651E-17	1059.4	2.6215E-07	7.9
420	1.9504E-17	1059.4	2.3106E-07	7.4
430	1.6248E-17	1059.4	2.0543E-07	7.0
440	1.3677E-17	1059.4	1.8409E-07	6.5
450	1.1633E-17	1059.4	1.6612E-07	6.2
460	9.9954E-18	1059.4	1.5084E-07	5.8
470	8.6738E-18	1059.4	1.3771E-07	5.5
480	7.5981E-18	1059.4	1.2633E-07	5.3
490	6.7148E-18	1059.4	1.1637E-07	5.1
500	5.9828E-18	1059.4	1.0757E-07	4.9
510	5.3703E-18	1059.4	9.9741E-08	4.7
520	4.8529E-18	1059.4	9.2728E-08	4.6
530	4.4116E-18	1059.4	8.6403E-08	4.5
540	4.0317E-18	1059.4	8.0667E-08	4.4

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JULY 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.5012E-12	508.3	1.3662E-02	26.3
80	2.4321E-12	705.2	5.6301E-03	25.3
90	1.0246E-12	821.6	2.8654E-03	24.4
100	5.1091E-13	890.6	1.6072E-03	23.5
110	2.7931E-13	931.6	9.5460E-04	22.7
120	1.6180E-13	956.0	5.8975E-04	21.8
130	9.7632E-14	970.7	3.7542E-04	21.0
140	6.0798E-14	979.4	2.4486E-04	20.2
150	3.8853E-14	984.7	1.6301E-04	19.5
160	2.5384E-14	987.9	1.1045E-04	18.9
170	1.6907E-14	989.8	7.5987E-05	18.3
180	1.1452E-14	991.0	5.2974E-05	17.8
190	7.8728E-15	991.7	3.7362E-05	17.4
200	5.4822E-15	992.1	2.6622E-05	17.0
210	3.8604E-15	992.4	1.9145E-05	16.6
220	2.7450E-15	992.5	1.3884E-05	16.3
230	1.9685E-15	992.6	1.0148E-05	16.0
240	1.4222E-15	992.7	7.4735E-06	15.7
250	1.0345E-15	992.7	5.5457E-06	15.4
260	7.5707E-16	992.7	4.1470E-06	15.1
270	5.5726E-16	992.8	3.1301E-06	14.7
280	4.1243E-16	992.8	2.3807E-06	14.3
290	3.0690E-16	992.8	1.8277E-06	13.9
300	2.2965E-16	992.8	1.4173E-06	13.4
310	1.7283E-16	992.8	1.1110E-06	12.8
320	1.3088E-16	992.8	8.8103E-07	12.3
330	9.9775E-17	992.8	7.0728E-07	11.6
340	7.6616E-17	992.8	5.7508E-07	11.0
350	5.9303E-17	992.8	4.7372E-07	10.3
360	4.6305E-17	992.8	3.9536E-07	9.7
370	3.6501E-17	992.8	3.3422E-07	9.0
380	2.9069E-17	992.8	2.8604E-07	8.4
390	2.3406E-17	992.8	2.4768E-07	7.8
400	1.9063E-17	992.8	2.1678E-07	7.3
410	1.5713E-17	992.8	1.9160E-07	6.8
420	1.3108E-17	992.8	1.7083E-07	6.3
430	1.1067E-17	992.8	1.5350E-07	6.0
440	9.4532E-18	992.8	1.3886E-07	5.6
450	8.1658E-18	992.8	1.2635E-07	5.3
460	7.1281E-18	992.8	1.1554E-07	5.1
470	6.2827E-18	992.8	1.0610E-07	4.9
480	5.5865E-18	992.8	9.7798E-08	4.7
490	5.0066E-18	992.8	9.0421E-08	4.6
500	4.5181E-18	992.8	8.3819E-08	4.5
510	4.1022E-18	992.8	7.7875E-08	4.3
520	3.7442E-18	992.8	7.2490E-08	4.3
530	3.4330E-18	992.8	6.7589E-08	4.2
540	3.1599E-18	992.8	6.3109E-08	4.1

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE OCTOBER 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.3210E-12	526.0	1.3834E-02	26.3
80	2.4212E-12	749.1	5.9385E-03	25.4
90	1.0529E-12	883.7	3.1498E-03	24.6
100	5.4368E-13	965.1	1.8368E-03	23.8
110	3.0785E-13	1014.5	1.1312E-03	23.0
120	1.8452E-13	1044.5	7.2276E-04	22.2
130	1.1501E-13	1062.9	4.7463E-04	21.4
140	7.3822E-14	1074.1	3.1865E-04	20.7
150	4.8526E-14	1081.0	2.1795E-04	20.0
160	3.2547E-14	1085.2	1.5148E-04	19.4
170	2.2216E-14	1087.8	1.0678E-04	18.8
180	1.5403E-14	1089.4	7.6204E-05	18.3
190	1.0828E-14	1090.4	5.4984E-05	17.9
200	7.7056E-15	1091.0	4.0061E-05	17.5
210	5.5438E-15	1091.4	2.9444E-05	17.1
220	4.0270E-15	1091.7	2.1812E-05	16.8
230	2.9502E-15	1091.8	1.6275E-05	16.5
240	2.1777E-15	1091.9	1.2227E-05	16.2
250	1.6182E-15	1092.0	9.2450E-06	15.9
260	1.2098E-15	1092.0	7.0347E-06	15.6
270	9.0940E-16	1092.0	5.3894E-06	15.3
280	6.8708E-16	1092.0	4.1544E-06	15.0
290	5.2160E-16	1092.1	3.2242E-06	14.7
300	3.9782E-16	1092.1	2.5203E-06	14.3
310	3.0481E-16	1092.1	1.9851E-06	13.9
320	2.3462E-16	1092.1	1.5763E-06	13.5
330	1.8146E-16	1092.1	1.2626E-06	13.1
340	1.4105E-16	1092.1	1.0208E-06	12.8
350	1.1022E-16	1092.1	8.3325E-07	12.0
360	8.6626E-17	1092.1	6.8711E-07	11.4
370	6.8501E-17	1092.1	5.7253E-07	10.9
380	5.4530E-17	1092.1	4.8211E-07	10.3
390	4.3722E-17	1092.1	4.1026E-07	9.7
400	3.5329E-17	1092.1	3.5275E-07	9.1
410	2.8784E-17	1092.1	3.0633E-07	8.5
420	2.3658E-17	1092.1	2.6855E-07	8.0
430	1.9624E-17	1092.1	2.3753E-07	7.5
440	1.6433E-17	1092.1	2.1181E-07	7.0
450	1.3894E-17	1092.1	1.9028E-07	6.6
460	1.1861E-17	1092.1	1.7209E-07	6.3
470	1.0223E-17	1092.1	1.5657E-07	5.9
480	8.8936E-18	1092.1	1.4319E-07	5.6
490	7.8062E-18	1092.1	1.3157E-07	5.4
500	6.9096E-18	1092.1	1.2137E-07	5.2
510	6.1639E-18	1092.1	1.1236E-07	5.0
520	5.5384E-18	1092.1	1.0434E-07	4.8
530	5.0089E-18	1092.1	9.7136E-08	4.7
540	4.5567E-18	1092.1	9.0638E-08	4.6

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JANUARY 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.4277E-12	515.4	1.3732E-02	26.3
80	2.4287E-12	722.6	5.7548E-03	25.4
90	1.0368E-12	845.9	2.9788E-03	24.5
100	5.2454E-13	919.5	1.6974E-03	23.6
110	2.9091E-13	963.6	1.0230E-03	22.8
120	1.7086E-13	990.0	6.4057E-04	22.0
130	1.0445E-13	1005.9	4.1286E-04	21.2
140	6.5837E-14	1015.5	2.7239E-04	20.4
150	4.2547E-14	1021.4	1.8330E-04	19.7
160	2.8087E-14	1024.9	1.2546E-04	19.1
170	1.8890E-14	1027.0	8.7145E-05	18.5
180	1.2914E-14	1028.4	6.1322E-05	18.0
190	8.9565E-15	1029.2	4.3644E-05	17.6
200	6.2911E-15	1029.7	3.1376E-05	17.2
210	4.4683E-15	1030.0	2.2760E-05	16.8
220	3.2046E-15	1030.1	1.6646E-05	16.5
230	2.3179E-15	1030.3	1.2267E-05	16.2
240	1.6892E-15	1030.3	9.1051E-06	15.9
250	1.2393E-15	1030.4	6.8061E-06	15.6
260	9.1474E-16	1030.4	5.1237E-06	15.3
270	6.7899E-16	1030.4	3.8885E-06	15.0
280	5.0665E-16	1030.4	2.9718E-06	14.6
290	3.8000E-16	1030.4	2.2899E-06	14.2
300	2.8646E-16	1030.4	1.7799E-06	13.8
310	2.1707E-16	1030.4	1.3966E-06	13.3
320	1.6538E-16	1030.4	1.1069E-06	12.8
330	1.2673E-16	1030.5	8.8683E-07	12.2
340	9.7720E-17	1030.5	7.1856E-07	11.7
350	7.5858E-17	1030.5	5.8909E-07	11.0
360	5.9321E-17	1030.5	4.8877E-07	10.4
370	4.6762E-17	1030.5	4.1043E-07	9.8
380	3.7183E-17	1030.5	3.4875E-07	9.1
390	2.9844E-17	1030.5	2.9975E-07	8.5
400	2.4193E-17	1030.5	2.6043E-07	8.0
410	1.9818E-17	1030.5	2.2857E-07	7.4
420	1.6412E-17	1030.5	2.0247E-07	6.9
430	1.3741E-17	1030.5	1.8085E-07	6.5
440	1.1633E-17	1030.5	1.6275E-07	6.1
450	9.9565E-18	1030.5	1.4742E-07	5.8
460	8.6111E-18	1030.5	1.3430E-07	5.5
470	7.5219E-18	1030.5	1.2296E-07	5.2
480	6.6318E-18	1030.5	1.1305E-07	5.0
490	5.8972E-18	1030.5	1.0433E-07	4.8
500	5.2846E-18	1030.5	9.6581E-08	4.7
510	4.7686E-18	1030.5	8.9649E-08	4.6
520	4.3294E-18	1030.5	8.3406E-08	4.4
530	3.9519E-18	1030.5	7.7752E-08	4.4
540	3.6242E-18	1030.5	7.2605E-08	4.3

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE APRIL 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.2853E-12	529.6	1.3867E-02	26.3
80	2.4179E-12	758.4	6.0007E-03	25.4
90	1.0577E-12	897.1	3.2089E-03	24.6
100	5.4985E-13	981.5	1.8860E-03	23.8
110	3.1351E-13	1033.0	1.1702E-03	23.0
120	1.8921E-13	1064.5	7.5286E-04	22.2
130	1.1872E-13	1083.9	4.9764E-04	21.5
140	7.6690E-14	1095.7	3.3615E-04	20.8
150	5.0713E-14	1103.1	2.3123E-04	20.1
160	3.4205E-14	1107.6	1.6159E-04	19.5
170	2.3471E-14	1110.4	1.1449E-04	18.9
180	1.6354E-14	1112.2	8.2114E-05	18.4
190	1.1551E-14	1113.3	5.9533E-05	18.0
200	8.2581E-15	1113.9	4.3579E-05	17.6
210	5.9680E-15	1114.4	3.2177E-05	17.2
220	4.3544E-15	1114.6	2.3943E-05	16.9
230	3.2042E-15	1114.8	1.7944E-05	16.6
240	2.3756E-15	1114.9	1.3538E-05	16.3
250	1.7731E-15	1115.0	1.0278E-05	16.0
260	1.3314E-15	1115.0	7.8516E-06	15.7
270	1.0052E-15	1115.0	6.0365E-06	15.4
280	7.6278E-16	1115.1	4.6686E-06	15.2
290	5.8155E-16	1115.1	3.6338E-06	14.8
300	4.4539E-16	1115.1	2.8473E-06	14.5
310	3.4262E-16	1115.1	2.2470E-06	14.1
320	2.6474E-16	1115.1	1.7867E-06	13.7
330	2.0548E-16	1115.1	1.4321E-06	13.3
340	1.6023E-16	1115.1	1.1578E-06	12.8
350	1.2557E-16	1115.1	9.4449E-07	12.3
360	9.8918E-17	1115.1	7.7781E-07	11.8
370	7.8365E-17	1115.1	6.4685E-07	11.2
380	6.2461E-17	1115.1	5.4334E-07	10.7
390	5.0112E-17	1115.1	4.6102E-07	10.1
400	4.0489E-17	1115.1	3.9510E-07	9.5
410	3.2962E-17	1115.1	3.4192E-07	8.9
420	2.7050E-17	1115.1	2.9869E-07	8.4
430	2.2388E-17	1115.1	2.6325E-07	7.9
440	1.8693E-17	1115.1	2.3394E-07	7.4
450	1.5751E-17	1115.1	2.0949E-07	7.0
460	1.3394E-17	1115.1	1.8891E-07	6.6
470	1.1495E-17	1115.1	1.7142E-07	6.2
480	9.9558E-18	1115.1	1.5641E-07	5.9
490	8.6987E-18	1115.1	1.4343E-07	5.6
500	7.6648E-18	1115.1	1.3209E-07	5.4
510	6.8077E-18	1115.1	1.2212E-07	5.2
520	6.0915E-18	1115.1	1.1327E-07	5.0
530	5.4880E-18	1115.1	1.0537E-07	4.8
540	4.9752E-18	1115.1	9.8260E-08	4.7

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JULY 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.3088E-12	527.3	1.3845E-02	26.3
80	2.4201E-12	752.3	5.9597E-03	25.4
90	1.0546E-12	888.2	3.1699E-03	24.6
100	5.4580E-13	970.6	1.8534E-03	23.8
110	3.0978E-13	1020.7	1.1443E-03	23.0
120	1.8611E-13	1051.2	7.3286E-04	22.2
130	1.1626E-13	1069.9	4.8233E-04	21.4
140	7.4788E-14	1081.3	3.2449E-04	20.7
150	4.9260E-14	1088.4	2.2237E-04	20.0
160	3.3102E-14	1092.7	1.5484E-04	19.4
170	2.2635E-14	1095.4	1.0933E-04	18.9
180	1.5720E-14	1097.0	7.8158E-05	18.3
190	1.1068E-14	1098.0	5.6485E-05	17.9
200	7.8889E-15	1098.7	4.1220E-05	17.5
210	5.6843E-15	1099.1	3.0343E-05	17.1
220	4.1353E-15	1099.3	2.2512E-05	16.8
230	3.0341E-15	1099.5	1.6823E-05	16.5
240	2.2429E-15	1099.6	1.2656E-05	16.2
250	1.6692E-15	1099.6	9.5827E-06	15.9
260	1.2497E-15	1099.7	7.3013E-06	15.7
270	9.4083E-16	1099.7	5.6002E-06	15.4
280	7.1187E-16	1099.7	4.3217E-06	15.1
290	5.4120E-16	1099.7	3.3572E-06	14.7
300	4.1335E-16	1099.7	2.6264E-06	14.4
310	3.1713E-16	1099.8	2.0699E-06	14.0
320	2.4442E-16	1099.8	1.6444E-06	13.6
330	1.8926E-16	1099.8	1.3174E-06	13.1
340	1.4727E-16	1099.8	1.0650E-06	12.6
350	1.1519E-16	1099.8	8.6912E-07	12.1
360	9.0600E-17	1099.8	7.1633E-07	11.6
370	7.1685E-17	1099.8	5.9646E-07	11.0
380	5.7087E-17	1099.8	5.0182E-07	10.4
390	4.5779E-17	1099.8	4.2660E-07	9.8
400	3.6988E-17	1099.8	3.6638E-07	9.2
410	3.0126E-17	1099.8	3.1779E-07	8.7
420	2.4747E-17	1099.8	2.7826E-07	8.1
430	2.0510E-17	1099.8	2.4582E-07	7.6
440	1.7157E-17	1099.8	2.1895E-07	7.2
450	1.4488E-17	1099.8	1.9649E-07	6.7
460	1.2352E-17	1099.8	1.7753E-07	6.4
470	1.0630E-17	1099.8	1.6137E-07	6.0
480	9.2338E-18	1099.8	1.4748E-07	5.7
490	8.0922E-18	1099.8	1.3542E-07	5.5
500	7.1518E-18	1099.8	1.2486E-07	5.2
510	6.3706E-18	1099.8	1.1554E-07	5.0
520	5.7162E-18	1099.8	1.0725E-07	4.9
530	5.1632E-18	1099.8	9.9821E-08	4.7
540	4.6917E-18	1099.8	9.3127E-08	4.6

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE OCTOBER 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0686E-12	552.0	1.4067E-02	26.3
80	2.3857E-12	820.7	6.3886E-03	25.5
90	1.0782E-12	993.0	3.5973E-03	24.7
100	5.8314E-13	1103.7	2.2252E-03	24.1
110	3.4714E-13	1175.0	1.4512E-03	23.4
120	2.1907E-13	1221.1	9.7959E-04	22.7
130	1.4374E-13	1250.9	6.7790E-04	22.1
140	9.7019E-14	1270.3	4.7831E-04	21.4
150	6.6927E-14	1282.9	3.4293E-04	20.8
160	4.6999E-14	1291.1	2.4925E-04	20.2
170	3.3511E-14	1296.5	1.8334E-04	19.7
180	2.4216E-14	1300.0	1.3631E-04	19.2
190	1.7709E-14	1302.3	1.0232E-04	18.7
200	1.3091E-14	1303.8	7.7465E-05	18.3
210	9.7720E-15	1304.8	5.9109E-05	17.9
220	7.3596E-15	1305.5	4.5423E-05	17.6
230	5.5874E-15	1305.9	3.5132E-05	17.3
240	4.2728E-15	1306.2	2.7334E-05	17.0
250	3.2891E-15	1306.4	2.1384E-05	16.7
260	2.5469E-15	1306.6	1.6816E-05	16.5
270	1.9829E-15	1306.6	1.3289E-05	16.2
280	1.5513E-15	1306.7	1.0551E-05	16.0
290	1.2192E-15	1306.7	8.4159E-06	15.7
300	9.6215E-16	1306.8	6.7433E-06	15.5
310	7.6223E-16	1306.8	5.4280E-06	15.3
320	6.0607E-16	1306.8	4.3897E-06	15.0
330	4.8358E-16	1306.8	3.5671E-06	14.7
340	3.8716E-16	1306.8	2.9132E-06	14.4
350	3.1099E-16	1306.8	2.3916E-06	14.1
360	2.5064E-16	1306.8	1.9741E-06	13.8
370	2.0268E-16	1306.8	1.6389E-06	13.4
380	1.6445E-16	1306.8	1.3688E-06	13.1
390	1.3391E-16	1306.8	1.1505E-06	12.6
400	1.0945E-16	1306.8	9.7329E-07	12.2
410	8.9799E-17	1306.8	8.2895E-07	11.8
420	7.3980E-17	1306.8	7.1091E-07	11.3
430	6.1212E-17	1306.8	6.1397E-07	10.8
440	5.0880E-17	1306.8	5.3399E-07	10.4
450	4.2498E-17	1306.8	4.6771E-07	9.9
460	3.5680E-17	1306.8	4.1249E-07	9.4
470	3.0118E-17	1306.8	3.6625E-07	8.9
480	2.5567E-17	1306.8	3.2731E-07	8.5
490	2.1831E-17	1306.8	2.9433E-07	8.1
500	1.8756E-17	1306.8	2.6623E-07	7.7
510	1.6214E-17	1306.8	2.4214E-07	7.3
520	1.4106E-17	1306.8	2.2136E-07	6.9
530	1.2350E-17	1306.8	2.0331E-07	6.6
540	1.0881E-17	1306.8	1.8754E-07	6.3

TABLE III. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 200$

DATE JANUARY 1, 1977		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,1019E-12	548.5	1.4037E-02	26.3
80	2,3926E-12	810.2	6.3275E-03	25.5
90	1,0764E-12	975.9	3.5332E-03	24.7
100	5,7872E-13	1081.2	2.1669E-03	24.0
110	3,4215E-13	1148.2	1.4011E-03	23.3
120	2,1433E-13	1191.0	9.3783E-04	22.6
130	1,3956E-13	1218.3	6.4371E-04	22.0
140	9,3476E-14	1235.9	4,5063E-04	21.3
150	6,3997E-14	1247.2	3,2065E-04	20.7
160	4,4614E-14	1254.4	2,3138E-04	20.1
170	3,1587E-14	1259.1	1,6903E-04	19.6
180	2,2672E-14	1262.2	1,2484E-04	19.1
190	1,6473E-14	1264.2	9,3107E-05	18.6
200	1,2102E-14	1265.5	7,0057E-05	18.2
210	8,9804E-15	1266.3	5,3135E-05	17.8
220	6,7242E-15	1266.9	4,0592E-05	17.5
230	5,0760E-15	1267.2	3,1215E-05	17.1
240	3,8601E-15	1267.4	2,4150E-05	16.8
250	2,9549E-15	1267.6	1,8789E-05	16.6
260	2,2755E-15	1267.7	1,4696E-05	16.3
270	1,7619E-15	1267.8	1,1554E-05	16.1
280	1,3709E-15	1267.8	9,1270E-06	15.8
290	1,0715E-15	1267.8	7,2449E-06	15.6
300	8,4102E-16	1267.9	5,7788E-06	15.3
310	6,6270E-16	1267.9	4,6320E-06	15.1
320	5,2414E-16	1267.9	3,7316E-06	14.8
330	4,1604E-16	1267.9	3,0220E-06	14.5
340	3,3140E-16	1267.9	2,4608E-06	14.2
350	2,6490E-16	1267.9	2,0153E-06	13.9
360	2,1250E-16	1267.9	1,6606E-06	13.5
370	1,7108E-16	1267.9	1,3770E-06	13.1
380	1,3825E-16	1267.9	1,1495E-06	12.7
390	1,1215E-16	1267.9	9,6625E-07	12.2
400	9,1358E-17	1267.9	8,1809E-07	11.8
410	7,4744E-17	1267.9	6,9778E-07	11.3
420	6,1434E-17	1267.9	5,9964E-07	10.8
430	5,0743E-17	1267.9	5,1921E-07	10.3
440	4,2131E-17	1267.9	4,5296E-07	9.8
450	3,5174E-17	1267.9	3,9809E-07	9.3
460	2,9538E-17	1267.9	3,5238E-07	8.8
470	2,4957E-17	1267.9	3,1408E-07	8.4
480	2,1221E-17	1267.9	2,8179E-07	7.9
490	1,8163E-17	1267.9	2,5439E-07	7.5
500	1,5650E-17	1267.9	2,3098E-07	7.1
510	1,3578E-17	1267.9	2,1084E-07	6.8
520	1,1860E-17	1267.9	1,9340E-07	6.5
530	1,0431E-17	1267.9	1,7820E-07	6.2
540	9,2348E-18	1267.9	1,6485E-07	5.9

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JANUARY 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM3)	TEMP (OK)	PRESSURE (DYNE/CM2)	MOL. WT (UNITLESS)
70	7.9920E-12	559.9	1.4132E-02	26.3
80	2.3644E-12	847.7	6.5326E-03	25.5
90	1.0783E-12	1039.5	3.7571E-03	24.8
100	5.9122E-13	1167.7	2.3769E-03	24.2
110	3.5792E-13	1252.8	1.5855E-03	23.5
120	2.3019E-13	1311.0	1.0958E-03	22.9
130	1.5413E-13	1349.7	7.7582E-04	22.3
140	1.0622E-13	1375.9	5.5977E-04	21.7
150	7.4825E-14	1393.5	4.1008E-04	21.1
160	5.3643E-14	1405.4	3.0432E-04	20.6
170	3.9026E-14	1413.5	2.2838E-04	20.1
180	2.8755E-14	1419.1	1.7309E-04	19.6
190	2.1426E-14	1422.8	1.3237E-04	19.2
200	1.6127E-14	1425.4	1.0204E-04	18.7
210	1.2251E-14	1427.1	7.9234E-05	18.3
220	9.3838E-15	1428.3	6.1937E-05	18.0
230	7.2428E-15	1429.1	4.8711E-05	17.7
240	5.6292E-15	1429.7	3.8524E-05	17.4
250	4.4029E-15	1430.1	3.0625E-05	17.1
260	3.4638E-15	1430.4	2.4463E-05	16.8
270	2.7394E-15	1430.6	1.9630E-05	16.6
280	2.1770E-15	1430.7	1.5819E-05	16.4
290	1.7377E-15	1430.8	1.2800E-05	16.2
300	1.3927E-15	1430.9	1.0399E-05	15.9
310	1.1205E-15	1430.9	8.4804E-06	15.7
320	9.0459E-16	1430.9	6.9428E-06	15.5
330	7.3273E-16	1430.9	5.7061E-06	15.3
340	5.9538E-16	1431.0	4.7082E-06	15.0
350	4.8523E-16	1431.0	3.9004E-06	14.8
360	3.9660E-16	1431.0	3.2447E-06	14.5
370	3.2509E-16	1431.0	2.7107E-06	14.3
380	2.6722E-16	1431.0	2.2748E-06	14.0
390	2.2027E-16	1431.0	1.9179E-06	13.7
400	1.8209E-16	1431.0	1.6248E-06	13.3
410	1.5097E-16	1431.0	1.3834E-06	13.0
420	1.2554E-16	1431.0	1.1840E-06	12.6
430	1.0471E-16	1431.0	1.0189E-06	12.2
440	8.7628E-17	1431.0	8.8161E-07	11.8
450	7.3578E-17	1431.0	7.6714E-07	11.4
460	6.2000E-17	1431.0	6.7136E-07	11.0
470	5.2439E-17	1431.0	5.9092E-07	10.6
480	4.4525E-17	1431.0	5.2310E-07	10.1
490	3.7961E-17	1431.0	4.6570E-07	9.7
500	3.2504E-17	1431.0	4.1691E-07	9.3
510	2.7956E-17	1431.0	3.7526E-07	8.9
520	2.4156E-17	1431.0	3.3954E-07	8.5
530	2.0973E-17	1431.0	3.0875E-07	8.1
540	1.8299E-17	1431.0	2.8210E-07	7.7

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE APRIL 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	7.9746E-12	561.7	1.4146E-02	26.3
80	2.3575E-12	854.7	6.5664E-03	25.5
90	1.0769E-12	1052.6	3.7978E-03	24.8
100	5.9231E-13	1186.7	2.4176E-03	24.2
110	3.6011E-13	1277.6	1.6241E-03	23.6
120	2.3277E-13	1339.3	1.1295E-03	23.0
130	1.5673E-13	1381.1	8.0490E-04	22.4
140	1.0866E-13	1410.1	5.8474E-04	21.8
150	7.7009E-14	1429.6	4.3118E-04	21.2
160	5.5548E-14	1443.2	3.2201E-04	20.7
170	4.0658E-14	1452.5	2.4315E-04	20.2
180	3.0136E-14	1458.9	1.8539E-04	19.7
190	2.2585E-14	1463.3	1.4259E-04	19.3
200	1.7095E-14	1466.3	1.1053E-04	18.9
210	1.3057E-14	1468.4	8.6298E-05	18.5
220	1.0054E-14	1469.9	6.7817E-05	18.1
230	7.7998E-15	1470.9	5.3612E-05	17.8
240	6.0926E-15	1471.6	4.2615E-05	17.5
250	4.7889E-15	1472.1	3.4046E-05	17.2
260	3.7857E-15	1472.4	2.7328E-05	17.0
270	3.0084E-15	1472.7	2.2034E-05	16.7
280	2.4022E-15	1472.6	1.7839E-05	16.5
290	1.9266E-15	1473.0	1.4500E-05	16.3
300	1.5514E-15	1473.0	1.1831E-05	16.1
310	1.2540E-15	1473.1	9.6893E-06	15.9
320	1.0171E-15	1473.1	7.9647E-06	15.6
330	8.2769E-16	1473.2	6.5710E-06	15.4
340	6.7562E-16	1473.2	5.4413E-06	15.2
350	5.5311E-16	1473.2	4.5226E-06	15.0
360	4.5409E-16	1473.2	3.7735E-06	14.7
370	3.7382E-16	1473.2	3.1609E-06	14.5
380	3.0857E-16	1473.2	2.6586E-06	14.2
390	2.5539E-16	1473.2	2.2456E-06	13.9
400	2.1194E-16	1473.2	1.9052E-06	13.6
410	1.7636E-16	1473.2	1.6237E-06	13.3
420	1.4716E-16	1473.2	1.3904E-06	13.0
430	1.2314E-16	1473.2	1.1965E-06	12.6
440	1.0335E-16	1473.2	1.0348E-06	12.2
450	8.6997E-17	1473.2	8.9967E-07	11.8
460	7.3468E-17	1473.2	7.8629E-07	11.4
470	6.2248E-17	1473.2	6.9089E-07	11.0
480	5.2926E-17	1473.2	6.1033E-07	10.6
490	4.5164E-17	1473.2	5.4207E-07	10.2
500	3.8688E-17	1473.2	4.8401E-07	9.8
510	3.3272E-17	1473.2	4.3443E-07	9.4
520	2.8734E-17	1473.2	3.9192E-07	9.0
530	2.4922E-17	1473.2	3.5532E-07	8.6
540	2.1711E-17	1473.2	3.2367E-07	8.2

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JULY 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0303E-12	556.0	1.4100E-02	26.3
80	2.3763E-12	833.6	6.4598E-03	25.5
90	1.0791E-12	1012.7	3.6674E-03	24.8
100	5.8766E-13	1132.9	2.2971E-03	24.1
110	3.5269E-13	1210.2	1.5140E-03	23.4
120	2.2459E-13	1261.2	1.0331E-03	22.8
130	1.4877E-13	1294.7	7.2246E-04	22.2
140	1.0139E-13	1316.8	5.1495E-04	21.6
150	7.0618E-14	1331.4	3.7283E-04	21.0
160	5.0062E-14	1341.1	2.7354E-04	20.4
170	3.6023E-14	1347.6	2.0304E-04	19.9
180	2.6260E-14	1351.8	1.5227E-04	19.4
190	1.9367E-14	1354.7	1.1525E-04	18.9
200	1.4433E-14	1356.6	8.7970E-05	18.5
210	1.0859E-14	1357.9	6.7655E-05	18.1
220	8.2405E-15	1358.7	5.2391E-05	17.8
230	6.3028E-15	1359.3	4.0827E-05	17.5
240	4.8552E-15	1359.7	3.2000E-05	17.2
250	3.7645E-15	1360.0	2.5216E-05	16.9
260	2.9360E-15	1360.2	1.9970E-05	16.6
270	2.3021E-15	1360.3	1.5890E-05	16.4
280	1.8139E-15	1360.4	1.2700E-05	16.2
290	1.4356E-15	1360.4	1.0195E-05	15.9
300	1.1409E-15	1360.5	8.2191E-06	15.7
310	9.1020E-16	1360.5	6.6541E-06	15.5
320	7.2873E-16	1360.5	5.4101E-06	15.2
330	5.8542E-16	1360.5	4.4178E-06	15.0
340	4.7182E-16	1360.5	3.6236E-06	14.7
350	3.8147E-16	1360.5	2.9860E-06	14.5
360	3.0937E-16	1360.5	2.4724E-06	14.2
370	2.5168E-16	1360.5	2.0574E-06	13.8
380	2.0538E-16	1360.5	1.7211E-06	13.5
390	1.6813E-16	1360.5	1.4477E-06	13.1
400	1.3808E-16	1360.5	1.2247E-06	12.8
410	1.1379E-16	1360.5	1.0422E-06	12.4
420	9.4097E-17	1360.5	8.9237E-07	11.9
430	7.8103E-17	1360.5	7.6887E-07	11.5
440	6.5081E-17	1360.5	6.6670E-07	11.0
450	5.4453E-17	1360.5	5.8184E-07	10.6
460	4.5759E-17	1360.5	5.1105E-07	10.1
470	3.8629E-17	1360.5	4.5174E-07	9.7
480	3.2767E-17	1360.5	4.0181E-07	9.2
490	2.7935E-17	1360.5	3.5958E-07	8.8
500	2.3940E-17	1360.5	3.2366E-07	8.4
510	2.0628E-17	1360.5	2.9295E-07	8.0
520	1.7874E-17	1360.5	2.6656E-07	7.6
530	1.5576E-17	1360.5	2.4374E-07	7.2
540	1.3652E-17	1360.5	2.2390E-07	6.9

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE OCTOBER 1, 1971		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	7.9757E-12	561.6	1.4145E-02	26.5
80	2.3580E-12	854.3	6.5650E-03	25.5
90	1.0770E-12	1051.8	3.7951E-03	24.8
100	5.9226E-13	1185.4	2.4148E-03	24.2
110	3.5997E-13	1275.9	1.6215E-03	23.6
120	2.3260E-13	1337.3	1.1271E-03	22.9
130	1.5656E-13	1379.2	8.0304E-04	22.4
140	1.0849E-13	1407.7	5.8298E-04	21.8
150	7.6859E-14	1427.2	4.2968E-04	21.2
160	5.5416E-14	1440.5	3.2075E-04	20.7
170	4.0544E-14	1449.7	2.4209E-04	20.2
180	3.0039E-14	1456.0	1.8451E-04	19.7
190	2.2504E-14	1460.3	1.4185E-04	19.3
200	1.7027E-14	1463.3	1.0992E-04	18.8
210	1.2999E-14	1465.4	8.5785E-05	18.5
220	1.0006E-14	1466.9	6.7388E-05	18.1
230	7.7597E-15	1467.9	5.3253E-05	17.8
240	6.0591E-15	1468.6	4.2315E-05	17.5
250	4.7609E-15	1469.0	3.3794E-05	17.2
260	3.7623E-15	1469.4	2.7117E-05	17.0
270	2.9888E-15	1469.6	2.1856E-05	16.7
280	2.3857E-15	1469.8	1.7689E-05	16.5
290	1.9127E-15	1469.9	1.4373E-05	16.5
300	1.5397E-15	1470.0	1.1724E-05	16.1
310	1.2441E-15	1470.0	9.5990E-06	15.8
320	1.0088E-15	1470.1	7.8881E-06	15.6
330	8.2066E-16	1470.1	6.5061E-06	15.4
340	6.6966E-16	1470.1	5.3861E-06	15.2
350	5.4806E-16	1470.2	4.4757E-06	15.0
360	4.4980E-16	1470.2	3.7335E-06	14.7
370	3.7018E-16	1470.2	3.1268E-06	14.5
380	3.0547E-16	1470.2	2.6295E-06	14.2
390	2.5275E-16	1470.2	2.2207E-06	13.9
400	2.0970E-16	1470.2	1.8838E-06	13.6
410	1.7445E-16	1470.2	1.6054E-06	13.6
420	1.4553E-16	1470.2	1.3746E-06	12.9
430	1.2175E-16	1470.2	1.1829E-06	12.6
440	1.0215E-16	1470.2	1.0231E-06	12.2
450	8.5975E-17	1470.2	8.8950E-07	11.8
460	7.2592E-17	1470.2	7.7747E-07	11.4
470	6.1498E-17	1470.2	6.8320E-07	11.0
480	5.2282E-17	1470.2	6.0362E-07	10.6
490	4.4611E-17	1470.2	5.3619E-07	10.2
500	3.8212E-17	1470.2	4.7884E-07	9.8
510	3.2863E-17	1470.2	4.2987E-07	9.3
520	2.8381E-17	1470.2	3.8789E-07	8.9
530	2.4616E-17	1470.2	3.5174E-07	8.6
540	2.1447E-17	1470.2	3.2047E-07	8.2

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JANUARY 1, 1972 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0376E-12	555.2	1.4094E-02	26.3
80	2.3782E-12	831.1	6.4462E-03	25.5
90	1.0791E-12	1010.3	3.6594E-03	24.8
100	5.8686E-13	1127.0	2.2829E-03	24.1
110	3.5166E-13	1203.2	1.5017E-03	23.4
120	2.2353E-13	1253.0	1.0224E-03	22.8
130	1.4779E-13	1285.7	7.1343E-04	22.1
140	1.0053E-13	1307.2	5.0748E-04	21.5
150	6.9883E-14	1321.4	3.6669E-04	20.9
160	4.9447E-14	1330.6	2.6852E-04	20.4
170	3.5514E-14	1337.0	1.9895E-04	19.8
180	2.5843E-14	1341.1	1.4894E-04	19.4
190	1.9027E-14	1343.8	1.1254E-04	18.9
200	1.4156E-14	1345.6	8.5759E-05	18.5
210	1.0634E-14	1346.8	6.5849E-05	18.1
220	8.0570E-15	1347.7	5.0913E-05	17.7
230	6.1532E-15	1348.2	3.9615E-05	17.4
240	4.7330E-15	1348.6	3.1004E-05	17.1
250	3.6643E-15	1348.8	2.4395E-05	16.8
260	2.8537E-15	1349.0	1.9292E-05	16.6
270	2.2344E-15	1349.1	1.5329E-05	16.4
280	1.7580E-15	1349.2	1.2235E-05	16.1
290	1.3894E-15	1349.2	9.8091E-06	15.9
300	1.1026E-15	1349.3	7.8979E-06	15.7
310	8.7840E-16	1349.3	6.3865E-06	15.4
320	7.0229E-16	1349.3	5.1867E-06	15.2
330	5.6340E-16	1349.3	4.2310E-06	14.9
340	4.5346E-16	1349.3	3.4672E-06	14.7
350	3.6614E-16	1349.3	2.8548E-06	14.4
360	2.9656E-16	1349.3	2.3621E-06	14.1
370	2.4095E-16	1349.3	1.9646E-06	13.8
380	1.9640E-16	1349.3	1.6428E-06	13.4
390	1.6059E-16	1349.3	1.3815E-06	13.0
400	1.3176E-16	1349.3	1.1686E-06	12.7
410	1.0847E-16	1349.3	9.9454E-07	12.2
420	8.9631E-17	1349.3	8.5174E-07	11.8
430	7.4343E-17	1349.3	7.3415E-07	11.4
440	6.1912E-17	1349.3	6.3692E-07	10.9
450	5.1778E-17	1349.3	5.5621E-07	10.4
460	4.3499E-17	1349.3	4.8891E-07	10.0
470	3.6716E-17	1349.3	4.3254E-07	9.5
480	3.1145E-17	1349.3	3.8508E-07	9.1
490	2.6557E-17	1349.3	3.4493E-07	8.6
500	2.2768E-17	1349.3	3.1078E-07	8.2
510	1.9629E-17	1349.3	2.8157E-07	7.8
520	1.7020E-17	1349.3	2.5645E-07	7.4
530	1.4844E-17	1349.3	2.3471E-07	7.1
540	1.3023E-17	1349.3	2.1580E-07	6.8

**TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$**

DATE APRIL 1, 1972 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0025E-12	558.8	1.4124E-02	26.5
80	2.3680E-12	843.7	6.5127E-03	25.5
90	1.0788E-12	1032.2	3.7336E-03	24.8
100	5.9037E-13	1157.3	2.3539E-03	24.1
110	3.5653E-13	1240.5	1.5653E-03	23.5
120	2.2864E-13	1296.0	1.0773E-03	22.9
130	1.5262E-13	1333.1	7.5998E-04	22.5
140	1.0483E-13	1357.9	5.4633E-04	21.7
150	7.3601E-14	1374.5	3.9883E-04	21.1
160	5.2590E-14	1385.7	2.9496E-04	20.5
170	3.8135E-14	1393.3	2.2062E-04	20.0
180	2.8008E-14	1398.4	1.6669E-04	19.5
190	2.0805E-14	1401.8	1.2708E-04	19.1
200	1.5613E-14	1404.2	9.7667E-05	18.7
210	1.1826E-14	1405.8	7.5621E-05	18.3
220	9.0331E-15	1406.9	5.8946E-05	17.9
230	6.9530E-15	1407.6	4.6231E-05	17.6
240	5.3896E-15	1408.1	3.6464E-05	17.3
250	4.2044E-15	1408.4	2.8911E-05	17.0
260	3.2990E-15	1408.7	2.3034E-05	16.8
270	2.6024E-15	1408.8	1.8437E-05	16.5
280	2.0628E-15	1409.0	1.4821E-05	16.3
290	1.6424E-15	1409.0	1.1963E-05	16.1
300	1.3130E-15	1409.1	9.6961E-06	15.9
310	1.0537E-15	1409.1	7.8900E-06	15.6
320	8.4855E-16	1409.2	6.4458E-06	15.4
330	6.8564E-16	1409.2	5.2871E-06	15.2
340	5.5575E-16	1409.2	4.3544E-06	15.0
350	4.5184E-16	1409.2	3.6013E-06	14.7
360	3.6845E-16	1409.2	2.9913E-06	14.4
370	3.0132E-16	1409.2	2.4959E-06	14.1
380	2.4713E-16	1409.2	2.0922E-06	13.8
390	2.0328E-16	1409.2	1.7625E-06	13.5
400	1.6771E-16	1409.2	1.4922E-06	13.2
410	1.3878E-16	1409.2	1.2701E-06	12.8
420	1.1520E-16	1409.2	1.0870E-06	12.4
430	9.5939E-17	1409.2	9.3560E-07	12.0
440	8.0172E-17	1409.2	8.0992E-07	11.6
450	6.7236E-17	1409.2	7.0525E-07	11.2
460	5.6600E-17	1409.2	6.1777E-07	10.7
470	4.7835E-17	1409.2	5.4436E-07	10.3
480	4.0596E-17	1409.2	4.8252E-07	9.9
490	3.4603E-17	1409.2	4.3019E-07	9.4
500	2.9630E-17	1409.2	3.8572E-07	9.0
510	2.5492E-17	1409.2	3.4774E-07	8.6
520	2.2040E-17	1409.2	3.1516E-07	8.2
530	1.9152E-17	1409.2	2.8706E-07	7.8
540	1.6729E-17	1409.2	2.6270E-07	7.5

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JULY 1, 1972 - CM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0685E-12	552.0	1.4067E-02	26.3
80	2.3857E-12	820.7	6.3888E-03	25.2
90	1.0782E-12	993.0	3.5975E-03	24.7
100	5.8315E-13	1103.8	2.2254E-03	24.1
110	3.4715E-13	1175.1	1.4513E-03	23.4
120	2.1908E-13	1221.2	9.7970E-04	22.7
130	1.4376E-13	1251.0	6.7800E-04	22.1
140	9.7029E-14	1270.4	4.7839E-04	21.4
150	6.6935E-14	1283.0	3.4299E-04	20.8
160	4.7006E-14	1291.2	2.4930E-04	20.2
170	3.3517E-14	1296.6	1.8338E-04	19.7
180	2.4220E-14	1300.1	1.3634E-04	19.2
190	1.7712E-14	1302.4	1.0234E-04	18.7
200	1.3094E-14	1303.9	7.7487E-05	18.3
210	9.7743E-15	1304.9	5.9127E-05	17.9
220	7.3614E-15	1305.6	4.5437E-05	17.6
230	5.5888E-15	1306.1	3.5143E-05	17.3
240	4.2740E-15	1306.3	2.7343E-05	17.0
250	3.2901E-15	1306.5	2.1392E-05	16.7
260	2.5477E-15	1306.7	1.6822E-05	16.2
270	1.9835E-15	1306.8	1.3295E-05	16.2
280	1.5519E-15	1306.8	1.0556E-05	16.0
290	1.2196E-15	1306.9	8.4194E-06	15.7
300	9.6251E-16	1306.9	6.7462E-06	15.2
310	7.6253E-16	1306.9	5.4304E-06	15.3
320	6.0632E-16	1306.9	4.3917E-06	15.0
330	4.8379E-16	1306.9	3.5688E-06	14.7
340	3.8733E-16	1306.9	2.9145E-06	14.4
350	3.1113E-16	1306.9	2.3927E-06	14.1
360	2.5076E-16	1306.9	1.9751E-06	13.6
370	2.0277E-16	1306.9	1.6397E-06	13.4
380	1.6454E-16	1306.9	1.3695E-06	13.1
390	1.3398E-16	1306.9	1.1511E-06	12.7
400	1.0950E-16	1306.9	9.7377E-07	12.2
410	8.9846E-17	1306.9	8.2936E-07	11.8
420	7.4019E-17	1306.9	7.1126E-07	11.3
430	6.1244E-17	1306.9	6.1426E-07	10.8
440	5.0907E-17	1306.9	5.3425E-07	10.4
450	4.2521E-17	1306.9	4.6793E-07	9.9
460	3.5699E-17	1306.9	4.1268E-07	9.4
470	3.0134E-17	1306.9	3.6641E-07	8.9
480	2.5580E-17	1306.9	3.2745E-07	8.5
490	2.1843E-17	1306.9	2.9446E-07	8.1
500	1.8765E-17	1306.9	2.6634E-07	7.7
510	1.6222E-17	1306.9	2.4224E-07	7.3
520	1.4113E-17	1306.9	2.2144E-07	6.9
530	1.2356E-17	1306.9	2.0339E-07	6.6
540	1.0887E-17	1306.9	1.8761E-07	6.3

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE OCTOBER 1, 1972 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	7.9972E-12	559.4	1.4128E-02	26.3
80	2.3662E-12	845.7	6.5231E-03	25.5
90	1.0785E-12	1035.9	3.7456E-03	24.8
100	5.9082E-13	1162.5	2.3656E-03	24.1
110	3.5725E-13	1247.0	1.5759E-03	23.5
120	2.2943E-13	1303.6	1.0867E-03	22.9
130	1.5339E-13	1341.4	7.6798E-04	22.3
140	1.0554E-13	1366.9	5.5309E-04	21.7
150	7.4220E-14	1384.0	4.0447E-04	21.1
160	5.3121E-14	1395.6	2.9965E-04	20.6
170	3.8584E-14	1403.4	2.2450E-04	20.1
180	2.8384E-14	1408.7	1.6989E-04	19.6
190	2.1117E-14	1412.3	1.2972E-04	19.1
200	1.5871E-14	1414.6	9.9847E-05	18.7
210	1.2039E-14	1416.4	7.7421E-05	18.3
220	9.2085E-15	1417.6	6.0434E-05	18.0
230	7.0978E-15	1418.4	4.7464E-05	17.6
240	5.5092E-15	1418.9	3.7487E-05	17.3
250	4.3034E-15	1419.3	2.9762E-05	17.1
260	3.3811E-15	1419.5	2.3743E-05	16.8
270	2.6706E-15	1419.7	1.9028E-05	16.6
280	2.1196E-15	1419.8	1.5315E-05	16.3
290	1.6898E-15	1419.9	1.2378E-05	16.1
300	1.3526E-15	1420.0	1.0044E-05	15.9
310	1.0868E-15	1420.0	8.1818E-06	15.7
320	8.7634E-16	1420.0	6.6913E-06	15.5
330	7.0897E-16	1420.0	5.4939E-06	15.2
340	5.7537E-16	1420.1	4.5289E-06	15.0
350	4.6836E-16	1420.1	3.7487E-06	14.8
360	3.8237E-16	1420.1	3.1161E-06	14.5
370	3.1306E-16	1420.1	2.6016E-06	14.2
380	2.5705E-16	1420.1	2.1821E-06	13.9
390	2.1166E-16	1420.1	1.8389E-06	13.6
400	1.7480E-16	1420.1	1.5574E-06	13.3
410	1.4478E-16	1420.1	1.3258E-06	12.9
420	1.2029E-16	1420.1	1.1347E-06	12.5
430	1.0026E-16	1420.1	9.7647E-07	12.1
440	8.3838E-17	1420.1	8.4509E-07	11.7
450	7.0352E-17	1420.1	7.3560E-07	11.3
460	5.9252E-17	1420.1	6.4404E-07	10.9
470	5.0094E-17	1420.1	5.6718E-07	10.4
480	4.2523E-17	1420.1	5.0241E-07	10.0
490	3.6249E-17	1420.1	4.4760E-07	9.6
500	3.1038E-17	1420.1	4.0101E-07	9.1
510	2.6698E-17	1420.1	3.6123E-07	8.7
520	2.3075E-17	1420.1	3.2711E-07	8.3
530	2.0043E-17	1420.1	2.9770E-07	8.0
540	1.7497E-17	1420.1	2.7221E-07	7.6

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JANUARY 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0616E-12	552.7	1.4073E-02	26.3
80	2.3841E-12	823.0	6.4014E-03	25.2
90	1.0785E-12	996.7	3.6110E-03	24.8
100	5.8401E-13	1108.7	2.2378E-03	24.1
110	3.4816E-13	1181.0	1.4621E-03	23.4
120	2.2006E-13	1227.9	9.8879E-04	22.7
130	1.4464E-13	1258.3	6.8550E-04	22.1
140	9.7785E-14	1278.1	4.8452E-04	21.4
150	6.7567E-14	1291.0	3.4796E-04	20.8
160	4.7526E-14	1299.5	2.5331E-04	20.3
170	3.3940E-14	1305.0	1.8662E-04	19.7
180	2.4562E-14	1308.6	1.3895E-04	19.2
190	1.7988E-14	1311.0	1.0445E-04	18.8
200	1.3315E-14	1312.6	7.9187E-05	18.4
210	9.9530E-15	1313.6	6.0504E-05	18.0
220	7.5056E-15	1314.3	4.6555E-05	17.6
230	5.7054E-15	1314.8	3.6054E-05	17.3
240	4.3685E-15	1315.1	2.8087E-05	17.0
250	3.3669E-15	1315.3	2.2000E-05	16.7
260	2.6103E-15	1315.4	1.7321E-05	16.5
270	2.0347E-15	1315.5	1.3704E-05	16.2
280	1.5938E-15	1315.6	1.0893E-05	16.0
290	1.2541E-15	1315.6	8.6979E-06	15.8
300	9.9089E-16	1315.7	6.9765E-06	15.5
310	7.8594E-16	1315.7	5.6211E-06	15.3
320	6.2566E-16	1315.7	4.5498E-06	15.0
330	4.9979E-16	1315.7	3.7002E-06	14.8
340	4.0059E-16	1315.7	3.0240E-06	14.5
350	3.2213E-16	1315.7	2.4840E-06	14.2
360	2.5989E-16	1315.7	2.0514E-06	13.9
370	2.1037E-16	1315.7	1.7037E-06	13.5
380	1.7086E-16	1315.7	1.4232E-06	13.1
390	1.3925E-16	1315.7	1.1962E-06	12.7
400	1.1390E-16	1315.7	1.0119E-06	12.3
410	9.3516E-17	1315.7	8.6165E-07	11.9
420	7.7087E-17	1315.7	7.3868E-07	11.4
430	6.3813E-17	1315.7	6.3765E-07	10.9
440	5.3061E-17	1315.7	5.5426E-07	10.5
450	4.4329E-17	1315.7	4.8513E-07	10.0
460	3.7219E-17	1315.7	4.2753E-07	9.5
470	3.1414E-17	1315.7	3.7929E-07	9.1
480	2.6661E-17	1315.7	3.3868E-07	8.6
490	2.2757E-17	1315.7	3.0430E-07	8.2
500	1.9540E-17	1315.7	2.7501E-07	7.8
510	1.6881E-17	1315.7	2.4992E-07	7.4
520	1.4674E-17	1315.7	2.2829E-07	7.0
530	1.2836E-17	1315.7	2.0952E-07	6.7
540	1.1299E-17	1315.7	1.9314E-07	6.4

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE APRIL 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0266E-12	556.3	1.4103E-02	26.3
80	2.3753E-12	634.9	6.4668E-03	25.2
90	1.0791E-12	1016.8	3.6820E-03	24.8
100	5.8805E-13	1135.9	2.3043E-03	24.1
110	3.5321E-13	1214.1	1.5207E-03	23.5
120	2.2512E-13	1265.5	1.0386E-03	22.8
130	1.4927E-13	1299.4	7.2712E-04	22.2
140	1.0183E-13	1321.8	5.1882E-04	21.6
150	7.0995E-14	1336.7	3.7601E-04	21.0
160	5.0378E-14	1346.5	2.7615E-04	20.4
170	3.6285E-14	1353.1	2.0517E-04	19.9
180	2.6476E-14	1357.5	1.5401E-04	19.4
190	1.9543E-14	1360.4	1.1667E-04	18.9
200	1.4577E-14	1362.3	8.9129E-05	18.5
210	1.0976E-14	1363.7	6.8603E-05	18.1
220	8.3363E-15	1364.5	5.3169E-05	17.6
230	6.3811E-15	1365.1	4.1466E-05	17.5
240	4.9193E-15	1365.5	3.2526E-05	17.2
250	3.8170E-15	1365.8	2.5650E-05	16.9
260	2.9792E-15	1366.0	2.0328E-05	16.6
270	2.3377E-15	1366.1	1.6187E-05	16.4
280	1.8433E-15	1366.2	1.2947E-05	16.2
290	1.4600E-15	1366.3	1.0400E-05	15.9
300	1.1611E-15	1366.3	8.3898E-06	15.7
310	9.2700E-16	1366.3	6.7965E-06	15.5
320	7.4272E-16	1366.4	5.5291E-06	15.3
330	5.9709E-16	1366.4	4.5174E-06	15.0
340	4.8156E-16	1366.4	3.7071E-06	14.8
350	3.8961E-16	1366.4	3.0561E-06	14.5
360	3.1619E-16	1366.4	2.5313E-06	14.2
370	2.5739E-16	1366.4	2.1071E-06	13.9
380	2.1017E-16	1366.4	1.7631E-06	13.5
390	1.7215E-16	1366.4	1.4832E-06	13.2
400	1.4146E-16	1366.4	1.2548E-06	12.8
410	1.1663E-16	1366.4	1.0678E-06	12.4
420	9.6489E-17	1366.4	9.1421E-07	12.0
430	8.0119E-17	1366.4	7.8755E-07	11.6
440	6.6782E-17	1366.4	6.8273E-07	11.1
450	5.5891E-17	1366.4	5.9563E-07	10.7
460	4.6975E-17	1366.4	5.2297E-07	10.2
470	3.9659E-17	1366.4	4.6208E-07	9.8
480	3.3641E-17	1366.4	4.1082E-07	9.3
490	2.8677E-17	1366.4	3.6746E-07	8.9
500	2.4573E-17	1366.4	3.3059E-07	8.4
510	2.1168E-17	1366.4	2.9908E-07	8.0
520	1.8335E-17	1366.4	2.7200E-07	7.7
530	1.5972E-17	1366.4	2.4860E-07	7.3
540	1.3992E-17	1366.4	2.2826E-07	7.0

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JULY 1, 1973		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0956E-12	549.2	1.4043E-02	26.6
80	2.3914E-12	812.1	6.3390E-03	25.2
90	1.0768E-12	979.0	3.5451E-03	24.7
100	5.7959E-13	1085.3	2.1776E-03	24.0
110	3.4310E-13	1153.0	1.4103E-03	23.6
120	2.1522E-13	1196.4	9.4544E-04	22.6
130	1.4034E-13	1224.2	6.4991E-04	22.0
140	9.4129E-14	1242.0	4.5562E-04	21.6
150	6.4534E-14	1253.6	3.2464E-04	20.7
160	4.5048E-14	1261.0	2.3457E-04	20.1
170	3.1936E-14	1265.8	1.7157E-04	19.6
180	2.2950E-14	1268.9	1.2687E-04	19.1
190	1.6695E-14	1271.0	9.4732E-05	18.6
200	1.2279E-14	1272.3	7.1360E-05	18.2
210	9.1212E-15	1273.2	5.4183E-05	17.8
220	6.8368E-15	1273.7	4.1437E-05	17.5
230	5.1664E-15	1274.1	3.1898E-05	17.2
240	3.9328E-15	1274.4	2.4704E-05	16.9
250	3.0136E-15	1274.5	1.9239E-05	16.6
260	2.3231E-15	1274.6	1.5062E-05	16.6
270	1.8005E-15	1274.7	1.1853E-05	16.1
280	1.4024E-15	1274.7	9.3720E-06	15.9
290	1.0972E-15	1274.8	7.4459E-06	15.6
300	8.6202E-16	1274.8	5.9439E-06	15.4
310	6.7991E-16	1274.8	4.7679E-06	15.1
320	5.3827E-16	1274.8	3.8437E-06	14.8
330	4.2766E-16	1274.8	3.1146E-06	14.6
340	3.4097E-16	1274.8	2.5375E-06	14.2
350	2.7279E-16	1274.8	2.0790E-06	13.9
360	2.1901E-16	1274.8	1.7135E-06	13.5
370	1.7646E-16	1274.8	1.4211E-06	13.2
380	1.4270E-16	1274.8	1.1864E-06	12.8
390	1.1584E-16	1274.8	9.9720E-07	12.6
400	9.4416E-17	1274.8	8.4413E-07	11.9
410	7.7283E-17	1274.8	7.1976E-07	11.4
420	6.3545E-17	1274.8	6.1827E-07	10.9
430	5.2500E-17	1274.8	5.3507E-07	10.4
440	4.3597E-17	1274.8	4.6651E-07	9.9
450	3.6399E-17	1274.8	4.0973E-07	9.4
460	3.0563E-17	1274.8	3.6243E-07	8.9
470	2.5817E-17	1274.8	3.2281E-07	8.5
480	2.1944E-17	1274.8	2.8942E-07	8.0
490	1.8772E-17	1274.8	2.6109E-07	7.6
500	1.6166E-17	1274.8	2.3690E-07	7.2
510	1.4015E-17	1274.8	2.1610E-07	6.9
520	1.2232E-17	1274.8	1.9811E-07	6.5
530	1.0749E-17	1274.8	1.8243E-07	6.2
540	9.5076E-18	1274.8	1.6868E-07	6.0

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE OCTOBER 1, 1973 GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0246E-12	556.6	1.4105E-02	26.3
80	2.3747E-12	835.6	6.4708E-03	25.2
90	1.0791E-12	1018.1	3.6864E-03	24.8
100	5.8827E-13	1137.7	2.3085E-03	24.1
110	3.5351E-13	1216.2	1.5244E-03	23.5
120	2.2542E-13	1268.0	1.0418E-03	22.8
130	1.4955E-13	1302.1	7.2980E-04	22.2
140	1.0208E-13	1324.7	5.2106E-04	21.6
150	7.1212E-14	1339.7	3.7786E-04	21.0
160	5.0561E-14	1349.7	2.7766E-04	20.4
170	3.6437E-14	1356.3	2.0640E-04	19.9
180	2.6601E-14	1360.7	1.5501E-04	19.4
190	1.9645E-14	1363.7	1.1750E-04	19.0
200	1.4661E-14	1365.7	8.9803E-05	18.7
210	1.1044E-14	1367.0	6.9156E-05	18.2
220	8.3919E-15	1367.9	5.3622E-05	17.8
230	6.4265E-15	1368.5	4.1838E-05	17.5
240	4.9565E-15	1368.9	3.2833E-05	17.2
250	3.8476E-15	1369.2	2.5903E-05	16.9
260	3.0043E-15	1369.4	2.0538E-05	16.7
270	2.3585E-15	1369.5	1.6361E-05	16.4
280	1.8605E-15	1369.6	1.3091E-05	16.2
290	1.4742E-15	1369.7	1.0520E-05	16.0
300	1.1730E-15	1369.7	8.4899E-06	15.7
310	9.3682E-16	1369.7	6.8801E-06	15.5
320	7.5090E-16	1369.8	5.5990E-06	15.3
330	6.0391E-16	1369.8	4.5759E-06	15.0
340	4.8727E-16	1369.8	3.7562E-06	14.8
350	3.9438E-16	1369.8	3.0973E-06	14.5
360	3.2018E-16	1369.8	2.5660E-06	14.2
370	2.6074E-16	1369.8	2.1364E-06	13.9
380	2.1298E-16	1369.8	1.7878E-06	13.6
390	1.7451E-16	1369.8	1.5041E-06	13.2
400	1.4344E-16	1369.8	1.2726E-06	12.8
410	1.1830E-16	1369.8	1.0829E-06	12.4
420	9.7897E-17	1369.8	9.2709E-07	12.0
430	8.1307E-17	1369.8	7.9857E-07	11.6
440	6.7785E-17	1369.8	6.9218E-07	11.2
450	5.6738E-17	1369.8	6.0378E-07	10.7
460	4.7692E-17	1369.8	5.3001E-07	10.2
470	4.0267E-17	1369.8	4.6819E-07	9.8
480	3.4157E-17	1369.8	4.1614E-07	9.5
490	2.9116E-17	1369.8	3.7211E-07	8.9
500	2.4946E-17	1369.8	3.3468E-07	8.5
510	2.1487E-17	1369.8	3.0269E-07	8.1
520	1.8608E-17	1369.8	2.7521E-07	7.7
530	1.6206E-17	1369.8	2.5146E-07	7.5
540	1.4193E-17	1369.8	2.3082E-07	7.0

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JANUARY 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.1057E-12	548.1	1.4034E-02	26.3
80	2.3933E-12	809.0	6.3205E-03	25.5
90	1.0762E-12	974.0	3.5260E-03	24.7
100	5.7819E-13	1078.7	2.1604E-03	24.0
110	3.4157E-13	1145.3	1.3956E-03	23.3
120	2.1378E-13	1187.7	9.3326E-04	22.6
130	1.3909E-13	1214.8	6.4001E-04	22.0
140	9.3082E-14	1232.2	4.4765E-04	21.3
150	6.3675E-14	1243.4	3.1826E-04	20.7
160	4.4354E-14	1250.5	2.2948E-04	20.1
170	3.1379E-14	1255.2	1.6751E-04	19.6
180	2.2506E-14	1258.2	1.2363E-04	19.0
190	1.6341E-14	1260.1	9.2142E-05	18.6
200	1.1997E-14	1261.4	6.9285E-05	18.2
210	8.8967E-15	1262.2	5.2515E-05	17.8
220	6.6573E-15	1262.8	4.0093E-05	17.4
230	5.0224E-15	1263.1	3.0812E-05	17.1
240	3.8170E-15	1263.3	2.3823E-05	16.8
250	2.9201E-15	1263.5	1.8524E-05	16.6
260	2.2474E-15	1263.6	1.4480E-05	16.3
270	1.7391E-15	1263.7	1.1377E-05	16.1
280	1.3523E-15	1263.7	8.9828E-06	15.8
290	1.0564E-15	1263.7	7.1268E-06	15.6
300	8.2863E-16	1263.7	5.6818E-06	15.3
310	6.5256E-16	1263.8	4.5522E-06	15.1
320	5.1582E-16	1263.8	3.6658E-06	14.8
330	4.0921E-16	1263.8	2.9677E-06	14.5
340	3.2578E-16	1263.8	2.4158E-06	14.2
350	2.6027E-16	1263.8	1.9781E-06	13.8
360	2.0868E-16	1263.8	1.6296E-06	13.5
370	1.6792E-16	1263.8	1.3512E-06	13.1
380	1.3564E-16	1263.8	1.1279E-06	12.6
390	1.0999E-16	1263.8	9.4819E-07	12.2
400	8.9571E-17	1263.8	8.0290E-07	11.7
410	7.3261E-17	1263.8	6.8496E-07	11.2
420	6.0202E-17	1263.8	5.8879E-07	10.7
430	4.9717E-17	1263.8	5.0998E-07	10.2
440	4.1277E-17	1263.8	4.4506E-07	9.7
450	3.4461E-17	1263.8	3.9130E-07	9.3
460	2.8942E-17	1263.8	3.4652E-07	8.8
470	2.4457E-17	1263.8	3.0900E-07	8.3
480	2.0800E-17	1263.8	2.7735E-07	7.9
490	1.7808E-17	1263.8	2.5049E-07	7.5
500	1.5351E-17	1263.8	2.2753E-07	7.1
510	1.3324E-17	1263.8	2.0777E-07	6.7
520	1.1644E-17	1263.8	1.9065E-07	6.4
530	1.0246E-17	1263.8	1.7572E-07	6.1
540	9.0764E-18	1263.8	1.6260E-07	5.9

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE APRIL 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.1213E-12	546.5	1.4020E-02	26.3
80	2.3961E-12	804.2	6.2922E-03	25.5
90	1.0751E-12	966.5	3.4968E-03	24.7
100	5.7599E-13	1068.9	2.1342E-03	24.0
110	3.3919E-13	1133.7	1.3734E-03	23.3
120	2.1159E-13	1174.6	9.1505E-04	22.6
130	1.3719E-13	1201.0	6.2526E-04	21.9
140	9.1499E-14	1217.7	4.3583E-04	21.3
150	6.2384E-14	1228.3	3.0885E-04	20.6
160	4.3316E-14	1235.1	2.2199E-04	20.0
170	3.0551E-14	1239.5	1.6156E-04	19.5
180	2.1849E-14	1242.4	1.1890E-04	19.0
190	1.5820E-14	1244.2	8.8371E-05	18.5
200	1.1584E-14	1245.4	6.6271E-05	18.1
210	8.5677E-15	1246.1	5.0100E-05	17.7
220	6.3950E-15	1246.6	3.8151E-05	17.4
230	4.8126E-15	1247.0	2.9247E-05	17.1
240	3.6486E-15	1247.2	2.2558E-05	16.8
250	2.7846E-15	1247.3	1.7498E-05	16.5
260	2.1379E-15	1247.4	1.3646E-05	16.3
270	1.6504E-15	1247.5	1.0698E-05	16.0
280	1.2803E-15	1247.5	8.4284E-06	15.8
290	9.9771E-16	1247.5	6.6733E-06	15.5
300	7.8077E-16	1247.5	5.3101E-06	15.3
310	6.1343E-16	1247.5	4.2469E-06	15.0
320	4.8377E-16	1247.6	3.4146E-06	14.7
330	3.8292E-16	1247.6	2.7606E-06	14.4
340	3.0419E-16	1247.6	2.2447E-06	14.1
350	2.4252E-16	1247.6	1.8364E-06	13.7
360	1.9406E-16	1247.6	1.5120E-06	13.3
370	1.5588E-16	1247.6	1.2533E-06	12.9
380	1.2570E-16	1247.6	1.0462E-06	12.5
390	1.0178E-16	1247.6	8.7976E-07	12.0
400	8.2773E-17	1247.6	7.4541E-07	11.5
410	6.7630E-17	1247.6	6.3648E-07	11.0
420	5.5531E-17	1247.6	5.4773E-07	10.5
430	4.5836E-17	1247.6	4.7505E-07	10.0
440	3.8047E-17	1247.6	4.1521E-07	9.5
450	3.1768E-17	1247.6	3.6566E-07	9.0
460	2.6691E-17	1247.6	3.2437E-07	8.5
470	2.2572E-17	1247.6	2.8975E-07	8.1
480	1.9218E-17	1247.6	2.6053E-07	7.7
490	1.6476E-17	1247.6	2.3570E-07	7.3
500	1.4225E-17	1247.6	2.1444E-07	6.9
510	1.2369E-17	1247.6	1.9612E-07	6.5
520	1.0832E-17	1247.6	1.8021E-07	6.2
530	9.5521E-18	1247.6	1.6630E-07	6.0
540	8.4807E-18	1247.6	1.5406E-07	5.7

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JULY 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,1371E-12	544.6	1,4005E-02	26.3
80	2,3989E-12	799.5	6,2636E-03	25.5
90	1,0739E-12	959.1	3,4676E-03	24.7
100	5,7368E-13	1059.3	2,1083E-03	24.0
110	3,3676E-13	1122.5	1,3516E-03	23.3
120	2,0937E-13	1162.4	8,9721E-04	22.6
130	1,3530E-13	1187.6	6,1091E-04	21.9
140	8,9931E-14	1203.6	4,2439E-04	21.2
150	6,1115E-14	1213.8	2,9977E-04	20.6
160	4,2302E-14	1220.3	2,1481E-04	20.0
170	2,9747E-14	1224.5	1,5588E-04	19.4
180	2,1213E-14	1227.2	1,1439E-04	18.9
190	1,5318E-14	1228.9	8,4795E-05	18.5
200	1,1187E-14	1230.0	6,3423E-05	18.0
210	8,2533E-15	1230.7	4,7824E-05	17.7
220	6,1452E-15	1231.2	3,6328E-05	17.3
230	4,6135E-15	1231.5	2,7780E-05	17.0
240	3,4893E-15	1231.7	2,1376E-05	16.7
250	2,6567E-15	1231.8	1,6542E-05	16.5
260	2,0349E-15	1231.9	1,2871E-05	16.2
270	1,5671E-15	1231.9	1,0069E-05	15.9
280	1,2129E-15	1232.0	7,9160E-06	15.7
290	9,4295E-16	1232.0	6,2552E-06	15.4
300	7,3621E-16	1232.0	4,9682E-06	15.2
310	5,7709E-16	1232.0	3,9669E-06	14.9
320	4,5409E-16	1232.0	3,1847E-06	14.6
330	3,5864E-16	1232.0	2,5714E-06	14.3
340	2,8430E-16	1232.0	2,0888E-06	13.9
350	2,2621E-16	1232.0	1,7075E-06	13.6
360	1,8067E-16	1232.0	1,4052E-06	13.2
370	1,4486E-16	1232.0	1,1646E-06	12.7
380	1,1663E-16	1232.0	9,7230E-07	12.3
390	9,4305E-17	1232.0	8,1798E-07	11.8
400	7,6605E-17	1232.0	6,9357E-07	11.3
410	6,2532E-17	1232.0	5,9280E-07	10.8
420	5,1312E-17	1232.0	5,1077E-07	10.3
430	4,2339E-17	1232.0	4,4363E-07	9.8
440	3,5141E-17	1232.0	3,8836E-07	9.3
450	2,9350E-17	1232.0	3,4258E-07	8.8
460	2,4674E-17	1232.0	3,0443E-07	8.3
470	2,0885E-17	1232.0	2,7241E-07	7.9
480	1,7803E-17	1232.0	2,4536E-07	7.4
490	1,5286E-17	1232.0	2,2233E-07	7.0
500	1,3221E-17	1232.0	2,0260E-07	6.7
510	1,1518E-17	1232.0	1,8555E-07	6.4
520	1,0108E-17	1232.0	1,7072E-07	6.1
530	8,9334E-18	1232.0	1,5773E-07	5.8
540	7,9494E-18	1232.0	1,4627E-07	5.6

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE OCTOBER 1, 1974		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0694E-12	551.9	1.4066E-02	26.3
80	2.3859E-12	820.5	6.3871E-03	25.5
90	1.0782E-12	992.6	3.5957E-03	24.7
100	5.8304E-13	1103.1	2.2237E-03	24.1
110	3.4702E-13	1174.4	1.4499E-03	23.4
120	2.1895E-13	1220.4	9.7854E-04	22.7
130	1.4364E-13	1250.1	6.7704E-04	22.1
140	9.6931E-14	1269.4	4.7761E-04	21.4
150	6.6854E-14	1282.0	3.4236E-04	20.8
160	4.6939E-14	1290.2	2.4879E-04	20.2
170	3.3463E-14	1295.5	1.8297E-04	19.7
180	2.4176E-14	1299.0	1.3601E-04	19.2
190	1.7677E-14	1301.3	1.0208E-04	18.7
200	1.3065E-14	1302.8	7.7271E-05	18.3
210	9.7516E-15	1303.8	5.8952E-05	17.9
220	7.3431E-15	1304.5	4.5295E-05	17.6
230	5.5740E-15	1304.9	3.5028E-05	17.3
240	4.2620E-15	1305.2	2.7249E-05	17.0
250	3.2803E-15	1305.4	2.1315E-05	16.7
260	2.5398E-15	1305.6	1.6759E-05	16.5
270	1.9770E-15	1305.6	1.3243E-05	16.2
280	1.5466E-15	1305.7	1.0513E-05	16.0
290	1.2153E-15	1305.7	8.3843E-06	15.7
300	9.5892E-16	1305.8	6.7172E-06	15.5
310	7.5957E-16	1305.8	5.4064E-06	15.3
320	6.0387E-16	1305.8	4.3718E-06	15.0
330	4.8177E-16	1305.8	3.5522E-06	14.7
340	3.8566E-16	1305.8	2.9008E-06	14.4
350	3.0975E-16	1305.8	2.3813E-06	14.1
360	2.4961E-16	1305.8	1.9655E-06	13.8
370	2.0182E-16	1305.8	1.6317E-06	13.4
380	1.6374E-16	1305.8	1.3628E-06	13.0
390	1.3332E-16	1305.8	1.1454E-06	12.6
400	1.0895E-16	1305.8	9.6899E-07	12.2
410	8.9385E-17	1305.8	8.2532E-07	11.8
420	7.3634E-17	1305.8	7.0782E-07	11.3
430	6.0923E-17	1305.8	6.1134E-07	10.8
440	5.0638E-17	1305.8	5.3174E-07	10.3
450	4.2295E-17	1305.8	4.6578E-07	9.9
460	3.5509E-17	1305.8	4.1082E-07	9.4
470	2.9974E-17	1305.8	3.6480E-07	8.9
480	2.5445E-17	1305.8	3.2605E-07	8.5
490	2.1729E-17	1305.8	2.9323E-07	8.0
500	1.8669E-17	1305.8	2.6526E-07	7.6
510	1.6140E-17	1305.8	2.4128E-07	7.3
520	1.4043E-17	1305.8	2.2058E-07	6.9
530	1.2296E-17	1305.8	2.0262E-07	6.6
540	1.0835E-17	1305.8	1.8691E-07	6.3

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JANUARY 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.1507E-12	543.4	1.3993E-02	26.3
80	2.4011E-12	795.5	6.2391E-03	25.5
90	1.0727E-12	952.9	3.4427E-03	24.7
100	5.7165E-13	1051.3	2.0864E-03	24.0
110	3.3466E-13	1113.1	1.3333E-03	23.2
120	2.0747E-13	1152.0	8.8231E-04	22.5
130	1.3368E-13	1176.5	5.9898E-04	21.8
140	8.8609E-14	1192.1	4.1493E-04	21.2
150	6.0052E-14	1201.9	2.9230E-04	20.5
160	4.1457E-14	1208.2	2.0892E-04	19.9
170	2.9080E-14	1212.1	1.5124E-04	19.4
180	2.0688E-14	1214.7	1.1073E-04	18.9
190	1.4905E-14	1216.3	8.1892E-05	18.4
200	1.0862E-14	1217.4	6.1118E-05	18.0
210	7.9966E-15	1218.0	4.5988E-05	17.6
220	5.9418E-15	1218.5	3.4860E-05	17.3
230	4.4518E-15	1218.7	2.6603E-05	17.0
240	3.3603E-15	1218.9	2.0429E-05	16.7
250	2.5534E-15	1219.0	1.5779E-05	16.4
260	1.9519E-15	1219.1	1.2254E-05	16.1
270	1.5002E-15	1219.2	9.5686E-06	15.9
280	1.1588E-15	1219.2	7.5097E-06	15.6
290	8.9913E-16	1219.2	5.9244E-06	15.4
300	7.0063E-16	1219.2	4.6984E-06	15.1
310	5.4815E-16	1219.3	3.7463E-06	14.8
320	4.3051E-16	1219.3	3.0040E-06	14.5
330	3.3940E-16	1219.3	2.4231E-06	14.2
340	2.6857E-16	1219.3	1.9667E-06	13.8
350	2.1334E-16	1219.3	1.6069E-06	13.5
360	1.7012E-16	1219.3	1.3220E-06	13.0
370	1.3621E-16	1219.3	1.0956E-06	12.6
380	1.0953E-16	1219.3	9.1485E-07	12.1
390	8.8464E-17	1219.3	7.7001E-07	11.6
400	7.1796E-17	1219.3	6.5336E-07	11.1
410	5.8566E-17	1219.3	5.5895E-07	10.6
420	4.8036E-17	1219.3	4.8214E-07	10.1
430	3.9628E-17	1219.3	4.1929E-07	9.6
440	3.2894E-17	1219.3	3.6756E-07	9.1
450	2.7483E-17	1219.3	3.2470E-07	8.6
460	2.3119E-17	1219.3	2.8897E-07	8.1
470	1.9586E-17	1219.3	2.5896E-07	7.7
480	1.6715E-17	1219.3	2.3357E-07	7.3
490	1.4371E-17	1219.3	2.1194E-07	6.9
500	1.2449E-17	1219.3	1.9337E-07	6.5
510	1.0865E-17	1219.3	1.7731E-07	6.2
520	9.5520E-18	1219.3	1.6331E-07	5.9
530	8.4580E-18	1219.3	1.5102E-07	5.7
540	7.5409E-18	1219.3	1.4016E-07	5.5

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE APRIL 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8,1098E-12	547.7	1.4030E-02	26.3
80	2,3941E-12	807.7	6.3130E-03	25.5
90	1,0759E-12	972.0	3.5182E-03	24.7
100	5,7761E-13	1076.1	2.1534E-03	24.0
110	3,4094E-13	1142.2	1.3896E-03	23.3
120	2,1320E-13	1184.2	9.2836E-04	22.6
130	1,3858E-13	1211.1	6.3603E-04	21.9
140	9,2658E-14	1228.3	4.4445E-04	21.3
150	6,3328E-14	1239.3	3.1571E-04	20.7
160	4,4074E-14	1246.4	2.2745E-04	20.1
170	3,1156E-14	1250.9	1.6590E-04	19.5
180	2,2328E-14	1253.9	1.2234E-04	19.0
190	1,6200E-14	1255.8	9.1115E-05	18.6
200	1,1885E-14	1257.0	6.8463E-05	18.1
210	8,8073E-15	1257.9	5.1856E-05	17.8
220	6,5860E-15	1258.4	3.9562E-05	17.4
230	4,9653E-15	1258.7	3.0384E-05	17.1
240	3,7711E-15	1259.0	2.3477E-05	16.8
250	2,8832E-15	1259.1	1.8243E-05	16.5
260	2,2175E-15	1259.2	1.4251E-05	16.3
270	1,7148E-15	1259.3	1.1191E-05	16.0
280	1,3326E-15	1259.3	8.8304E-06	15.8
290	1,0403E-15	1259.3	7.0020E-06	15.6
300	8,1552E-16	1259.4	5.5794E-06	15.3
310	6,4182E-16	1259.4	4.4681E-06	15.0
320	5,0702E-16	1259.4	3.5965E-06	14.8
330	4,0198E-16	1259.4	2.9105E-06	14.5
340	3,1984E-16	1259.4	2.3686E-06	14.1
350	2,5538E-16	1259.4	1.9389E-06	13.8
360	2,0465E-16	1259.4	1.5971E-06	13.4
370	1,6460E-16	1259.4	1.3241E-06	13.0
380	1,3289E-16	1259.4	1.1053E-06	12.6
390	1,0772E-16	1259.4	9.2922E-07	12.1
400	8,7690E-17	1259.4	7.8696E-07	11.7
410	7,1701E-17	1259.4	6.7151E-07	11.2
420	5,8907E-17	1259.4	5.7739E-07	10.7
430	4,8641E-17	1259.4	5.0028E-07	10.2
440	4,0380E-17	1259.4	4.3678E-07	9.7
450	3,3713E-17	1259.4	3.8418E-07	9.2
460	2,8316E-17	1259.4	3.4038E-07	8.7
470	2,3933E-17	1259.4	3.0366E-07	8.3
480	2,0360E-17	1259.4	2.7269E-07	7.8
490	1,7437E-17	1259.4	2.4639E-07	7.4
500	1,5037E-17	1259.4	2.2390E-07	7.0
510	1,3058E-17	1259.4	2.0454E-07	6.7
520	1,1418E-17	1259.4	1.8776E-07	6.4
530	1,0053E-17	1259.4	1.7312E-07	6.1
540	8,9105E-18	1259.4	1.6024E-07	5.8

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JULY 1, 1975

GM TIME 9 0

ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.1809E-12	540.3	1.3965E-02	26.3
80	2.4056E-12	786.8	6.1850E-03	25.4
90	1.0699E-12	939.5	3.3885E-03	24.7
100	5.6701E-13	1034.3	2.0390E-03	23.9
110	3.2996E-13	1093.4	1.2940E-03	23.2
120	2.0329E-13	1130.3	8.5065E-04	22.5
130	1.3018E-13	1153.4	5.7382E-04	21.8
140	8.5762E-14	1167.9	3.9510E-04	21.1
150	5.7782E-14	1177.0	2.7675E-04	20.4
160	3.9667E-14	1182.8	1.9673E-04	19.8
170	2.7677E-14	1186.4	1.4167E-04	19.3
180	1.9591E-14	1188.7	1.0321E-04	18.8
190	1.4047E-14	1190.2	7.5967E-05	18.3
200	1.0189E-14	1191.1	5.6431E-05	17.9
210	7.4677E-15	1191.7	4.2269E-05	17.5
220	5.5246E-15	1192.1	3.1898E-05	17.2
230	4.1214E-15	1192.3	2.4237E-05	16.9
240	3.0976E-15	1192.5	1.8533E-05	16.6
250	2.3437E-15	1192.6	1.4255E-05	16.3
260	1.7840E-15	1192.7	1.1026E-05	16.0
270	1.3654E-15	1192.7	8.5768E-06	15.8
280	1.0502E-15	1192.7	6.7067E-06	15.5
290	8.1146E-16	1192.7	5.2728E-06	15.3
300	6.2969E-16	1192.8	4.1686E-06	15.0
310	4.9063E-16	1192.8	3.3146E-06	14.7
320	3.8381E-16	1192.8	2.6515E-06	14.4
330	3.0141E-16	1192.8	2.1345E-06	14.0
340	2.3764E-16	1192.8	1.7300E-06	13.6
350	1.8811E-16	1192.8	1.4121E-06	13.2
360	1.4952E-16	1192.8	1.1613E-06	12.8
370	1.1937E-16	1192.8	9.6256E-07	12.3
380	9.5738E-17	1192.8	8.0440E-07	11.8
390	7.7162E-17	1192.8	6.7792E-07	11.3
400	6.2517E-17	1192.8	5.7626E-07	10.8
410	5.0937E-17	1192.8	4.9410E-07	10.2
420	4.1752E-17	1192.8	4.2732E-07	9.7
430	3.4442E-17	1192.8	3.7270E-07	9.2
440	2.8605E-17	1192.8	3.2773E-07	8.7
450	2.3927E-17	1192.8	2.9045E-07	8.2
460	2.0163E-17	1192.8	2.5931E-07	7.7
470	1.7121E-17	1192.8	2.3311E-07	7.3
480	1.4653E-17	1192.8	2.1089E-07	6.9
490	1.2640E-17	1192.8	1.9189E-07	6.5
500	1.0989E-17	1192.8	1.7553E-07	6.2
510	9.6282E-18	1192.8	1.6133E-07	5.9
520	8.4995E-18	1192.8	1.4890E-07	5.7
530	7.5575E-18	1192.8	1.3794E-07	5.4
540	6.7661E-18	1192.8	1.2821E-07	5.2

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE OCTOBER 1, 1975		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0806E-12	550.7	1.4056E-02	26.3
80	2.3883E-12	816.8	6.3664E-03	25.5
90	1.0777E-12	986.7	3.5738E-03	24.7
100	5.8159E-13	1095.3	2.2037E-03	24.0
110	3.4535E-13	1165.0	1.4326E-03	23.4
120	2.1734E-13	1209.8	9.6404E-04	22.7
130	1.4221E-13	1238.7	6.6512E-04	22.0
140	9.5713E-14	1257.3	4.6792E-04	21.4
150	6.5841E-14	1269.4	3.3453E-04	20.8
160	4.6111E-14	1277.3	2.4249E-04	20.2
170	3.2791E-14	1282.4	1.7791E-04	19.7
180	2.3636E-14	1285.7	1.3195E-04	19.2
190	1.7243E-14	1287.9	9.8805E-05	18.7
200	1.2717E-14	1289.3	7.4633E-05	18.3
210	9.4719E-15	1290.2	5.6820E-05	17.9
220	7.1181E-15	1290.9	4.3568E-05	17.5
230	5.3925E-15	1291.3	3.3625E-05	17.2
240	4.1152E-15	1291.5	2.6106E-05	16.9
250	3.1612E-15	1291.7	2.0382E-05	16.7
260	2.4429E-15	1291.8	1.5995E-05	16.4
270	1.8980E-15	1291.9	1.2616E-05	16.2
280	1.4819E-15	1292.0	9.9978E-06	15.9
290	1.1622E-15	1292.0	7.9600E-06	15.7
300	9.1534E-16	1292.0	6.3672E-06	15.4
310	7.2370E-16	1292.0	5.1170E-06	15.2
320	5.7429E-16	1292.0	4.1321E-06	14.9
330	4.5734E-16	1292.1	3.3534E-06	14.7
340	3.6545E-16	1292.1	2.7355E-06	14.4
350	2.9302E-16	1292.1	2.2436E-06	14.0
360	2.3574E-16	1292.1	1.8506E-06	13.7
370	1.9031E-16	1292.1	1.5356E-06	13.3
380	1.5418E-16	1292.1	1.2822E-06	12.9
390	1.2537E-16	1292.1	1.0777E-06	12.5
400	1.0233E-16	1292.1	9.1188E-07	12.1
410	8.3865E-17	1292.1	7.7701E-07	11.6
420	6.9027E-17	1292.1	6.6682E-07	11.1
430	5.7072E-17	1292.1	5.7640E-07	10.6
440	4.7415E-17	1292.1	5.0185E-07	10.2
450	3.9594E-17	1292.1	4.4009E-07	9.7
460	3.3241E-17	1292.1	3.8865E-07	9.2
470	2.8066E-17	1292.1	3.4557E-07	8.7
480	2.3837E-17	1292.1	3.0927E-07	8.3
490	2.0370E-17	1292.1	2.7851E-07	7.9
500	1.7517E-17	1292.1	2.5228E-07	7.5
510	1.5162E-17	1292.1	2.2977E-07	7.1
520	1.3209E-17	1292.1	2.1032E-07	6.7
530	1.1584E-17	1292.1	1.9340E-07	6.4
540	1.0224E-17	1292.1	1.7860E-07	6.2

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JANUARY 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.1387E-12	544.7	1.4004E-02	26.3
80	2.3991E-12	799.0	6.2606E-03	25.5
90	1.0737E-12	958.3	3.4646E-03	24.7
100	5.7344E-13	1058.4	2.1056E-03	24.0
110	3.3651E-13	1121.3	1.3494E-03	23.3
120	2.0914E-13	1161.1	8.9539E-04	22.6
130	1.3510E-13	1186.2	6.0945E-04	21.9
140	8.9770E-14	1202.2	4.2323E-04	21.2
150	6.0985E-14	1212.4	2.9886E-04	20.6
160	4.2199E-14	1218.8	2.1409E-04	20.0
170	2.9665E-14	1223.0	1.5531E-04	19.4
180	2.1148E-14	1225.6	1.1394E-04	18.9
190	1.5267E-14	1227.3	8.4436E-05	18.5
200	1.1147E-14	1228.4	6.3137E-05	18.0
210	8.2216E-15	1229.1	4.7596E-05	17.7
220	6.1201E-15	1229.6	3.6145E-05	17.3
230	4.5935E-15	1229.9	2.7634E-05	17.0
240	3.4733E-15	1230.1	2.1258E-05	16.7
250	2.6439E-15	1230.2	1.6447E-05	16.4
260	2.0246E-15	1230.3	1.2794E-05	16.2
270	1.5588E-15	1230.3	1.0006E-05	15.9
280	1.2061E-15	1230.4	7.8653E-06	15.7
290	9.3750E-16	1230.4	6.2138E-06	15.4
300	7.3177E-16	1230.4	4.9345E-06	15.2
310	5.7348E-16	1230.4	3.9393E-06	14.9
320	4.5115E-16	1230.4	3.1621E-06	14.6
330	3.5624E-16	1230.4	2.5528E-06	14.3
340	2.8233E-16	1230.4	2.0735E-06	13.9
350	2.2459E-16	1230.4	1.6949E-06	13.6
360	1.7934E-16	1230.4	1.3947E-06	13.2
370	1.4378E-16	1230.5	1.1559E-06	12.7
380	1.1574E-16	1230.5	9.6507E-07	12.3
390	9.3571E-17	1230.5	8.1193E-07	11.8
400	7.6000E-17	1230.5	6.8850E-07	11.3
410	6.2033E-17	1230.5	5.8854E-07	10.8
420	5.0899E-17	1230.5	5.0716E-07	10.3
430	4.1997E-17	1230.5	4.4056E-07	9.8
440	3.4858E-17	1230.5	3.8574E-07	9.2
450	2.9114E-17	1230.5	3.4033E-07	8.8
460	2.4478E-17	1230.5	3.0248E-07	8.3
470	2.0721E-17	1230.5	2.7072E-07	7.8
480	1.7666E-17	1230.5	2.4387E-07	7.4
490	1.5170E-17	1230.5	2.2103E-07	7.0
500	1.3123E-17	1230.5	2.0144E-07	6.7
510	1.1436E-17	1230.5	1.8452E-07	6.3
520	1.0038E-17	1230.5	1.6979E-07	6.0
530	8.8733E-18	1230.5	1.5689E-07	5.8
540	7.8978E-18	1230.5	1.4550E-07	5.6

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE APRIL 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM3)	TEMP (OK)	PRESSURE (DYNE/CM2)	MOL. WT (UNITLESS)
70	8.0621E-12	552.6	1.4073E-02	26.3
80	2.3842E-12	822.8	6.4005E-03	25.5
90	1.0785E-12	996.5	3.6100E-03	24.8
100	5.8395E-13	1108.3	2.2369E-03	24.1
110	3.4809E-13	1180.6	1.4614E-03	23.4
120	2.1999E-13	1227.4	9.8814E-04	22.7
130	1.4457E-13	1257.8	6.8496E-04	22.1
140	9.7731E-14	1277.5	4.8408E-04	21.4
150	6.7522E-14	1290.4	3.4760E-04	20.8
160	4.7488E-14	1298.9	2.5302E-04	20.3
170	3.3909E-14	1304.4	1.8638E-04	19.7
180	2.4537E-14	1308.0	1.3876E-04	19.2
190	1.7968E-14	1310.4	1.0429E-04	18.8
200	1.3299E-14	1312.0	7.9063E-05	18.4
210	9.9400E-15	1313.0	6.0403E-05	18.0
220	7.4951E-15	1313.7	4.6474E-05	17.6
230	5.6969E-15	1314.2	3.5987E-05	17.3
240	4.3616E-15	1314.5	2.8032E-05	17.0
250	3.3613E-15	1314.7	2.1956E-05	16.7
260	2.6058E-15	1314.8	1.7285E-05	16.5
270	2.0310E-15	1314.9	1.3674E-05	16.2
280	1.5908E-15	1315.0	1.0868E-05	16.0
290	1.2516E-15	1315.0	8.6775E-06	15.8
300	9.8882E-16	1315.0	6.9596E-06	15.5
310	7.8423E-16	1315.0	5.6071E-06	15.3
320	6.2424E-16	1315.1	4.5382E-06	15.0
330	4.9862E-16	1315.1	3.6906E-06	14.8
340	3.9962E-16	1315.1	3.0160E-06	14.5
350	3.2133E-16	1315.1	2.4773E-06	14.2
360	2.5922E-16	1315.1	2.0458E-06	13.9
370	2.0981E-16	1315.1	1.6990E-06	13.5
380	1.7039E-16	1315.1	1.4192E-06	13.1
390	1.3886E-16	1315.1	1.1929E-06	12.7
400	1.1358E-16	1315.1	1.0091E-06	12.3
410	9.3246E-17	1315.1	8.5927E-07	11.9
420	7.6862E-17	1315.1	7.3666E-07	11.4
430	6.3624E-17	1315.1	6.3592E-07	10.9
440	5.2902E-17	1315.1	5.5279E-07	10.5
450	4.4196E-17	1315.1	4.8386E-07	10.0
460	3.7107E-17	1315.1	4.2643E-07	9.5
470	3.1320E-17	1315.1	3.7835E-07	9.1
480	2.6581E-17	1315.1	3.3786E-07	8.6
490	2.2689E-17	1315.1	3.0357E-07	8.2
500	1.9483E-17	1315.1	2.7438E-07	7.8
510	1.6832E-17	1315.1	2.4936E-07	7.4
520	1.4633E-17	1315.1	2.2779E-07	7.0
530	1.2801E-17	1315.1	2.0907E-07	6.7
540	1.1268E-17	1315.1	1.9273E-07	6.4

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $\sigma_p = 400$

DATE JULY 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	8.0743E-12	551.4	1.4062E-02	26.3
80	2.3869E-12	818.9	6.3781E-03	25.5
90	1.0780E-12	990.0	3.5862E-03	24.7
100	5.8242E-13	1099.7	2.2150E-03	24.0
110	3.4630E-13	1170.2	1.4424E-03	23.4
120	2.1825E-13	1215.7	9.7219E-04	22.7
130	1.4302E-13	1245.1	6.7181E-04	22.0
140	9.6399E-14	1264.1	4.7335E-04	21.4
150	6.6411E-14	1276.5	3.3892E-04	20.8
160	4.6576E-14	1284.5	2.4602E-04	20.2
170	3.3168E-14	1289.7	1.8074E-04	19.7
180	2.3939E-14	1293.2	1.3422E-04	19.2
190	1.7486E-14	1295.4	1.0063E-04	18.7
200	1.2912E-14	1296.9	7.6106E-05	18.3
210	9.6284E-15	1297.8	5.8009E-05	17.9
220	7.2439E-15	1298.5	4.4531E-05	17.6
230	5.4939E-15	1298.9	3.4407E-05	17.2
240	4.1972E-15	1299.2	2.6743E-05	17.0
250	3.2277E-15	1299.4	2.0901E-05	16.7
260	2.4969E-15	1299.5	1.6420E-05	16.4
270	1.9421E-15	1299.6	1.2965E-05	16.2
280	1.5179E-15	1299.6	1.0284E-05	16.0
290	1.1918E-15	1299.7	8.1958E-06	15.7
300	9.3961E-16	1299.7	6.5616E-06	15.5
310	7.4367E-16	1299.7	5.2777E-06	15.2
320	5.9075E-16	1299.7	4.2651E-06	15.0
330	4.7092E-16	1299.7	3.4637E-06	14.7
340	3.7668E-16	1299.7	2.8272E-06	14.4
350	3.0231E-16	1299.8	2.3199E-06	14.1
360	2.4344E-16	1299.8	1.9143E-06	13.7
370	1.9670E-16	1299.8	1.5889E-06	13.4
380	1.5948E-16	1299.8	1.3268E-06	13.0
390	1.2978E-16	1299.8	1.1152E-06	12.6
400	1.0600E-16	1299.8	9.4348E-07	12.1
410	8.6923E-17	1299.8	8.0373E-07	11.7
420	7.1578E-17	1299.8	6.8950E-07	11.2
430	5.9203E-17	1299.8	5.9572E-07	10.7
440	4.9198E-17	1299.8	5.1838E-07	10.3
450	4.1088E-17	1299.8	4.5429E-07	9.8
460	3.4495E-17	1299.8	4.0091E-07	9.3
470	2.9120E-17	1299.8	3.5620E-07	8.8
480	2.4725E-17	1299.8	3.1855E-07	8.4
490	2.1120E-17	1299.8	2.8665E-07	8.0
500	1.8153E-17	1299.8	2.5946E-07	7.6
510	1.5702E-17	1299.8	2.3614E-07	7.2
520	1.3669E-17	1299.8	2.1600E-07	6.8
530	1.1977E-17	1299.8	1.9851E-07	6.5
540	1.0561E-17	1299.8	1.8321E-07	6.2

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE OCTOBER 1, 1976		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	7.9633E-12	562.9	1.4154E-02	26.3
80	2.3523E-12	859.8	6.5900E-03	25.5
90	1.0754E-12	1062.4	3.8260E-03	24.8
100	5.9273E-13	1200.9	2.4464E-03	24.2
110	3.6141E-13	1295.8	1.6513E-03	23.6
120	2.3445E-13	1361.0	1.1542E-03	23.0
130	1.5850E-13	1405.8	8.2683E-04	22.4
140	1.1036E-13	1436.7	6.0354E-04	21.8
150	7.8572E-14	1458.0	4.4724E-04	21.3
160	5.6935E-14	1472.8	3.3561E-04	20.8
170	4.1864E-14	1483.1	2.5460E-04	20.3
180	3.1169E-14	1490.2	1.9501E-04	19.8
190	2.3462E-14	1495.2	1.5064E-04	19.4
200	1.7835E-14	1498.6	1.1728E-04	19.0
210	1.3678E-14	1501.1	9.1943E-05	18.6
220	1.0575E-14	1502.8	7.2545E-05	18.2
230	8.2359E-15	1504.0	5.7576E-05	17.9
240	6.4579E-15	1504.8	4.5943E-05	17.6
250	5.0951E-15	1505.4	3.6844E-05	17.3
260	4.0427E-15	1505.8	2.9684E-05	17.1
270	3.2244E-15	1506.1	2.4020E-05	16.8
280	2.5839E-15	1506.3	1.9516E-05	16.6
290	2.0798E-15	1506.5	1.5918E-05	16.4
300	1.6808E-15	1506.6	1.3032E-05	16.2
310	1.3634E-15	1506.6	1.0708E-05	16.0
320	1.1098E-15	1506.7	8.8295E-06	15.7
330	9.0626E-16	1506.7	7.3063E-06	15.5
340	7.4232E-16	1506.8	6.0672E-06	15.3
350	6.0980E-16	1506.8	5.0562E-06	15.1
360	5.0233E-16	1506.8	4.2290E-06	14.9
370	4.1491E-16	1506.8	3.5502E-06	14.6
380	3.4360E-16	1506.8	2.9918E-06	14.4
390	2.8528E-16	1506.8	2.5312E-06	14.1
400	2.3746E-16	1506.8	2.1504E-06	13.8
410	1.9817E-16	1506.8	1.8346E-06	13.5
420	1.6581E-16	1506.8	1.5721E-06	13.2
430	1.3911E-16	1506.8	1.3533E-06	12.9
440	1.1702E-16	1506.8	1.1705E-06	12.5
450	9.8722E-17	1506.8	1.0173E-06	12.2
460	8.3528E-17	1506.8	8.8850E-07	11.8
470	7.0889E-17	1506.8	7.7994E-07	11.4
480	6.0355E-17	1506.8	6.8814E-07	11.0
490	5.1558E-17	1506.8	6.1025E-07	10.6
500	4.4197E-17	1506.8	5.4394E-07	10.2
510	3.8025E-17	1506.8	4.8729E-07	9.8
520	3.2839E-17	1506.8	4.3871E-07	9.4
530	2.8473E-17	1506.8	3.9688E-07	9.0
540	2.4788E-17	1506.8	3.6073E-07	8.6

TABLE IV. PREDICTED ATMOSPHERIC GAS PROPERTIES
FOR PLUS TWO SIGMA CONDITIONS WITH $a_p = 400$

DATE JANUARY 1, 1977		GM TIME 9 0		
ALT (NM)	DENSITY (GM/CM ³)	TEMP (OK)	PRESSURE (DYNE/CM ²)	MOL. WT (UNITLESS)
70	7.9766E-12	561.5	1.4144E-02	26.3
80	2.3584E-12	854.0	6.5633E-03	25.5
90	1.0771E-12	1051.2	3.7930E-03	24.8
100	5.9221E-13	1184.4	2.4127E-03	24.2
110	3.5987E-13	1274.6	1.6195E-03	23.6
120	2.3247E-13	1335.8	1.1254E-03	22.9
130	1.5642E-13	1377.5	8.0151E-04	22.4
140	1.0837E-13	1405.8	5.8167E-04	21.8
150	7.6746E-14	1425.2	4.2857E-04	21.2
160	5.5317E-14	1438.5	3.1981E-04	20.7
170	4.0459E-14	1447.6	2.4130E-04	20.2
180	2.9966E-14	1453.9	1.8385E-04	19.7
190	2.2442E-14	1458.2	1.4130E-04	19.3
200	1.6975E-14	1461.1	1.0946E-04	18.8
210	1.2956E-14	1463.2	8.5402E-05	18.5
220	9.9700E-15	1464.6	6.7069E-05	18.1
230	7.7298E-15	1465.6	5.2986E-05	17.8
240	6.0342E-15	1466.3	4.2092E-05	17.5
250	4.7401E-15	1466.8	3.3607E-05	17.2
260	3.7449E-15	1467.1	2.6960E-05	16.9
270	2.9742E-15	1467.4	2.1724E-05	16.7
280	2.3735E-15	1467.5	1.7578E-05	16.5
290	1.9024E-15	1467.6	1.4279E-05	16.3
300	1.5311E-15	1467.7	1.1645E-05	16.0
310	1.2368E-15	1467.8	9.5320E-06	15.8
320	1.0026E-15	1467.8	7.8314E-06	15.6
330	8.1544E-16	1467.8	6.4580E-06	15.4
340	6.6524E-16	1467.9	5.3452E-06	15.2
350	5.4431E-16	1467.9	4.4409E-06	15.0
360	4.4662E-16	1467.9	3.7039E-06	14.7
370	3.6748E-16	1467.9	3.1016E-06	14.5
380	3.0318E-16	1467.9	2.6079E-06	14.2
390	2.5080E-16	1467.9	2.2023E-06	13.9
400	2.0803E-16	1467.9	1.8680E-06	13.6
410	1.7303E-16	1467.9	1.5918E-06	13.3
420	1.4431E-16	1467.9	1.3630E-06	12.9
430	1.2071E-16	1467.9	1.1728E-06	12.6
440	1.0127E-16	1467.9	1.0144E-06	12.2
450	8.5219E-17	1467.9	8.8198E-07	11.8
460	7.1945E-17	1467.9	7.7094E-07	11.4
470	6.0943E-17	1467.9	6.7752E-07	11.0
480	5.1806E-17	1467.9	5.9866E-07	10.6
490	4.4202E-17	1467.9	5.3185E-07	10.1
500	3.7861E-17	1467.9	4.7503E-07	9.7
510	3.2540E-17	1467.9	4.2651E-07	9.3
520	2.8120E-17	1467.9	3.8491E-07	8.9
530	2.4391E-17	1467.9	3.4909E-07	8.5
540	2.1252E-17	1467.9	3.1811E-07	8.2

REFERENCES

1. Smith, R. E. and Don K. Weidner: "Space Environment Criteria Guidelines for Use in Space Vehicle Development (1968 Revision)," NASA TM X-53798, October 1968.
2. Hinteregger, H. E. and L. A. Hall: "Thermosphere Densities and Temperature from EUV Absorption Measurements of OSO-III," COSPAR, Planetary Meeting, 11th, Tokoyo, Japan, May 9-21, 1968.
3. Jacchia, L. G. and J. Slowey: "Accurate Drag Determinations for Eight Artificial Satellites: Atmospheric Densities and Temperatures," Smithsonian Contributions to Astrophysics, Vol. 8, No. 1, 1963.
4. Small, H. W.: "A Method of Deriving Atmospheric Density from Satellite Nodal-Crossing Times," Tracking Note 21, Lockheed Missiles and Space Co., LMSC/A374416, Sunnyvale, Calif., June 15, 1964.
5. King-Hele, D.: Theory of Satellite Orbits in an Atmosphere, Butterworths, London, 1964.
6. Groves, G. V.: "Methods of Calculating Atmospheric Densities from Satellite Orbit Data," Planetary Space Science 5, 314-320, 1961.
7. Cook, G. E.: "Comparison of Air Densities Obtained from Orbital Decay and Instruments," presented at Royal Society Discussion Meeting on Orbital Analysis, Franborough, England, October 1966.
8. Moe, K.: "Absolute Atmospheric Densities Determined from the Spin and Orbital Decay of Explorer IV," Planetary Space Science, 14, 1065-1075, 1966.
9. Cook, G. E.: "Satellite Drag Coefficients," Planetary Space Sciences, Vol. 13, pp. 929-945, 1965.
10. Nier, A. O.: "The Neutral Composition of the Thermosphere," Annales DeGeophysique, Vol. 22, pp. 102-109, 1966.
11. Friedman, M. P.: "A Critical Survey of Upper-Atmospheric Density Measurements by Means of Ionization Gauges," Special Report 217, Smithsonian Astrophysical Observatory, July 1966.
12. Horowitz, R.: "Direct Measurements of Density in the Thermosphere," Annales DeGeophysique, Vol. 22, pp. 31-39, 1966.

REFERENCES (Continued)

13. Von Zahn, U.: "Mass Spectrometric Measurements of Atomic Oxygen in the Upper Atmosphere: A Critical Review," *Journal of Geophysical Review*, Vol. 72, 23, pp. 5933-5937, December 1967.
14. Spencer, N. W., L. H. Brace, G. R. Carignan, D. R. Tausch, and H. B. Niemann: "Electron and Molecular Nitrogen Temperature and Density in the Thermosphere," *Journal of Geophysical Research*, 70, 2665-2698, 1965.
15. Tausch, D. R., G. L. Carignan, A. F. Nagy and H. B. Nieman: "Diurnal Survey of the Thermosphere (Final Report)," NASA CR-61481, prepared by the University of Michigan under Contract No. NAS8-20232, November 1968.
16. Spencer, N. W.: "The Explorer XVII Satellite," *Planetary Space Science*, Vol. 13, pp. 593-598, 1965.
17. Newton, G., R. Horowitz, and W. Priester: "Atmospheric Densities from Explorer XVII Density Gauges and a Comparison with Satellite Drag Data," *Journal of Geophysical Research*, Vol. 69, No. 21, pp. 4690-4692, 1964.
18. Newton, G., R. Horowitz, and W. Priester: "Atmospheric Density and Temperature Variations from the Explorer XVII Satellite and a Further Comparison with Satellite Drag," *Planetary Space Science*, Vol. 13, pp. 599-616, 1965.
19. Reber, C. A. and M. Nicolet: "Investigation of the Major Constituents of the April-May 1963 Heterosphere by the Explorer XVII Satellite," *Planetary Space Science*, Vol. 13, pp. 617-646, 1965.
20. Slowey, J.: "Atmospheric Densities and Temperatures from the Drag Analysis of the Explorer XVII Satellite," *Smithsonian Astrophysics Observatory, Special Report 157*, 1964.
21. Friedman, M. P.: "A Critical Survey of Upper Atmosphere Density Measurements by Means of Ionization Gauges," *Smithsonian Astrophysics Observatory, Special Report 217*, 1966.
22. Martin, H. A., W. Neveling, W. Priester, and M. Roemer: "Model of the Upper Atmosphere from 130 through 1600 km, Derived from Satellite Orbits," *Space Research II*, edited by H. C. van de Hulst, North Holland Publishing Company, Amsterdam, pp. 902-917, 1961.
23. King-Hele and D. M. C. Walker: "Upper Atmosphere Density During the Years 1957 to 1961, Determined from Satellite Orbits," *Space Research II*, pp. 918-957, 1961.

REFERENCES (Continued)

24. Paetzold, H. K. and H. Zschorner: "The Structure of the Upper Atmosphere and Its Variations after Satellite Observations," Space Research II, pp. 958-973, 1961.
25. Jacchia, L. G.: "A Variable Atmospheric-Density Model from Satellite Accelerations," Special Report No. 39, Smithsonian Astrophysical Observatory, Cambridge, Mass., 1961.
26. Nicolet, M.: "Density of the Heterosphere Related to Temperature," Special Report 75, Smithsonian Astrophysical Observatory, 1961.
27. Harris, I. and W. Priester: "Time-Dependent Structure of the Upper Atmosphere," Journal of Atmospheric Science, Vol. 19, pp. 286-301, 1962.
28. Harris, I. and W. Priester: "Theoretical Models for the Solar-Cycle Variations of the Upper Atmosphere," Journal of Geophysical Research, Vol. 67, pp. 4585-4591, 1962.
29. CIRA 1965, COSPAR International Reference Atmosphere, compiled by COSPAR Working Group IV, North-Holland Publishing Co., Amsterdam, 1965.
30. Kockarts, G. and M. Nicolet: "Le Probleme Aeronomique de l'helium et de l'hydrogene neutres," Annales de Geophysique, Vol. 18, pp. 269-290, 1962.
31. Reading, J. C.: "A Geophysical Data Tape," Tracking Note No. 39, LMSC/A603496, Lockheed Missiles and Space Co., Sunnyvale, Calif., 1964.
32. Small, H. W.: "Atmospheric Densities Between 70 and 200 Nautical Miles from Satellite Observations," Tracking Note No. 23, LMSC/A376332, Lockheed Missiles and Space Co., July 1964.
33. Walker, J. C. G.: "Analytical Representations of Upper Atmospheric Densities Based on Jacchia's Static Diffusion Models," Inst. of Space Studies, NASA/GSFC, 1965.
34. Jacchia, L. G. and J. W. Slowey: "Diurnal and Seasonal-Latitudinal Variations in the Upper Atmosphere," Special Report 242, Smithsonian Astrophysical Observatory, June 1967.
35. Friedman, M. P.: "A Three-Dimensional Model of the Upper Atmosphere," Special Report 250, Smithsonian Astrophysical Obs., Sept. 1967.

REFERENCES (Continued)

36. Keating, G. M. and E. J. Prior: "Latitudinal and Seasonal Variations in Atmospheric Densities Obtained During Low Solar Activity by Means of the Inflatable Density Satellites," Space Research VII, North-Holland Publishing Company, Amsterdam, 1967.
37. Jacchia, L. G.: "Static Diffusion Models of the Upper Atmosphere with Empirical Temperature Profiles," Smithsonian Contributions to Astrophysics, Vol. 8, No. 9, pp. 215-257, 1965.

APPENDIX A

Glossary

Celestial longitude:	The arc of the ecliptic included between the vernal equinox and the point at which the celestial longitude is given. It is always measured eastward from the vernal equinox, completely around the ecliptic, from 0 to 360 degrees.
Daily 10.7 cm flux:	Assumed to be the same as radio flux. A measured indicator for the amount of EUV solar radiation received by the earth (see radio flux).
Daily geomagnetic index:	The average of eight three-hourly geomagnetic index values (see three-hourly geomagnetic index).
Declination:	In the geocentric coordination system, it is the angular distance along the meridian of a point of body from the equator. Declination is analogous to latitude on earth. It is taken positive north of the equator and negative south of the equator.
Density:	Same as mass density.
Density bulge:	A slight bulge in the daylight portion of the atmosphere that is caused by atmospheric heating. The center of the bulge follows the sun, lagging by two hours, and also migrates north and south with the sub-solar point. A slight depression in the dark portion of the atmosphere (anti-bulge), which is a product of the bulge, is centered ten hours earlier at 0400 local time. At any given height above 120 km, the maximum density occurs at the center of the density bulge.
Diffusive equilibrium:	The steady state resulting from the diffusive process at which the constituent gases of the atmosphere are distributed independently. In such a state, the

number density of the heavier constituents decreases more rapidly with altitude than the lighter.

Diurnal effect:

The day-to-night variation in nearly all atmospheric parameters that is caused by the rotation of the earth.

Ecliptic:

The apparent path of the sun about the earth during a year. Strictly, it is the projection of the plane of the earth's orbit on the celestial sphere.

81-day mean solar flux:

The arithmetic average of the daily 10.7 cm solar flux values for the 81 days preceding the day for which the 81-day mean is given.

electromagnetic radiation:

Energy that is propagated through space, primarily from the sun, in the form of an advancing disturbance in electric and magnetic fields (often called radiation).

Exospheric temperature:

An asymptotic value that the atmospheric temperature reaches near 500 km altitude. Above this altitude, temperature is considered to be isothermal (lapse rate of zero) and to range from 650 to 2100°K.

Geomagnetic index:

See three-hourly geomagnetic index and daily geomagnetic index.

Heterosphere:

The upper portion of a two-part division of the atmosphere according to the general homogeneity of atmospheric composition starting at approximately 90 km altitude. The heterosphere is characterized by a variable composition and molecular weight.

Homosphere:

The lower portion of a two-part division of the atmosphere according to the general homogeneity of atmospheric composition which includes the altitude region from the earth's surface to approximately 90 km. In the homosphere, the composition and mean molecular weight are considered to be constant with time and space.

Hour angle:	The angular distance measured eastward or westward along the celestial equator to the longitude of the point for which the hour angle refers. Morning hour angles are negative and afternoon are positive.
Hydrostatic equation:	An expression that equates the pressure-altitude gradient to the product of mass density and gravity under the assumption of a complete balance between the force of gravity and the pressure force.
Julian date (also Julian day):	Number of days measured from January 1 (noon), 4713 B.C.
Magnetic Field:	A region of space wherein any magnetic dipole would experience a magnetic force or torque.
Mass density:	The ratio of the mass of any substance to the volume occupied by it (usually expressed in gm/cm ³).
Mixing:	A random exchange of atmospheric constituents caused primarily by non-homogeneous pressure forces.
Modified Julian Day:	Number of days measured from November 17, 1858 (midnight).
Number density:	The numerical count of molecules of a particular constituent for a given volume (usually given as No./cm ³).
Radio flux (F _{10.7}):	The radio flux density at 2800 mhz (10.7 cm) is a useful indicator of solar activity as it exhibits both 11-year and 27-day periodicities. This high correlation to the solar radiation which is absorbed in the upper atmosphere makes it a desirable weighting function of these effects in a model atmosphere. The standard data source is Ottawa, Canada, although it is measured at several observatories. It has units of 10 ⁻²² watts/square meter/second/bandwidth.

- Right ascension: The angular distance measured from the vernal equinox eastward along the celestial equator to the longitude of the point to which the right ascension refers.
- Scale height: The scale height of a point in the atmosphere is a numerical quantity that represents the altitude above the point at which the mass density would decrease by a factor of $1/e$ (the exponential log e) from the density at the point (see equation 29B).
- Semi-annual effect: A systematic variation of upper atmospheric density that in brief is caused by the interaction between the solar wind and magnetic field, modulated by the orbital motion of the earth. The semi-annual effect causes the atmospheric density above 200 km altitude to decrease to a deep minimum in July, then increase to a high maximum in October or November. These are followed by a secondary minimum in January and a secondary maximum in April.
- Solar activity: Any type of variation in the energy output of the sun.
- Solar radiation: The total electromagnetic radiation and corpuscular radiation emitted by the sun.
- Solar radiation pressure: The pressure that is exerted on a spacecraft by electromagnetic radiation from the sun.
- Solar wind: The steady flux of plasma from the sun.
- Static diffusion: Same as diffusive equilibrium.
- Sunspot number: A solar index which has been compiled back to 1600 A.D. The sunspot number takes into account the number of sunspot groups as well as the number of individual spots.

$$R = K(10g + s)$$

where

$$R = \text{sunspot number,}$$

g = number of groups,

s = number of spots, and

K = a constant, roughly equal to 1, used to adjust individual R numbers to account for some observatories having better observing conditions than others.

Three-hourly planetary
geomagnetic index:

A measurement of the most active component of the magnetic field made by magnetic observatories (an average of 12 selected stations) at three-hour intervals. This measured quantity is denoted as K_p . An index that is more widely used, which is denoted as a_p , is approximately equivalent to the \log_{10} of the measured quantity K_p . K_p varies quasi-logarithmically whereas a_p varies linearly, and thus a_p is a more suitable indicator of geomagnetic change.

Turbopause:

The altitude above which the effects of eddy diffusion and mixing become sufficiently small that molecular diffusion can be assumed to be dominant.

APPENDIX B

COMPUTATIONAL PROCEDURE USED IN THE DEVELOPMENT OF THE MSFC MODIFIED JACCHIA MODEL ATMOSPHERE (1967)

The MSFC Modified Jacchia Model Atmosphere (1967) is basically a computerized version of Jacchia's static diffusion model [B-1] using an integration technique developed by Walker [B-2]. The computer program that has been developed from this procedure is on file in the Production Group, MSFC Computation Laboratory.

List of Symbols

a_p	3 hourly geomagnetic index, observed or predicted (input), 2 gamma
DATE	calendar date of computation (input), month/day/year
DD	day number after January 1 (input), days
DS	declination of sun (equation (6-B)), degrees
F	daily 10.7 cm solar flux, observed or predicted (input), 10^{-22} watts/m ² /sec/bandwidth
\bar{F}	81 day running mean of F (input)
GMT	Greenwich time at computation point (input), hours and minutes
GP	Greenwich meridian position (equation (3-B)), degrees
g_i	acceleration of gravity at geometric altitude, "i", equation (29-B), km/sec ²
HRA	hour angle of sun, equation (8-B), degrees
i	denotes a level of geometric altitude
J	Julian date, equation (1-B), days
J^*	computed parameter used in computing GP, equation (2-B), yrs x 100
LAT	latitude of computation point (input), degrees
LNG	longitude of computation point (input), degrees

LS celestial longitude, equation (5-B), radians
 MM GMT in minutes (input), minutes
 MW atmospheric molecular weight, equation (28-B)
 M(X) molecular weight of constituent "X" (input)
 N(H) number density of hydrogen, equation (23-B), cm^{-3}
 N(H)₅₀₀ number density of hydrogen at 500 km geometric altitude, equation (22-B), cm^{-3}
 N(HE) number density of helium, equation (24-B), cm^{-3}
 N(TOT) total atmospheric number density, equation (26-B), cm^{-3}
 N(U) number density of constituent "U", equation (25-B), cm^{-3}
 N(U)₁₂₀ number density of constituent "U" at 120 km geometric altitude (input), cm^{-3}
 P computed parameter used in number density calculations, equation (20-B)
 Q computed parameter used in number density calculations, equation (19-B), mol/gm
 RAP right ascension of computation point, equation (4-B), degrees
 RAS right ascension of sun, equation (7-B), degrees
 S computed parameter used in temperature and number density computations, equation (16-B), km^{-1}
 SH atmospheric scale height, equation (29-B), km
 TAU angle between computation point and density bulge, equation (9-B), degrees
 T(1) exospheric temperature corrected for mean solar activity, equation (10-B), °K
 T(2) T(1) corrected for daily solar activity, equation (11-B), °K
 T(3) T(2) corrected for semiannual variations, equation (12-B), °K

T(4) T(3) corrected for diurnal variations, equation (13-B), °K

T(5) exospheric temperature with all corrections, equation (14-B), °K

T(6) atmospheric temperature, equation (18-B), °K

TD(X) thermal diffusion factor for constituent "X" (zero for N₂, O₂ and O, -0.37 for He, equation (21-B) for H)

U denotes constituent N₂, O₂ or O

W(X) mass weight of constituent "X" per mole (input), gm

X denotes constituent N₂, O₂, O, He or H

YR calendar year of computation (input), years

Z geometric altitude (input), km

ΔH height difference between geometric altitude of computation and 120 km, equation (17-B), km

ρ atmospheric mass density, equation (27-B), gm cm⁻³

INPUT

DATE calendar date (month/day/year)

YR calendar year of computation (years)

DD day number since January 1 (days)

GMT Greenwich time of computation (hr/min)

MM GMT in minutes (minutes)

LAT latitude of computation point, North (+), south (-), degrees

LNG longitude of computation point, east (+), west (-), degrees

F daily 10.7 cm solar flux, observed or predicted, 10⁻²² watts/m²/sec/bandwidth

\bar{F} 81 day running mean F

a_p 3 hourly geomagnetic index, observed or predicted, 2 gamma

Procedure

I. Sun's Declination and Hour Angle

A. Julian Date (days)

$$J = 2439856.0 + (\text{YR} - 1968) 365 + \text{DD} \quad (1-B)$$

where

YR = year (input)

DD = day number after January 1 (input).

B. J* Parameter (years x 100)

$$J^* = \frac{J - 2415020.0}{36525} \quad (2-B)$$

C. Greenwich Meridian Position (degrees)

$$\begin{aligned} \text{GP} = & 99.6909833 + 36000.76854(J^*) \\ & + 0.00038708(J^*)^2 + (\text{MM}) 0.25068447 \end{aligned} \quad (3-B)$$

where

MM = Greenwich time in minutes (input).

NOTE: GP must be between 0 and 360 degrees.

D. Right Ascension of Computation Point (degrees)

$$\text{RAP} = \text{GP} + \text{LNG} \quad (4-B)$$

where

LNG = longitude of computation point (input).

NOTE: RAP must be between 0 and 360 degrees.

E. Celestial Longitude (radians)

$$\begin{aligned} \text{LS} &= 0.017203(\text{J} - 2435839) + 0.0335 \sin [0.017203(\text{J} - 2435839)] \\ &\quad - 1.410. \end{aligned} \tag{5-B}$$

F. Declination of Sun (degrees)

$$\text{DS} = \text{arc sin} [\sin(\text{LS}) \sin(23.45^\circ)]. \tag{6-B}$$

G. Right Ascension of sun (degrees)

$$\text{RAS} = \text{arc sin} \left[\frac{\tan(\text{DS})}{\tan(23.45^\circ)} \right]. \tag{7-B}$$

H. Put (RAS) in quadrant of LS.

I. Compute Hour Angle (degrees)

$$\text{HRA} = (\text{RAP}) - (\text{RAS}). \tag{8-B}$$

II. Temperature Computation

A. Exospheric Temperature

1. Angle between bulge and computation point (deg)

$$\text{TAU} = \text{HRA} - 45^\circ + 12^\circ \sin(\text{HRA} + 45^\circ). \tag{9-B}$$

NOTE: TAU must be placed between +180 and -180 degrees.

2. Mean solar activity correction (°K)

$$\text{T}(1) = 362 + 3.60(\bar{F}) \tag{10-B}$$

where \bar{F} = 81 day mean solar flux (input).

3. Daily solar activity correction (°K)

$$\text{T}(2) = \text{T}(1) + 1.8(\text{F} - \bar{F}) \tag{11-B}$$

where F = daily solar flux (input).

4. Semiannual correction (°K)

$$T(3) = T(2) + \left[[0.37 + 0.14 \sin 2\pi(DD-151/365)] \cdot \sin 4\pi(DD-59/365) \right] \bar{F} \quad (12-B)$$

where DD = day number (input).

5. Diurnal correction (°K)

$$T(4) = T(3) \left[(1 + 0.28 \sin^2 \cdot 50) \cdot \left(1 + 0.28 \frac{\cos^2 \cdot 5w - \sin^2 \cdot 5\phi}{1 + 0.28 \sin^2 \cdot 5\phi} \cos^2 \cdot 5(TAU/2) \right) \right] \quad (13-B)$$

where

$$w = 1/2(LAT - DS)$$

$$\phi = |1/2(LAT + DS)|$$

LAT = latitude of computation point (input), degrees

DS = sun's declination, equation (5-B), degrees

6. Geomagnetic Activity Correction (°K)

$$T(5) = T(4) + a_p + 100[1 - \exp(-0.08a_p)] \quad (14-B)$$

where

a_p = 3 hourly geomagnetic index (input)

T(5) = exospheric temperature, °K.

B. Temperature at Geometric Altitude Levels

1. "X" parameter (unitless)

$$X = \frac{(T(5) - 800)}{750 + 1.722 \times 10^{-4}[T(5) - 800]^2} \quad (15-B)$$

where T(5) = exospheric temperature, equation (14-B), °K.

2. "S" parameter (km^{-1})

$$S = 1.5 \times 10^{-4} + 0.0291 \exp(-X^2/2). \quad (16-B)$$

3. Height difference between level "i" and 120 km (km)

$$\Delta H = \frac{(z_i - 120)(6476.77)}{6356.77 + z_i} \quad (17-B)$$

where

z = geometric altitude, km

i denotes a level of geometric altitude.

4. Temperature, $T(6)$, for geometric altitude level "i", ($^{\circ}\text{K}$)

$$T(6)_i = T(5) - [T(5) - 355] \exp - S(\Delta H)_i \quad (18-B)$$

where

$T(5)$ = exospheric temperature, equation (14-B), $^{\circ}\text{K}$

ΔH = height difference between level i and 120 km, equation (17-B), km.

S = curve fit parameter, equation (16-B), km^{-1} .

III. NUMBER DENSITY COMPUTATIONS

A. Hydrogen

1. "Q" parameter (mole/gm)

$$Q = \frac{1.13619033}{T(5) S} \quad (19-B)$$

2. "P" parameter (unitless)

$$P = \frac{T(5) - 355}{T(5)} \quad (20-B)$$

3. Thermal diffusion factor for hydrogen (unitless)

$$\begin{aligned}
 TD(H) = & -10.48947029 + 2.844291123 \times 10^{-2}[T(5)] \\
 & - 3.620959821 \times 10^{-5}[T(5)]^2 \\
 & + 2.341193059 \times 10^{-8}[T(5)]^3 \\
 & - 7.577509214 \times 10^{-12}[T(5)]^4 \\
 & + 9.753963073 \times 10^{-16}[T(5)]^5.
 \end{aligned} \tag{21-B}$$

4. Hydrogen number density at 500 km altitude (cm^{-3})

$$\begin{aligned}
 N(H)_{500} = \text{anti log} \left\{ 73.13 - 39.4 \log T(5) \right. \\
 \left. + 5.5[\log T(5)]^2 \right\}.
 \end{aligned} \tag{22-B}$$

NOTE: "log" denotes common logarithm.

5. Hydrogen number density for geometric altitude i ($i > 500$ km) (cm^{-3})

$$\begin{aligned}
 N(H)_i = N(H)_{500} \left[\frac{1 - P}{1 - P \exp - S(\Delta H)} \right]^{1+TD(H)+1.008Q} \\
 \exp \left\{ -S(\Delta H) Q(1.008) \right\}.
 \end{aligned} \tag{23-B}$$

NOTE: Hydrogen number density is computed only at 500 km and above.

B. Helium Number Density (cm^{-3})

$$\begin{aligned}
 N(HE)_i = 3.4 \times 10^7 \left[\frac{1 - P}{1 - P \exp - S(\Delta H)} \right]^{0.63+4.002Q} \\
 \exp - S(\Delta H) Q(4.002).
 \end{aligned} \tag{24-B}$$

C. Number Density for Molecular Nitrogen and Molecular and Atomic Oxygen (cm^{-3})

$$N(U)_i = N(U)_{120} \left[\frac{1 - P}{1 - P \exp - S(\Delta H)} \right]^{1+Q[M(U)]} \exp \left\{ -S(\Delta H) Q[M(U)] \right\} \quad (25-B)$$

where

U denotes N_2 , O_2 or O

$$\left. \begin{aligned} N(\text{N}_2)_{120} &= 4.0 \times 10^{11} \\ N(\text{O}_2)_{120} &= 7.5 \times 10^{10} \\ N(\text{O})_{120} &= 7.6 \times 10^{10} \\ M(\text{N}_2) &= 28.0134 \\ M(\text{O}_2) &= 31.9988 \\ M(\text{O}) &= 15.9990 \end{aligned} \right\} \text{INPUT.}$$

D. Total Number Density (cm^{-3})

$$N(\text{TOT})_i = N(\text{H})_i + N(\text{HE})_i + N(\text{N}_2)_i + N(\text{O}_2)_i + N(\text{O})_i. \quad (26-B)$$

IV. MASS DENSITY (gm/cm^3)

$$\rho_i = N(\text{H})_i W(\text{H}) + N(\text{HE})_i W(\text{HE}) + N(\text{N}_2)_i W(\text{N}_2) + N(\text{O}_2)_i W(\text{O}_2) + N(\text{O})_i W(\text{O}). \quad (27-B)$$

$$\begin{array}{l}
 W(H) = 1.6731 \times 10^{-24} \\
 W(HE) = 6.6435 \times 10^{-24} \\
 W(N_2) = 4.6496 \times 10^{-23} \\
 W(O_2) = 5.3104 \times 10^{-23} \\
 W(O) = 2.6552 \times 10^{-23}
 \end{array}
 \left. \vphantom{\begin{array}{l} W(H) \\ W(HE) \\ W(N_2) \\ W(O_2) \\ W(O) \end{array}} \right\} \text{INPUT (gm/mole)}.$$

V. MOLECULAR WEIGHT (unitless)

$$(MW)_i = \frac{N(H)_i M(H) + N(HE)_i M(HE) + N(N_2)_i M(N) + N(O_2)_i M(O_2) + N(O)_i M(O)}{N(TOT)_i} \quad (28-B)$$

VI. ATMOSPHERIC SCALE HEIGHT (km)

$$SH = \frac{8.31432 \times 10^{-3} [T(6)]_i}{(MW)_i g_i} \quad (29-B)$$

where

$$g_i = 9.80665 \times 10^{-3} \left(1 + \frac{z_i}{6356.77}\right)^{-2}.$$

OUTPUT - (at levels of geometric altitude)

1. Temperature ($^{\circ}K$)
2. Number density of N_2 , O_2 , O , H_e and H (cm^{-3})
3. Total number density (cm^{-3})
4. Atmospheric mass density (gm/cm^3)
5. Atmospheric molecular weight (unitless)
6. Atmospheric scale height (km).

APPENDIX B. REFERENCES

- B-1 Jacchia, L. G., "Static Diffusion Models of the Upper Atmosphere with Empirical Temperature Profiles," Smithsonian Contributions to Astrophysics, Vol. 8(9), p. 215-257, 1965.
- B-2 Walker, J. C. G., "Analytic Representation of Upper Atmosphere Densities Based on Jacchia's Static Diffusion Models," Institute for Space Studies, Goddard Space Flight Center, New York, N. Y., 1965.

APPROVAL

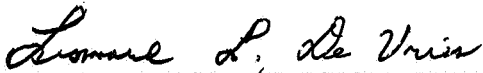
TM X-53815

VARIATIONS IN ORBITAL ALTITUDE ATMOSPHERIC DENSITY
FOR MSFC 1971-1976 SPACE STATION PROGRAMS

by Don K. Weidner, G. S. West and G. R. Swenson

The information in this report has been reviewed for security classification. Review of any information concerning Department of Defense or Atomic Energy Commission programs has been made by the MSFC Security Classification Officer. This report, in its entirety, has been determined to be unclassified.

This document has also been reviewed and approved for technical accuracy.



L. L. DeVries
Deputy Chief, Aerospace Environment Division



W. W. Vaughan
Chief, Aerospace Environment Division



E. D. Geissler
Director, Aero-Astrodynamic Laboratory

DISTRIBUTION

DEP-T	S&E-R (3)
	S&E-P (3)
AD-S	S&E-CSE (10)
	S&E-ASTR (10)
PD-DIR	S&E-COMP
	S&E-QUAL (3)
PD-PP	S&E-AERO (10)
	S&E ASTN (10)
PD-SA (3)	S&E-ME (3)
	S&E-SSL (6)
PD-DO (5)	
PD-PS (3)	<u>S&E-AERO</u>
	Mr. Weidner (150)
PD-MP (3)	
PD-AP (2)	<u>EXTERNAL</u>
	<u>NASA Headquarters</u>
PM-DIR	OTDA, Code T (1)
	OMSF, Code M (4)
PM-PL	OART, Code R (4)
	OSSA, Code S (4)
PM-SAT	Ofc. of Univ. Affairs, Code Y (1)
PM-EP	Sci. & Tech. Info. Facility (25)
	Box 33
PM-SS	College Park, Md. 20740
	Attn: NASA Rep. (S-AK/RKT)
PM-AA (5)	
PM-MO	Commander
	Headquarters, Air Weather Service
	Scott AFB, Ill. 62225
A&TS-MS-IP	Attn: Dr. R. D. Fletcher
A&TS-MS-IL (8)	Tech. Library
A&TS-MS-H	
A&TS-PAT	General Electric Corp.
A&TS-MS-T (6)	Missile & Space Div.
A&TS-MS-D	Valley Forge, Pa. 19101
	Air Force Systems Command
	Space Systems Div.
CC	Air Force Unit Post Office
	Los Angeles, Calif. 90045

EXTERNAL DISTRIBUTION (Continued)

Res. Laboratories
Environmental Sci. Services Adm.
Boulder, Colorado 80302

Martin-Marietta Corp. (5)
Aerospace Div.
P. O. Box 179
Denver 1, Colorado 80201

Air Force Cambridge Res. Labs.
Bedford, Mass. 01730
Attn: K. S. W. Champion

Mr. C. D. Martin
Tech. Staff
North American Rockwell Corp.
12214 Lakewood Blvd.
Downey, Calif. 90241

National Center for Atmos. Res. (2)
Boulder, Colorado 80302

McDonnell Douglas Corp.
Eastern Division
St. Louis, Missouri 25076

McDonnell Douglas Corp.
S&ID
Downey, Calif.

Lockheed Missiles and Space Co.
P. O. Box 504
Sunnyvale, Calif. 94088

Lockheed Missiles & Space Co.
Huntsville Res. & Engr. Center
Orgn. 54/50, FAC. 4
P. O. Box 1103 - West Sta.
Huntsville, Ala. 35807

Chief, Environmental Sci. Div.
Ofc. of Asst. Dir (Res.)
OSD/Dept. of Defense Res. & Engr.
Rm. 3E-1037, Pentagon
Washington, D. C. 20301

Air Force Satellite Control Facility
Sunnyvale, Calif. 94086

Hq., Space Systems Div. (SSSW)
Los Angeles AF Station
Los Angeles, Calif. 90045

Aerospace Corp.
Bldt. A2, Mail Sta. 2243
P. O. Box 95805
Los Angeles, Calif. 90045

Boeing Scientific Res. Lab.
P. O. Box 3981
Seattle, Washington 98124

Northrop Nortronics
Technology Drive
Huntsville, Ala. 35805

IBM Corp.
Sparkman Drive
Huntsville, Alabama 35807

General Electric Co.
4040 Memorial Parkway
Huntsville, Ala. 35810

Sperry Rand
716 Arcadia Circle, NW
Huntsville, Ala. 35801

NASA
Ames Research Center
Moffett Field, Calif. 94035
Attn: Director
Library (3)

NASA
Electronics Research Center
575 Technology Square
Cambridge, Mass. 02139
Attn: Director
Library (3)

EXTERNAL DISTRIBUTION (Continued)

NASA
Flight Research Center
P. O. Box 273
Edwards, Calif. 93523

NASA
Flight Research Center
P. O. Box 273
Edwards, Calif. 93523
Attn: Director
Library (3)

NASA
Goddard Space Flt. Center
Greenbelt, Md. 20771
Attn: Director
Library (3)

JFK Space Center
Kennedy Space Center, Fla. 32899
Attn: Director
Library (3)

NASA
Langley Research Center
Langley Station
Hampton, Va. 23365
Attn: Director
Library (3)

NASA
Lewis Research Center
21000 Brookpark Rd.
Cleveland, Ohio 44135
Attn: Director
Library (3)

NASA
Manned Spacecraft Center
Houston, Texas 77058
Attn: Director
Dr. W. Hess (3)
Library (10)

NASA
Wallops Station
Wallops Island, Va. 23337

Bellcomm, Inc. (2)
955 L'Efant Plaza North SW
Washington, D. C. 20024

Arnold Engineering Development
Center (2)
Tullahoma, Tenn. 37389