NASA
Technical
Paper
1909

July 1982

Thermodynamic and Transport Combustion Properties of Hydrocarbons With Air

IV - Compositions Corresponding to Rankine Temperature Schedules in Part III

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Sanford Gordon
Lewis Research Center
Cleveland, Ohio

National Aeronautics
and Space Administration

Scientific and Technical
Information Branch

Summary

Thermodynamic and transport combustion properties have been calculated for a wide range of conditions for the reaction of hydrocarbons with air. Three hydrogen-carbon atom ratios were selected to represent the range of aircraft fuels (H/C = 1.7, 2.0, and 2.1). For each of these H/C ratios, combustion properties were calculated for the following conditions:

Equivalence ratio: 0, 0.25, 0.5, 0.75, 1.0, and 1.25

Water-dry air mass ratio: 0 and 0.03

Pressure, kPa: 1.01325, 10.1325, 101.325, 1013.25, and 5066.25 (or in atm: 0.01, 0.1, 1, 10, and 50)

Temperature, K: every 10 degrees from 200 to 900 K; every 50 degrees from 900 to 3000 K

Temperature, °R: every 20 degrees from 360° to 1600° R; every 100 degrees from 1600° to 5400° R

The properties presented are composition, density, molecular weight, enthalpy, entropy, specific heat at constant pressure, volume derivatives, isentropic exponent, velocity of sound, viscosity, thermal conductivity, and Prandtl number. Property tables are based on compositions that were calculated by assuming both (1) chemical equilibrium (for both homogeneous and heterogeneous phases) and (2) constant compositions for all temperatures. Properties in SI units are presented in part I (TP-1906) for the Kelvin temperature schedules, and the corresponding compositions are presented in part II (TP-1907). Properties in U.S. customary units are presented in part III (TP-1908) for the Rankine temperature schedules, and corresponding compositions are presented in this report.

Introduction

This report contains the equilibrium compositions corresponding to the thermodynamic and transport combustion properties presented in part III (ref. 1). These compositions were determined by the method of reference 2. The sources and accuracy of the thermodynamic properties of the pure species on which the equilibrium calculations are based are discussed in part I (ref. 3) and are not repeated herein.

As pointed out in part I, initially 55 gaseous species and 3 condensed species were considered in the calculations. Only 17 of these 55 gaseous species had equilibrium mole fractions greater than 0.000005 for any of the conditions in this report and therefore were the only ones retained in the final tables.

Tables

Each equilibrium composition table in this report is assigned the same number as its corresponding combustion properties table in part III. As explained in part III, the numbers for the combustion properties tables consist of a numerical part and an alphabetical part, for example, table 10.3B. The five letters A through E are used to designate five types of tables that differ according to several assumptions made concerning composition. The conditions covered by these tables are summarized as follows:

Table	Type of composition	Equivalence ratio, ER	Temperature range, °R
A	Constant	≤ 1.0	360 to 5400
B	Equilibrium (gas phase only)	≤ 1.0	1600 to 5400
C	Equilibrium (multiphase)	≤ 1.0	360 to 760
D	Equilibrium (gas phase only)	1.25	360 to 5400
E	Equilibrium (multiphase)	1.25	360 to 1400

Inasmuch as compositions are assumed to be constant over the entire temperature range for table A, they are not presented in this report but rather are included in the table A combustion properties tables in part III.

The numerical part of the table numbers may consist of a whole number (table C) or a whole number plus one decimal place (tables B, D, and E). The whole number part for all tables depends on the type of air (dry or wet), the H/C ratio, and the equivalence ratio. These numbers are summarized as follows:

Hydrogen-carbon ratio, H/C	Dry air						Wet air					
	Equivalence ratio, ER											
	0	0.25	0.5	0.75	1.0	1.25	0	0.25	0.5	0.75	1.0	1.25
	Whole number part of tables B to E											
Air only	1	---	---	---	---	---	17	---	---	---	---	---
1.7	---	2	3	4	5	6	---	18	19	20	21	22
2.0	---	7	8	9	10	11	---	23	24	25	26	27
2.1	---	12	13	14	15	16	---	28	29	30	31	32

In tables B, D, and E the decimal place is used to designate pressure as follows:

Pressure		Decimal part of table number
kPa	atm	
1.01325	0.01	0.1
10.1325	.1	.2
101.325	1.0	.3
1013.25	10	.4
5066.25	50	.5

A detailed summary of all table numbers is given in table I. As an example, all table numbers for the conditions of dry air, H/C = 2.0, and ER = 1 start with 10. Thus for this condition the low-temperature equilibrium table is 10C. The high-temperature equilibrium tables for this condition are divided into five tables (10.1B, 10.2B, 10.3B, 10.4B, and 10.5B) according to whether the pressure is 0.01, 0.1, 1, 10, or 50 atm.

The mole fraction of a species j for a specified temperature in any composition table is defined as the number of moles of species j at that temperature divided by the number of moles of all species (including condensed) at that temperature. (See eq. (3), part I.) Mole fractions are given to five decimal places. Any species whose mole fraction is less than the rounded value of 0.00001 for all temperatures of a particular table is omitted from that table rather than appearing with all zeros.

Lewis Research Center
National Aeronautics and Space Administration
Cleveland, Ohio, November 27, 1981

References

1. Gordon, Sanford: Thermodynamic and Transport Combustion Properties of Hydrocarbons with Air. III—Properties in U.S. Customary Units. NASA TP-1908, 1982.
2. Gordon, Sanford; and McBride, Bonnie J.: Computer Program for Calculation of Complex Chemical Equilibrium Compositions, Rocket Performance, Incident and Reflected Shocks, and Chapman-Jouguet Detonations. NASA SP-273, 1971. Interim Revision, 1976.
3. Gordon, Sanford: Thermodynamic and Transport Combustion Properties of Hydrocarbons with Air. I—Properties in SI Units. NASA TP-1906, 1982.

TABLE I. - COMPOSITION TABLE NUMBERS

(a) Dry air

Hydrogen-carbon ratio, H/C	Equivalence ratio, ER	Equilibrium composition					
		High temperatures					Low temperatures, all pressures
		P = 0.01	P = 0.1	P = 1	P = 10	P = 50	
---	Air only	1.1B	1.2B	1.3B	1.4B	1.5B	---
1.7	0.25	2.1B	2.2B	2.3B	2.4B	2.5B	2C
	.5	3.1B	3.2B	3.3B	3.4B	3.5B	3C
	.75	4.1B	4.2B	4.3B	4.4B	4.5B	4C
	1.0	5.1B	5.2B	5.3B	5.4B	5.5B	5C
	1.25 (homogeneous)	6.1D	6.2D	6.3D	6.4D	6.5D	---
	1.25 (heterogeneous)	6.1E	6.2E	6.3E	6.4E	6.5E	---
2.0	0.25	7.1B	7.2B	7.3B	7.4B	7.5B	7C
	.5	8.1B	8.2B	8.3B	8.4B	8.5B	8C
	.75	9.1B	9.2B	9.3B	9.4B	9.5B	9C
	1.0	10.1B	10.2B	10.3B	10.4B	10.5B	10C
	1.25 (homogeneous)	11.1D	11.2D	11.3D	11.4D	11.5D	---
	1.25 (heterogeneous)	11.1E	11.2E	11.3E	11.4E	11.5E	---
2.1	0.25	12.1B	12.2B	12.3B	12.4B	12.5B	12C
	.5	13.1B	13.2B	13.3B	13.4B	13.5B	13C
	.75	14.1B	14.2B	14.3B	14.4B	14.5B	14C
	1.0	15.1B	15.2B	15.3B	15.4B	15.5B	15C
	1.25 (homogeneous)	16.1D	16.2D	16.3D	16.4D	16.5D	---
	1.25 (heterogeneous)	16.1E	16.2E	16.3E	16.4E	16.5E	---

(b) Wet air (w/a = 0.03)

---	Air only	17.1B	17.2B	17.3B	17.4B	17.5B	---
1.7	0.25	18.1B	18.2B	18.3B	18.4B	18.5B	18C
	.5	19.1B	19.2B	19.3B	19.4B	19.5B	19C
	.75	20.1B	20.2B	20.3B	20.4B	20.5B	20C
	1.0	21.1B	21.2B	21.3B	21.4B	21.5B	21C
	1.25 (homogeneous)	22.1D	22.2D	22.3D	22.4D	22.5D	---
	1.25 (heterogeneous)	22.1E	22.2E	22.3E	22.4E	22.5E	---
2.0	0.25	23.1B	23.2B	23.3B	23.4B	23.5B	23C
	.5	24.1B	24.2B	24.3B	24.4B	24.5B	24C
	.75	25.1B	25.2B	25.3B	25.4B	25.5B	25C
	1.0	26.1B	26.2B	26.3B	26.4B	26.5B	26C
	1.25 (homogeneous)	27.1D	27.2D	27.3D	27.4D	27.5D	---
	1.25 heterogeneous)	27.1E	27.2E	27.3E	27.4E	27.5E	---
2.1	0.25	28.1B	28.2B	28.3B	28.4B	28.5B	28C
	.5	29.1B	29.2B	29.3B	29.4B	29.5B	29C
	.75	30.1B	30.2B	30.3B	30.4B	30.5B	30C
	1.0	31.1B	31.2B	31.3B	31.4B	31.5B	31C
	1.25 (homogeneous)	32.1D	32.2D	32.3D	32.4D	32.5D	---
	1.25 (heterogeneous)	32.1E	32.2E	32.3E	32.4E	32.5E	---

TABLE 1.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

DRY AIR ONLY; F/A = 0; EQUIV. RATIO = 0; CHEM. EQUIV. RATIO = 0.0015; P = 0.14696 LB/IN2 (0.01 ATM)

T R	AR	CO	CO2	N	NO	N2	O	O2
1600	.00936	.00000	.00032	.00000	.00001	.78084	.00000	.20947
1700	.00936	.00000	.00032	.00000	.00002	.78083	.00000	.20947
1800	.00936	.00000	.00032	.00000	.00004	.78082	.00000	.20946
1900	.00937	.00000	.00032	.00000	.00006	.78081	.00000	.20944
2000	.00937	.00000	.00032	.00000	.00010	.78079	.00000	.20942
2100	.00937	.00000	.00032	.00000	.00017	.78076	.00000	.20939
2200	.00937	.00000	.00032	.00000	.00025	.78071	.00000	.20935
2300	.00936	.00000	.00032	.00000	.00037	.78065	.00000	.20929
2400	.00936	.00000	.00032	.00000	.00053	.78057	.00000	.20921
2500	.00936	.00000	.00032	.00000	.00074	.78047	.00000	.20911
2600	.00936	.00000	.00032	.00000	.00099	.78034	.00001	.20897
2700	.00936	.00000	.00032	.00000	.00131	.78018	.00002	.20881
2800	.00936	.00000	.00032	.00000	.00170	.77997	.00004	.20860
2900	.00936	.00000	.00032	.00000	.00216	.77973	.00008	.20835
3000	.00936	.00000	.00032	.00000	.00271	.77943	.00014	.20804
3100	.00936	.00000	.00032	.00000	.00334	.77907	.00026	.20765
3200	.00936	.00000	.00032	.00000	.00406	.77863	.00044	.20717
3300	.00936	.00000	.00032	.00000	.00488	.77810	.00075	.20658
3400	.00936	.00000	.00032	.00000	.00580	.77746	.00122	.20584
3500	.00936	.00001	.00031	.00000	.00682	.77667	.00194	.20489
3600	.00935	.00001	.00031	.00000	.00794	.77569	.00300	.20369
3700	.00934	.00001	.00030	.00000	.00916	.77449	.00453	.20216
3800	.00933	.00002	.00030	.00000	.01047	.77299	.00668	.20021
3900	.00932	.00003	.00029	.00000	.01186	.77114	.00964	.19773
4000	.00930	.00004	.00027	.00000	.01331	.76884	.01363	.19459
4100	.00928	.00006	.00026	.00000	.01482	.76602	.01892	.19065
4200	.00924	.00008	.00024	.00000	.01635	.76258	.02576	.18575
4300	.00920	.00010	.00021	.00000	.01788	.75842	.03443	.17975
4400	.00915	.00012	.00019	.00000	.01936	.75346	.04521	.17250
4500	.00909	.00015	.00016	.00000	.02074	.74764	.05831	.16390
4600	.00902	.00017	.00014	.00000	.02199	.74094	.07386	.15388
4700	.00893	.00019	.00011	.00001	.02304	.73337	.09186	.14248
4800	.00884	.00021	.00009	.00001	.02385	.72504	.11214	.12982
4900	.00873	.00023	.00007	.00002	.02436	.71612	.13431	.11616
5000	.00862	.00024	.00006	.00002	.02454	.70685	.15778	.10188
5100	.00851	.00025	.00004	.00004	.02439	.69756	.18176	.08746
5200	.00840	.00025	.00003	.00005	.02389	.68857	.20535	.07344
5300	.00830	.00026	.00002	.00008	.02310	.68022	.22769	.06033
5400	.00820	.00026	.00002	.00011	.02206	.67277	.24803	.04855

TABLE 1.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

DRY AIR ONLY; F/A = 0; EQUIV. RATIO = 0; CHEM. EQUIV. RATIO = 0.0015;

P = 1.46959 LB/IN2 (0.10 ATM)

T R	AR	CO	CO2	N	NO	NO2	N2	O	O2
1600	.00937	.00000	.00032	.00000	.00001	.00000	.78084	.00000	.20947
1700	.00937	.00000	.00032	.00000	.00002	.00000	.78083	.00000	.20947
1800	.00937	.00000	.00032	.00000	.00004	.00000	.78082	.00000	.20946
1900	.00937	.00000	.00032	.00000	.00006	.00000	.78081	.00000	.20944
2000	.00937	.00000	.00032	.00000	.00010	.00000	.78079	.00000	.20942
2100	.00937	.00000	.00032	.00000	.00017	.00000	.78076	.00000	.20939
2200	.00937	.00000	.00032	.00000	.00025	.00000	.78071	.00000	.20935
2300	.00937	.00000	.00032	.00000	.00037	.00000	.78065	.00000	.20929
2400	.00937	.00000	.00032	.00000	.00053	.00000	.78057	.00000	.20921
2500	.00937	.00000	.00032	.00000	.00074	.00000	.78047	.00000	.20911
2600	.00936	.00000	.00032	.00000	.00099	.00000	.78034	.00000	.20898
2700	.00936	.00000	.00032	.00000	.00131	.00000	.78018	.00001	.20881
2800	.00936	.00000	.00032	.00000	.00170	.00000	.77998	.00001	.20862
2900	.00936	.00000	.00032	.00000	.00216	.00000	.77975	.00002	.20838
3000	.00936	.00000	.00032	.00000	.00271	.00000	.77947	.00004	.20809
3100	.00936	.00000	.00032	.00000	.00334	.00000	.77914	.00008	.20775
3200	.00936	.00000	.00032	.00000	.00407	.00000	.77875	.00014	.20736
3300	.00936	.00000	.00032	.00000	.00489	.00000	.77830	.00024	.20689
3400	.00936	.00000	.00032	.00000	.00581	.00000	.77778	.00039	.20633
3500	.00936	.00000	.00032	.00000	.00684	.00000	.77718	.00062	.20568
3600	.00936	.00000	.00032	.00000	.00797	.00000	.77648	.00095	.20491
3700	.00936	.00000	.00031	.00000	.00921	.00000	.77567	.00144	.20400
3800	.00936	.00001	.00031	.00000	.01055	.00000	.77473	.00213	.20292
3900	.00935	.00001	.00031	.00000	.01199	.00000	.77364	.00308	.20162
4000	.00934	.00001	.00030	.00000	.01353	.00000	.77236	.00437	.20007
4100	.00934	.00002	.00030	.00000	.01516	.00000	.77087	.00610	.19821
4200	.00933	.00003	.00029	.00000	.01687	.00001	.76913	.00837	.19599
4300	.00931	.00004	.00028	.00000	.01865	.00001	.76709	.01129	.19333
4400	.00929	.00005	.00026	.00000	.02048	.00001	.76472	.01501	.19018
4500	.00927	.00007	.00025	.00000	.02234	.00001	.76197	.01967	.18644
4600	.00925	.00008	.00023	.00000	.02421	.00001	.75878	.02540	.18204
4700	.00921	.00010	.00021	.00000	.02606	.00001	.75513	.03237	.17691
4800	.00917	.00012	.00019	.00000	.02785	.00001	.75097	.04070	.17098
4900	.00913	.00014	.00017	.00001	.02957	.00001	.74628	.05050	.16421
5000	.00907	.00016	.00015	.00001	.03115	.00001	.74105	.06185	.15656
5100	.00901	.00018	.00013	.00001	.03257	.00001	.73528	.07478	.14804
5200	.00895	.00020	.00011	.00002	.03379	.00000	.72901	.08924	.13869
5300	.00887	.00021	.00009	.00003	.03476	.00000	.72231	.10513	.12860
5400	.00879	.00022	.00007	.00004	.03545	.00000	.71527	.12224	.11791

TABLE 1.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

DRY AIR ONLY; F/A = 0; EQUIV. RATIO = 0; CHEM. EQUIV. RATIO = 0.0015;

P = 14.6959 LB/IN2 (1.00 ATM)

T R	AR	CO	CO2	N	NO	NO2	N2	O	O2
1600	.00937	.00000	.00032	.00000	.00001	.00000	.78084	.00000	.20947
1700	.00937	.00000	.00032	.00000	.00002	.00000	.78083	.00000	.20947
1800	.00937	.00000	.00032	.00000	.00004	.00000	.78082	.00000	.20946
1900	.00937	.00000	.00032	.00000	.00006	.00000	.78081	.00000	.20944
2000	.00937	.00000	.00032	.00000	.00010	.00000	.78079	.00000	.20942
2100	.00937	.00000	.00032	.00000	.00017	.00000	.78076	.00000	.20939
2200	.00937	.00000	.00032	.00000	.00025	.00000	.78071	.00000	.20935
2300	.00937	.00000	.00032	.00000	.00037	.00000	.78065	.00000	.20929
2400	.00937	.00000	.00032	.00000	.00053	.00000	.78057	.00000	.20921
2500	.00937	.00000	.00032	.00000	.00074	.00001	.78047	.00000	.20910
2600	.00937	.00000	.00032	.00000	.00099	.00001	.78034	.00000	.20897
2700	.00937	.00000	.00032	.00000	.00131	.00001	.78018	.00000	.20881
2800	.00937	.00000	.00032	.00000	.00170	.00001	.77999	.00000	.20862
2900	.00937	.00000	.00032	.00000	.00217	.00001	.77975	.00001	.20838
3000	.00936	.00000	.00032	.00000	.00271	.00001	.77948	.00001	.20810
3100	.00936	.00000	.00032	.00000	.00334	.00001	.77916	.00003	.20778
3200	.00936	.00000	.00032	.00000	.00407	.00001	.77879	.00004	.20741
3300	.00936	.00000	.00032	.00000	.00489	.00001	.77836	.00007	.20698
3400	.00936	.00000	.00032	.00000	.00581	.00001	.77788	.00012	.20648
3500	.00936	.00000	.00032	.00000	.00684	.00001	.77734	.00019	.20593
3600	.00936	.00000	.00032	.00000	.00798	.00001	.77673	.00030	.20529
3700	.00936	.00000	.00032	.00000	.00922	.00001	.77605	.00046	.20458
3800	.00936	.00000	.00032	.00000	.01057	.00001	.77529	.00067	.20377
3900	.00936	.00000	.00032	.00000	.01203	.00001	.77444	.00098	.20286
4000	.00936	.00000	.00031	.00000	.01360	.00002	.77349	.00139	.20182
4100	.00936	.00001	.00031	.00000	.01527	.00002	.77244	.00194	.20066
4200	.00935	.00001	.00031	.00000	.01704	.00002	.77127	.00267	.19933
4300	.00935	.00001	.00030	.00000	.01890	.00002	.76997	.00361	.19783
4400	.00934	.00002	.00030	.00000	.02085	.00002	.76853	.00482	.19613
4500	.00934	.00002	.00029	.00000	.02287	.00002	.76691	.00635	.19420
4600	.00933	.00003	.00029	.00000	.02496	.00002	.76512	.00825	.19200
4700	.00932	.00004	.00028	.00000	.02711	.00002	.76313	.01059	.18951
4800	.00930	.00005	.00027	.00000	.02930	.00002	.76092	.01345	.18670
4900	.00929	.00006	.00025	.00000	.03151	.00002	.75846	.01688	.18352
5000	.00927	.00008	.00024	.00000	.03373	.00002	.75575	.02097	.17994
5100	.00924	.00009	.00022	.00000	.03593	.00002	.75277	.02578	.17594
5200	.00922	.00011	.00021	.00001	.03809	.00002	.74949	.03138	.17148
5300	.00919	.00012	.00019	.00001	.04019	.00002	.74592	.03783	.16653
5400	.00915	.00014	.00017	.00001	.04220	.00002	.74203	.04518	.16109

TABLE 1.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

DRY AIR ONLY; F/A = 0; EQUIV. RATIO = 0; CHEM. EQUIV. RATIO = 0.0015; P = 146.959 LB/IN2 (10.00 ATM)

T R	AR	CO	CO2	NO	NO2	N2	N2O	O	O2
1600	.00937	.00000	.00032	.00001	.00000	.78084	.00000	.00000	.20947
1700	.00937	.00000	.00032	.00002	.00000	.78083	.00000	.00000	.20946
1800	.00937	.00000	.00032	.00004	.00001	.78082	.00000	.00000	.20945
1900	.00937	.00000	.00032	.00006	.00001	.78081	.00000	.00000	.20944
2000	.00937	.00000	.00032	.00010	.00001	.78079	.00000	.00000	.20942
2100	.00937	.00000	.00032	.00017	.00001	.78076	.00000	.00000	.20938
2200	.00937	.00000	.00032	.00025	.00001	.78071	.00000	.00000	.20934
2300	.00937	.00000	.00032	.00037	.00001	.78065	.00000	.00000	.20928
2400	.00937	.00000	.00032	.00053	.00002	.78057	.00000	.00000	.20920
2500	.00937	.00000	.00032	.00074	.00002	.78047	.00000	.00000	.20909
2600	.00937	.00000	.00032	.00099	.00002	.78034	.00000	.00000	.20896
2700	.00937	.00000	.00032	.00131	.00002	.78018	.00000	.00000	.20880
2800	.00937	.00000	.00032	.00170	.00002	.77999	.00000	.00000	.20860
2900	.00937	.00000	.00032	.00216	.00003	.77975	.00000	.00000	.20837
3000	.00937	.00000	.00032	.00271	.00003	.77948	.00000	.00000	.20809
3100	.00937	.00000	.00032	.00334	.00003	.77916	.00000	.00001	.20777
3200	.00937	.00000	.00032	.00407	.00003	.77880	.00000	.00001	.20741
3300	.00937	.00000	.00032	.00489	.00003	.77838	.00000	.00002	.20699
3400	.00936	.00000	.00032	.00581	.00004	.77791	.00000	.00004	.20651
3500	.00936	.00000	.00032	.00684	.00004	.77739	.00000	.00006	.20598
3600	.00936	.00000	.00032	.00798	.00004	.77681	.00000	.00010	.20539
3700	.00936	.00000	.00032	.00923	.00004	.77617	.00000	.00014	.20474
3800	.00936	.00000	.00032	.01058	.00004	.77546	.00000	.00021	.20402
3900	.00936	.00000	.00032	.01205	.00005	.77469	.00000	.00031	.20322
4000	.00936	.00000	.00032	.01362	.00005	.77385	.00000	.00044	.20236
4100	.00936	.00000	.00032	.01530	.00005	.77294	.00000	.00061	.20141
4200	.00936	.00000	.00032	.01709	.00005	.77196	.00000	.00085	.20037
4300	.00936	.00000	.00031	.01898	.00005	.77089	.00000	.00115	.19925
4400	.00936	.00001	.00031	.02096	.00006	.76975	.00000	.00153	.19802
4500	.00936	.00001	.00031	.02304	.00006	.76852	.00000	.00202	.19668
4600	.00935	.00001	.00031	.02521	.00006	.76720	.00000	.00263	.19523
4700	.00935	.00001	.00030	.02745	.00006	.76578	.00000	.00339	.19365
4800	.00935	.00002	.00030	.02977	.00006	.76425	.00000	.00431	.19193
4900	.00934	.00002	.00030	.03215	.00006	.76262	.00001	.00543	.19006
5000	.00933	.00003	.00029	.03459	.00006	.76087	.00001	.00678	.18803
5100	.00933	.00004	.00028	.03708	.00006	.75901	.00001	.00838	.18582
5200	.00932	.00004	.00027	.03959	.00007	.75701	.00001	.01026	.18343
5300	.00931	.00005	.00026	.04213	.00007	.75487	.00001	.01247	.18083
5400	.00929	.00006	.00025	.04468	.00007	.75260	.00001	.01502	.17802

TABLE 1.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

DRY AIR ONLY; F/A = 0; EQUIV. RATIO = 0; CHEM. EQUIV. RATIO = 0.0015; P = 734.797 LB/IN2 (50.00 ATM)

T R	AR	CO	CO2	NO	NO2	N2	N2O	O	O2
1600	.00937	.00000	.00032	.00001	.00001	.78083	.00000	.00000	.20946
1700	.00937	.00000	.00032	.00002	.00001	.78083	.00000	.00000	.20946
1800	.00937	.00000	.00032	.00004	.00001	.78082	.00000	.00000	.20945
1900	.00937	.00000	.00032	.00006	.00002	.78081	.00000	.00000	.20943
2000	.00937	.00000	.00032	.00010	.00002	.78079	.00000	.00000	.20941
2100	.00937	.00000	.00032	.00017	.00002	.78075	.00000	.00000	.20937
2200	.00937	.00000	.00032	.00025	.00003	.78071	.00000	.00000	.20933
2300	.00937	.00000	.00032	.00037	.00003	.78065	.00000	.00000	.20926
2400	.00937	.00000	.00032	.00053	.00003	.78057	.00000	.00000	.20918
2500	.00937	.00000	.00032	.00074	.00004	.78047	.00000	.00000	.20907
2600	.00937	.00000	.00032	.00099	.00004	.78034	.00000	.00000	.20894
2700	.00937	.00000	.00032	.00131	.00005	.78018	.00000	.00000	.20878
2800	.00937	.00000	.00032	.00170	.00005	.77998	.00000	.00000	.20858
2900	.00937	.00000	.00032	.00216	.00006	.77975	.00000	.00000	.20834
3000	.00937	.00000	.00032	.00271	.00006	.77948	.00000	.00000	.20806
3100	.00937	.00000	.00032	.00334	.00007	.77916	.00000	.00000	.20774
3200	.00937	.00000	.00032	.00407	.00007	.77880	.00000	.00001	.20737
3300	.00937	.00000	.00032	.00489	.00008	.77838	.00000	.00001	.20696
3400	.00937	.00000	.00032	.00581	.00008	.77792	.00000	.00002	.20649
3500	.00937	.00000	.00032	.00684	.00009	.77740	.00000	.00003	.20596
3600	.00937	.00000	.00032	.00798	.00009	.77682	.00000	.00004	.20538
3700	.00937	.00000	.00032	.00923	.00009	.77619	.00000	.00006	.20474
3800	.00937	.00000	.00032	.01058	.00010	.77550	.00000	.00010	.20404
3900	.00936	.00000	.00032	.01205	.00010	.77475	.00000	.00014	.20327
4000	.00936	.00000	.00032	.01362	.00011	.77394	.00000	.00020	.20245
4100	.00936	.00000	.00032	.01531	.00011	.77306	.00001	.00028	.20155
4200	.00936	.00000	.00032	.01710	.00012	.77213	.00001	.00038	.20059
4300	.00936	.00000	.00032	.01899	.00012	.77112	.00001	.00051	.19956
4400	.00936	.00000	.00032	.02099	.00012	.77006	.00001	.00069	.19845
4500	.00936	.00000	.00032	.02308	.00013	.76893	.00001	.00090	.19727
4600	.00936	.00000	.00031	.02527	.00013	.76773	.00001	.00118	.19601
4700	.00936	.00001	.00031	.02754	.00014	.76646	.00001	.00152	.19467
4800	.00936	.00001	.00031	.02989	.00014	.76512	.00001	.00193	.19324
4900	.00935	.00001	.00031	.03232	.00014	.76370	.00001	.00244	.19172
5000	.00935	.00001	.00031	.03481	.00014	.76221	.00001	.00305	.19010
5100	.00935	.00002	.00030	.03737	.00015	.76065	.00001	.00377	.18838
5200	.00934	.00002	.00030	.03998	.00015	.75901	.00001	.00463	.18655
5300	.00934	.00003	.00029	.04264	.00015	.75728	.00001	.00563	.18462
5400	.00933	.00003	.00029	.04533	.00015	.75548	.00002	.00680	.18257

TABLE 2.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.017413; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00922	.00000	.03650	.00000	.00000	.03076	.00000	.00001	.76883	.00000	.00000	.15469
1700	.00922	.00000	.03650	.00000	.00000	.03076	.00000	.00002	.76882	.00000	.00000	.15468
1800	.00922	.00000	.03650	.00000	.00000	.03076	.00000	.00003	.76882	.00000	.00000	.15468
1900	.00922	.00000	.03650	.00000	.00000	.03076	.00000	.00005	.76881	.00000	.00000	.15466
2000	.00922	.00000	.03650	.00000	.00000	.03076	.00000	.00009	.76879	.00000	.00000	.15465
2100	.00922	.00000	.03650	.00000	.00000	.03076	.00000	.00014	.76876	.00000	.00000	.15462
2200	.00922	.00000	.03650	.00000	.00000	.03075	.00000	.00022	.76872	.00000	.00001	.15458
2300	.00922	.00000	.03650	.00000	.00000	.03075	.00000	.00032	.76867	.00000	.00001	.15453
2400	.00922	.00000	.03650	.00000	.00000	.03074	.00000	.00045	.76860	.00000	.00003	.15446
2500	.00922	.00000	.03650	.00000	.00000	.03073	.00000	.00063	.76851	.00000	.00005	.15436
2600	.00922	.00000	.03650	.00000	.00000	.03072	.00000	.00085	.76839	.00001	.00008	.15424
2700	.00922	.00000	.03649	.00000	.00000	.03069	.00000	.00112	.76824	.00002	.00013	.15409
2800	.00922	.00001	.03649	.00000	.00000	.03065	.00000	.00145	.76805	.00003	.00021	.15389
2900	.00922	.00002	.03647	.00000	.00001	.03059	.00000	.00184	.76781	.00006	.00032	.15365
3000	.00922	.00004	.03645	.00000	.00001	.03050	.00000	.00231	.76752	.00012	.00048	.15335
3100	.00922	.00008	.03641	.00001	.00002	.03038	.00000	.00285	.76715	.00022	.00069	.15298
3200	.00922	.00015	.03633	.00002	.00003	.03021	.00000	.00346	.76668	.00038	.00099	.15253
3300	.00921	.00026	.03620	.00003	.00006	.02997	.00000	.00416	.76610	.00064	.00137	.15198
3400	.00921	.00045	.03600	.00007	.00009	.02966	.00000	.00494	.76535	.00105	.00186	.15132
3500	.00920	.00074	.03568	.00013	.00014	.02925	.00000	.00580	.76440	.00166	.00248	.15050
3600	.00919	.00119	.03520	.00024	.00021	.02871	.00000	.00675	.76317	.00257	.00325	.14952
3700	.00918	.00184	.03450	.00041	.00031	.02802	.00000	.00778	.76158	.00388	.00417	.14832
3800	.00916	.00275	.03352	.00070	.00045	.02713	.00000	.00889	.75954	.00572	.00526	.14687
3900	.00914	.00398	.03219	.00116	.00063	.02602	.00000	.01006	.75694	.00826	.00651	.14512
4000	.00911	.00558	.03047	.00185	.00085	.02465	.00000	.01130	.75364	.01169	.00790	.14297
4100	.00906	.00754	.02834	.00286	.00111	.02298	.00000	.01258	.74952	.01623	.00941	.14035
4200	.00901	.00984	.02583	.00429	.00142	.02101	.00000	.01388	.74447	.02213	.01097	.13714
4300	.00895	.01239	.02302	.00624	.00173	.01874	.00000	.01518	.73841	.02964	.01250	.13318
4400	.00887	.01506	.02004	.00879	.00204	.01622	.00000	.01645	.73130	.03900	.01387	.12835
4500	.00878	.01771	.01704	.01197	.00229	.01353	.00000	.01764	.72316	.05041	.01495	.12251
4600	.00868	.02020	.01415	.01574	.00246	.01081	.00000	.01871	.71409	.06401	.01560	.11556
4700	.00856	.02240	.01150	.01995	.00250	.00823	.00001	.01961	.70425	.07978	.01573	.10748
4800	.00844	.02427	.00915	.02437	.00240	.00594	.00001	.02030	.69391	.09759	.01527	.09832
4900	.00832	.02578	.00716	.02873	.00219	.00407	.00002	.02074	.68338	.11708	.01427	.08827
5000	.00820	.02694	.00550	.03275	.00190	.00264	.00002	.02090	.67299	.13770	.01285	.07760
5100	.00808	.02780	.00417	.03626	.00158	.00164	.00004	.02076	.66305	.15873	.01119	.06671
5200	.00796	.02840	.00313	.03918	.00126	.00098	.00005	.02034	.65386	.17936	.00946	.05602
5300	.00786	.02880	.00232	.04152	.00099	.00057	.00008	.01965	.64562	.19880	.00780	.04599
5400	.00777	.02905	.00171	.04336	.00076	.00033	.00011	.01875	.63849	.21641	.00630	.03696

TABLE 2.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.017413; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00001	.76883	.00000	.00000	.15469
1700	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00002	.76882	.00000	.00000	.15468
1800	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00003	.76882	.00000	.00000	.15468
1900	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00005	.76881	.00000	.00000	.15466
2000	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00009	.76879	.00000	.00000	.15465
2100	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00014	.76876	.00000	.00000	.15462
2200	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00022	.76872	.00000	.00000	.15458
2300	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00000	.00032	.76867	.00000	.00001	.15453
2400	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00000	.00045	.76860	.00000	.00001	.15446
2500	.00922	.00000	.03650	.00000	.00000	.00000	.03074	.00000	.00063	.76851	.00000	.00003	.15437
2600	.00922	.00000	.03650	.00000	.00000	.00000	.03073	.00000	.00085	.76840	.00000	.00004	.15425
2700	.00922	.00000	.03650	.00000	.00000	.00000	.03072	.00000	.00112	.76825	.00001	.00007	.15411
2800	.00922	.00000	.03649	.00000	.00000	.00000	.03070	.00000	.00145	.76808	.00001	.00012	.15393
2900	.00922	.00001	.03649	.00000	.00000	.00000	.03066	.00000	.00185	.76786	.00002	.00018	.15371
3000	.00922	.00001	.03648	.00000	.00000	.00000	.03062	.00000	.00231	.76760	.00004	.00027	.15344
3100	.00922	.00003	.03647	.00000	.00000	.00001	.03055	.00000	.00285	.76729	.00007	.00039	.15313
3200	.00922	.00005	.03644	.00000	.00000	.00001	.03046	.00000	.00346	.76692	.00012	.00056	.15275
3300	.00922	.00008	.03640	.00001	.00000	.00002	.03034	.00000	.00416	.76648	.00020	.00078	.15231
3400	.00922	.00014	.03634	.00001	.00000	.00003	.03018	.00000	.00495	.76595	.00033	.00106	.15179
3500	.00921	.00024	.03623	.00002	.00000	.00005	.02997	.00000	.00582	.76533	.00053	.00142	.15119
3600	.00921	.00038	.03607	.00004	.00000	.00007	.02970	.00000	.00678	.76457	.00082	.00186	.15049
3700	.00921	.00060	.03584	.00008	.00000	.00010	.02936	.00000	.00782	.76367	.00123	.00241	.14968
3800	.00920	.00092	.03550	.00013	.00000	.00015	.02894	.00000	.00896	.76258	.00182	.00306	.14874
3900	.00919	.00136	.03502	.00021	.00000	.00021	.02842	.00000	.01018	.76126	.00263	.00384	.14766
4000	.00918	.00197	.03437	.00035	.00000	.00030	.02777	.00000	.01148	.75967	.00374	.00475	.14642
4100	.00917	.00277	.03350	.00055	.00000	.00041	.02700	.00000	.01286	.75775	.00522	.00578	.14499
4200	.00915	.00382	.03239	.00084	.00000	.00054	.02607	.00000	.01430	.75544	.00715	.00695	.14335
4300	.00912	.00512	.03099	.00126	.00000	.00071	.02497	.00000	.01580	.75267	.00966	.00823	.14146
4400	.00909	.00669	.02930	.00185	.00000	.00090	.02369	.00000	.01735	.74939	.01285	.00962	.13927
4500	.00906	.00851	.02734	.00265	.00000	.00113	.02221	.00000	.01892	.74553	.01684	.01107	.13673
4600	.00901	.01054	.02513	.00372	.00000	.00137	.02055	.00000	.02051	.74107	.02178	.01255	.13377
4700	.00896	.01273	.02274	.00510	.00001	.00163	.01871	.00000	.02208	.73597	.02778	.01399	.13032
4800	.00890	.01498	.02025	.00683	.00001	.00189	.01672	.00000	.02361	.73021	.03498	.01533	.12630
4900	.00883	.01722	.01774	.00894	.00001	.00212	.01462	.00001	.02506	.72383	.04347	.01649	.12167
5000	.00876	.01935	.01531	.01144	.00001	.00231	.01248	.00001	.02641	.71686	.05332	.01738	.11636
5100	.00867	.02131	.01302	.01429	.00001	.00245	.01037	.00001	.02762	.70937	.06457	.01794	.11037
5200	.00859	.02306	.01092	.01743	.00001	.00250	.00837	.00002	.02866	.70147	.07717	.01810	.10371
5300	.00849	.02456	.00905	.02076	.00000	.00248	.00654	.00003	.02949	.69328	.09104	.01785	.09644
5400	.00840	.02581	.00742	.02416	.00000	.00237	.00496	.00004	.03008	.68495	.10598	.01719	.08864

TABLE 2.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.017413; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00001	.00000	.76883	.00000	.00000	.15469
1700	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00002	.00000	.76882	.00000	.00000	.15468
1800	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00003	.00000	.76882	.00000	.00000	.15467
1900	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00005	.00000	.76881	.00000	.00000	.15466
2000	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00009	.00000	.76879	.00000	.00000	.15464
2100	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00014	.00000	.76876	.00000	.00000	.15462
2200	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00022	.00000	.76872	.00000	.00000	.15458
2300	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00000	.00032	.00000	.76867	.00000	.00000	.15453
2400	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00000	.00045	.00000	.76860	.00000	.00001	.15446
2500	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00000	.00063	.00000	.76851	.00000	.00001	.15437
2600	.00922	.00000	.03650	.00000	.00000	.00000	.03074	.00000	.00085	.00000	.76840	.00000	.00002	.15426
2700	.00922	.00000	.03650	.00000	.00000	.00000	.03074	.00000	.00112	.00000	.76826	.00000	.00004	.15411
2800	.00922	.00000	.03650	.00000	.00000	.00000	.03072	.00000	.00145	.00001	.76809	.00000	.00007	.15394
2900	.00922	.00000	.03650	.00000	.00000	.00000	.03071	.00000	.00185	.00001	.76789	.00001	.00010	.15373
3000	.00922	.00000	.03649	.00000	.00000	.00000	.03068	.00000	.00231	.00001	.76764	.00001	.00015	.15348
3100	.00922	.00001	.03649	.00000	.00000	.00000	.03064	.00000	.00285	.00001	.76735	.00002	.00022	.15319
3200	.00922	.00002	.03648	.00000	.00000	.00000	.03059	.00000	.00346	.00001	.76702	.00004	.00031	.15285
3300	.00922	.00003	.03647	.00000	.00000	.00001	.03053	.00000	.00416	.00001	.76663	.00006	.00044	.15245
3400	.00922	.00005	.03645	.00000	.00000	.00001	.03044	.00000	.00495	.00001	.76618	.00011	.00060	.15200
3500	.00922	.00008	.03641	.00000	.00000	.00001	.03033	.00000	.00582	.00001	.76566	.00017	.00080	.15148
3600	.00922	.00012	.03636	.00001	.00000	.00002	.03019	.00000	.00679	.00001	.76507	.00026	.00106	.15089
3700	.00921	.00019	.03628	.00001	.00000	.00003	.03001	.00000	.00784	.00001	.76440	.00039	.00137	.15023
3800	.00921	.00029	.03617	.00002	.00000	.00005	.02979	.00000	.00899	.00001	.76363	.00058	.00175	.14949
3900	.00921	.00044	.03601	.00004	.00000	.00007	.02952	.00000	.01022	.00001	.76276	.00084	.00220	.14867
4000	.00921	.00064	.03579	.00006	.00000	.00010	.02920	.00000	.01155	.00001	.76175	.00119	.00274	.14775
4100	.00920	.00092	.03549	.00010	.00001	.00014	.02881	.00000	.01296	.00001	.76060	.00166	.00337	.14673
4200	.00919	.00130	.03509	.00016	.00001	.00019	.02835	.00000	.01445	.00001	.75929	.00228	.00409	.14560
4300	.00918	.00179	.03457	.00024	.00001	.00025	.02781	.00000	.01601	.00001	.75778	.00309	.00491	.14436
4400	.00917	.00241	.03390	.00035	.00001	.00032	.02718	.00000	.01765	.00001	.75605	.00412	.00583	.14299
4500	.00916	.00320	.03306	.00051	.00001	.00042	.02645	.00000	.01936	.00001	.75407	.00542	.00685	.14148
4600	.00914	.00416	.03204	.00073	.00001	.00053	.02562	.00000	.02112	.00001	.75181	.00704	.00797	.13983
4700	.00912	.00530	.03081	.00103	.00001	.00066	.02467	.00000	.02292	.00001	.74925	.00904	.00917	.13800
4800	.00910	.00663	.02939	.00142	.00001	.00081	.02361	.00000	.02476	.00001	.74635	.01148	.01044	.13598
4900	.00907	.00813	.02778	.00192	.00001	.00098	.02243	.00000	.02663	.00001	.74311	.01441	.01176	.13375
5000	.00904	.00978	.02600	.00257	.00001	.00117	.02114	.00000	.02849	.00001	.73949	.01791	.01311	.13127
5100	.00900	.01155	.02408	.00337	.00001	.00137	.01974	.00000	.03035	.00001	.73549	.02203	.01446	.12851
5200	.00896	.01340	.02207	.00436	.00002	.00157	.01825	.00001	.03218	.00001	.73112	.02684	.01577	.12544
5300	.00892	.01527	.02002	.00556	.00002	.00177	.01668	.00001	.03395	.00001	.72638	.03238	.01700	.12203
5400	.00886	.01712	.01797	.00697	.00002	.00197	.01505	.00001	.03565	.00001	.72128	.03871	.01811	.11826

TABLE 2.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.017413; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00001	.00000	.76883	.00000	.00000	.00000	.15468
1700	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00002	.00000	.76882	.00000	.00000	.00000	.15468
1800	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00003	.00000	.76882	.00000	.00000	.00000	.15467
1900	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00005	.00001	.76880	.00000	.00000	.00000	.15466
2000	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00009	.00001	.76879	.00000	.00000	.00000	.15464
2100	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00014	.00001	.76876	.00000	.00000	.00000	.15461
2200	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00022	.00001	.76872	.00000	.00000	.00000	.15457
2300	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00032	.00001	.76867	.00000	.00000	.00000	.15452
2400	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00045	.00001	.76860	.00000	.00000	.00000	.15445
2500	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00063	.00001	.76851	.00000	.00000	.00001	.15436
2600	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00085	.00001	.76840	.00000	.00000	.00001	.15425
2700	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00112	.00002	.76827	.00000	.00000	.00002	.15411
2800	.00922	.00000	.03650	.00000	.00000	.00000	.03074	.00145	.00002	.76810	.00000	.00000	.00004	.15394
2900	.00922	.00000	.03650	.00000	.00000	.00000	.03073	.00185	.00002	.76789	.00000	.00000	.00006	.15373
3000	.00922	.00000	.03650	.00000	.00000	.00000	.03071	.00231	.00002	.76766	.00000	.00000	.00009	.15349
3100	.00922	.00000	.03650	.00000	.00000	.00000	.03069	.00285	.00002	.76738	.00000	.00001	.00012	.15321
3200	.00922	.00000	.03649	.00000	.00000	.00000	.03067	.00347	.00002	.76706	.00000	.00001	.00018	.15288
3300	.00922	.00001	.03649	.00000	.00000	.00000	.03063	.00417	.00002	.76669	.00000	.00002	.00025	.15250
3400	.00922	.00001	.03648	.00000	.00000	.00000	.03058	.00495	.00003	.76627	.00000	.00003	.00034	.15208
3500	.00922	.00002	.03647	.00000	.00000	.00000	.03052	.00583	.00003	.76580	.00000	.00005	.00045	.15160
3600	.00922	.00004	.03645	.00000	.00000	.00001	.03044	.00679	.00003	.76527	.00000	.00008	.00060	.15106
3700	.00922	.00006	.03643	.00000	.00001	.00001	.03035	.00785	.00003	.76468	.00000	.00012	.00077	.15047
3800	.00922	.00009	.03639	.00000	.00001	.00002	.03023	.00900	.00003	.76402	.00000	.00018	.00099	.14981
3900	.00922	.00014	.03634	.00001	.00001	.00002	.03009	.01024	.00003	.76330	.00000	.00026	.00125	.14909
4000	.00921	.00021	.03627	.00001	.00001	.00003	.02991	.01157	.00004	.76250	.00000	.00038	.00156	.14830
4100	.00921	.00030	.03617	.00002	.00001	.00004	.02971	.01300	.00004	.76162	.00000	.00053	.00193	.14744
4200	.00921	.00042	.03604	.00003	.00001	.00006	.02947	.01450	.00004	.76065	.00000	.00072	.00235	.14651
4300	.00921	.00058	.03586	.00004	.00001	.00008	.02918	.01610	.00004	.75958	.00000	.00098	.00284	.14550
4400	.00920	.00080	.03563	.00006	.00002	.00011	.02885	.01777	.00004	.75840	.00000	.00131	.00339	.14442
4500	.00920	.00107	.03533	.00009	.00002	.00014	.02848	.01952	.00004	.75711	.00000	.00172	.00401	.14325
4600	.00919	.00142	.03496	.00014	.00002	.00018	.02805	.02134	.00004	.75570	.00000	.00224	.00471	.14201
4700	.00918	.00186	.03450	.00019	.00002	.00023	.02756	.02322	.00004	.75414	.00000	.00289	.00547	.14069
4800	.00918	.00239	.03393	.00027	.00002	.00029	.02701	.02516	.00004	.75244	.00000	.00367	.00631	.13928
4900	.00917	.00303	.03325	.00037	.00003	.00036	.02640	.02716	.00005	.75057	.00000	.00463	.00723	.13778
5000	.00915	.00379	.03244	.00050	.00003	.00044	.02572	.02920	.00005	.74852	.00000	.00577	.00821	.13618
5100	.00914	.00467	.03150	.00067	.00003	.00053	.02497	.03128	.00005	.74629	.00000	.00713	.00925	.13449
5200	.00912	.00568	.03043	.00088	.00003	.00064	.02416	.03338	.00005	.74386	.00001	.00873	.01035	.13269
5300	.00910	.00681	.02922	.00115	.00004	.00076	.02327	.03550	.00005	.74122	.00001	.01060	.01149	.13078
5400	.00908	.00805	.02790	.00148	.00004	.00089	.02232	.03763	.00005	.73838	.00001	.01277	.01267	.12874

TABLE 2.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.017413; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00001	.00001	.76883	.00000	.00000	.00000	.15468
1700	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00002	.00001	.76882	.00000	.00000	.00000	.15468
1800	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00003	.00001	.76882	.00000	.00000	.00000	.15467
1900	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00005	.00001	.76880	.00000	.00000	.00000	.15465
2000	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00009	.00001	.76879	.00000	.00000	.00000	.15463
2100	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00014	.00002	.76876	.00000	.00000	.00000	.15460
2200	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00022	.00002	.76872	.00000	.00000	.00000	.15456
2300	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00032	.00002	.76867	.00000	.00000	.00000	.15451
2400	.00922	.00000	.03650	.00000	.00000	.00000	.03076	.00045	.00003	.76860	.00000	.00000	.00000	.15444
2500	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00063	.00003	.76851	.00000	.00000	.00001	.15435
2600	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00085	.00003	.76840	.00000	.00000	.00001	.15423
2700	.00922	.00000	.03650	.00000	.00000	.00000	.03075	.00112	.00003	.76826	.00000	.00000	.00002	.15409
2800	.00922	.00000	.03650	.00000	.00000	.00000	.03074	.00145	.00004	.76810	.00000	.00000	.00002	.15392
2900	.00922	.00000	.03650	.00000	.00000	.00000	.03074	.00185	.00004	.76790	.00000	.00000	.00004	.15372
3000	.00922	.00000	.03650	.00000	.00000	.00000	.03073	.00231	.00004	.76766	.00000	.00000	.00006	.15348
3100	.00922	.00000	.03650	.00000	.00000	.00000	.03071	.00285	.00005	.76738	.00000	.00000	.00008	.15320
3200	.00922	.00000	.03650	.00000	.00000	.00000	.03070	.00347	.00005	.76707	.00000	.00001	.00012	.15287
3300	.00922	.00000	.03649	.00000	.00000	.00000	.03067	.00417	.00006	.76671	.00000	.00001	.00017	.15250
3400	.00922	.00001	.03649	.00000	.00000	.00000	.03064	.00495	.00006	.76630	.00000	.00001	.00023	.15209
3500	.00922	.00001	.03649	.00000	.00001	.00000	.03060	.00583	.00006	.76584	.00000	.00002	.00030	.15162
3600	.00922	.00002	.03648	.00000	.00001	.00000	.03055	.00679	.00007	.76533	.00000	.00004	.00040	.15110
3700	.00922	.00003	.03647	.00000	.00001	.00000	.03048	.00785	.00007	.76476	.00000	.00006	.00052	.15053
3800	.00922	.00004	.03645	.00000	.00001	.00001	.03041	.00900	.00007	.76414	.00000	.00008	.00067	.14990
3900	.00922	.00006	.03643	.00000	.00001	.00001	.03031	.01025	.00008	.76346	.00000	.00012	.00084	.14921
4000	.00922	.00009	.03639	.00000	.00001	.00001	.03020	.01158	.00008	.76272	.00000	.00017	.00105	.14846
4100	.00922	.00013	.03635	.00001	.00001	.00002	.03006	.01301	.00008	.76192	.00000	.00024	.00130	.14765
4200	.00922	.00019	.03629	.00001	.00002	.00003	.02991	.01452	.00008	.76104	.00001	.00032	.00158	.14679
4300	.00921	.00026	.03621	.00001	.00002	.00004	.02972	.01612	.00009	.76010	.00001	.00044	.00191	.14586
4400	.00921	.00036	.03610	.00002	.00002	.00005	.02951	.01780	.00009	.75908	.00001	.00059	.00229	.14486
4500	.00921	.00049	.03596	.00003	.00003	.00006	.02926	.01957	.00009	.75799	.00001	.00077	.00272	.14381
4600	.00921	.00065	.03579	.00004	.00003	.00008	.02899	.02140	.00010	.75681	.00001	.00101	.00320	.14269
4700	.00920	.00085	.03557	.00006	.00003	.00011	.02867	.02331	.00010	.75555	.00001	.00129	.00374	.14151
4800	.00920	.00111	.03530	.00008	.00004	.00014	.02832	.02528	.00010	.75419	.00001	.00165	.00433	.14026
4900	.00919	.00142	.03497	.00011	.00004	.00017	.02793	.02731	.00010	.75273	.00001	.00208	.00498	.13896
5000	.00919	.00180	.03456	.00015	.00004	.00021	.02749	.02940	.00010	.75117	.00001	.00259	.00569	.13759
5100	.00918	.00225	.03409	.00021	.00005	.00026	.02701	.03154	.00011	.74950	.00001	.00321	.00645	.13616
5200	.00917	.00278	.03352	.00027	.00005	.00031	.02648	.03372	.00011	.74771	.00001	.00393	.00727	.13466
5300	.00916	.00339	.03287	.00036	.00006	.00037	.02590	.03593	.00011	.74580	.00001	.00478	.00814	.13311
5400	.00915	.00410	.03212	.00047	.00006	.00044	.02528	.03817	.00011	.74376	.00001	.00577	.00906	.13149

TABLE 2C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.017413; EQUIV.RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00922	.03650	.03060	.00000	.00015	.76883	.15469
400	.00922	.03650	.02740	.00000	.00335	.76883	.15469
440	.00922	.03650	.00000	.00000	.03076	.76883	.15469
		PRESSURE = 0.10 ATM					
360	.00922	.03650	.03074	.00000	.00002	.76883	.15469
400	.00922	.03650	.03042	.00000	.00033	.76883	.15469
440	.00922	.03650	.02660	.00000	.00416	.76883	.15469
480	.00922	.03650	.00000	.00000	.03076	.76883	.15469
520	.00922	.03650	.00000	.00000	.03076	.76883	.15469
		PRESSURE = 1.00 ATM					
360	.00922	.03650	.03076	.00000	.00000	.76883	.15469
400	.00922	.03650	.03072	.00000	.00003	.76883	.15469
440	.00922	.03650	.03034	.00000	.00041	.76883	.15469
480	.00922	.03650	.02738	.00000	.00338	.76883	.15469
520	.00922	.03650	.00000	.01342	.01733	.76883	.15469
537	.00922	.03650	.00000	.00000	.03076	.76883	.15469
560	.00922	.03650	.00000	.00000	.03076	.76883	.15469
600	.00922	.03650	.00000	.00000	.03076	.76883	.15469
		PRESSURE = 10.00 ATM					
360	.00922	.03650	.03076	.00000	.00000	.76883	.15469
400	.00922	.03650	.03075	.00000	.00000	.76883	.15469
440	.00922	.03650	.03072	.00000	.00004	.76883	.15469
480	.00922	.03650	.03042	.00000	.00034	.76883	.15469
520	.00922	.03650	.00000	.02905	.00171	.76883	.15469
537	.00922	.03650	.00000	.02773	.00303	.76883	.15469
560	.00922	.03650	.00000	.02442	.00633	.76883	.15469
600	.00922	.03650	.00000	.01131	.01945	.76883	.15469
640	.00922	.03650	.00000	.00000	.03076	.76883	.15469
680	.00922	.03650	.00000	.00000	.03076	.76883	.15469
		PRESSURE = 50.00 ATM					
360	.00922	.03650	.03076	.00000	.00000	.76883	.15469
400	.00922	.03650	.03076	.00000	.00000	.76883	.15469
440	.00922	.03650	.03075	.00000	.00001	.76883	.15469
480	.00922	.03650	.03069	.00000	.00007	.76883	.15469
520	.00922	.03650	.00000	.03042	.00034	.76883	.15469
537	.00922	.03650	.00000	.03015	.00060	.76883	.15469
560	.00922	.03650	.00000	.02950	.00126	.76883	.15469
600	.00922	.03650	.00000	.02693	.00383	.76883	.15469
640	.00922	.03650	.00000	.02080	.00996	.76883	.15469
680	.00922	.03650	.00000	.00787	.02288	.76883	.15469
720	.00922	.03650	.00000	.00000	.03076	.76883	.15469
760	.00922	.03650	.00000	.00000	.03076	.76883	.15469

TABLE 3.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.034826; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00908	.00000	.07158	.00000	.00000	.06058	.00000	.00001	.75718	.00000	.00000	.10156
1700	.00908	.00000	.07158	.00000	.00000	.06058	.00000	.00001	.75718	.00000	.00000	.10156
1800	.00908	.00000	.07158	.00000	.00000	.06058	.00000	.00002	.75718	.00000	.00000	.10155
1900	.00908	.00000	.07158	.00000	.00000	.06058	.00000	.00004	.75717	.00000	.00000	.10154
2000	.00908	.00000	.07158	.00000	.00000	.06058	.00000	.00007	.75715	.00000	.00000	.10153
2100	.00908	.00000	.07158	.00000	.00000	.06058	.00000	.00011	.75713	.00000	.00000	.10151
2200	.00908	.00000	.07158	.00000	.00000	.06058	.00000	.00017	.75710	.00000	.00001	.10148
2300	.00908	.00000	.07158	.00000	.00000	.06057	.00000	.00026	.75706	.00000	.00002	.10143
2400	.00908	.00000	.07158	.00000	.00000	.06057	.00000	.00036	.75700	.00000	.00003	.10137
2500	.00908	.00000	.07158	.00000	.00000	.06055	.00000	.00050	.75692	.00000	.00006	.10130
2600	.00908	.00000	.07158	.00000	.00000	.06053	.00000	.00068	.75682	.00001	.00010	.10120
2700	.00908	.00001	.07157	.00000	.00000	.06049	.00000	.00090	.75670	.00001	.00016	.10107
2800	.00908	.00002	.07155	.00000	.00001	.06044	.00000	.00117	.75653	.00003	.00026	.10091
2900	.00908	.00005	.07152	.00000	.00001	.06036	.00000	.00148	.75632	.00005	.00040	.10071
3000	.00908	.00010	.07146	.00001	.00003	.06024	.00000	.00185	.75606	.00010	.00060	.10048
3100	.00908	.00020	.07135	.00001	.00005	.06006	.00000	.00229	.75571	.00018	.00088	.10019
3200	.00907	.00036	.07117	.00003	.00008	.05982	.00000	.00278	.75526	.00031	.00125	.09987
3300	.00907	.00064	.07086	.00005	.00014	.05948	.00000	.00334	.75467	.00052	.00174	.09949
3400	.00907	.00109	.07037	.00011	.00022	.05902	.00000	.00396	.75388	.00085	.00236	.09907
3500	.00906	.00179	.06960	.00020	.00035	.05839	.00000	.00466	.75282	.00135	.00316	.09862
3600	.00904	.00285	.06844	.00037	.00053	.05756	.00000	.00543	.75141	.00208	.00414	.09815
3700	.00903	.00438	.06677	.00065	.00078	.05645	.00000	.00626	.74953	.00315	.00533	.09766
3800	.00900	.00650	.06446	.00111	.00112	.05501	.00000	.00717	.74705	.00465	.00675	.09718
3900	.00897	.00931	.06140	.00183	.00157	.05315	.00000	.00814	.74382	.00674	.00840	.09667
4000	.00893	.01284	.05752	.00293	.00214	.05081	.00000	.00918	.73969	.00958	.01028	.09610
4100	.00887	.01706	.05286	.00455	.00282	.04792	.00000	.01027	.73454	.01338	.01234	.09539
4200	.00880	.02184	.04755	.00685	.00361	.04443	.00000	.01139	.72827	.01836	.01453	.09438
4300	.00872	.02694	.04180	.01002	.00446	.04032	.00000	.01253	.72080	.02475	.01675	.09290
4400	.00862	.03208	.03589	.01421	.00533	.03566	.00000	.01365	.71214	.03279	.01886	.09076
4500	.00851	.03698	.03011	.01955	.00612	.03055	.00000	.01471	.70234	.04267	.02067	.08777
4600	.00839	.04141	.02471	.02604	.00673	.02521	.00000	.01568	.69153	.05451	.02199	.08380
4700	.00825	.04520	.01986	.03354	.00706	.01992	.00001	.01650	.67996	.06830	.02263	.07877
4800	.00811	.04830	.01566	.04173	.00704	.01498	.00001	.01713	.66794	.08392	.02248	.07270
4900	.00797	.05069	.01214	.05014	.00667	.01069	.00002	.01754	.65590	.10102	.02149	.06572
5000	.00783	.05247	.00927	.05825	.00601	.00723	.00002	.01769	.64426	.11911	.01978	.05806
5100	.00770	.05373	.00699	.06560	.00516	.00466	.00004	.01758	.63344	.13751	.01754	.05006
5200	.00758	.05457	.00521	.07189	.00426	.00287	.00005	.01722	.62372	.15548	.01505	.04210
5300	.00748	.05511	.00385	.07703	.00341	.00171	.00008	.01663	.61529	.17233	.01254	.03456
5400	.00739	.05543	.00282	.08108	.00267	.00099	.00011	.01586	.60820	.18750	.01021	.02774

TABLE 3.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.034826; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00001	.75718	.00000	.00000	.10156
1700	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00001	.75718	.00000	.00000	.10156
1800	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00002	.75718	.00000	.00000	.10155
1900	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00004	.75717	.00000	.00000	.10154
2000	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00007	.75715	.00000	.00000	.10153
2100	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00011	.75713	.00000	.00000	.10151
2200	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00017	.75710	.00000	.00000	.10148
2300	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00026	.75706	.00000	.00001	.10143
2400	.00908	.00000	.07158	.00000	.00000	.00000	.06057	.00000	.00036	.75700	.00000	.00002	.10138
2500	.00908	.00000	.07158	.00000	.00000	.00000	.06057	.00000	.00050	.75693	.00000	.00003	.10130
2600	.00908	.00000	.07158	.00000	.00000	.00000	.06055	.00000	.00068	.75683	.00000	.00006	.10121
2700	.00908	.00000	.07158	.00000	.00000	.00000	.06053	.00000	.00090	.75672	.00000	.00009	.10109
2800	.00908	.00001	.07157	.00000	.00000	.00000	.06050	.00000	.00117	.75657	.00001	.00015	.10094
2900	.00908	.00002	.07156	.00000	.00000	.00000	.06046	.00000	.00148	.75639	.00002	.00023	.10076
3000	.00908	.00003	.07154	.00000	.00000	.00001	.06040	.00000	.00186	.75617	.00003	.00034	.10054
3100	.00908	.00006	.07151	.00000	.00000	.00002	.06031	.00000	.00229	.75590	.00006	.00050	.10029
3200	.00908	.00011	.07145	.00000	.00000	.00003	.06018	.00000	.00278	.75557	.00010	.00070	.09999
3300	.00908	.00020	.07135	.00001	.00000	.00004	.06002	.00000	.00334	.75517	.00016	.00098	.09964
3400	.00908	.00035	.07119	.00002	.00000	.00007	.05979	.00000	.00397	.75468	.00027	.00134	.09925
3500	.00907	.00058	.07093	.00004	.00000	.00011	.05949	.00000	.00467	.75407	.00043	.00179	.09882
3600	.00907	.00093	.07055	.00007	.00000	.00017	.05911	.00000	.00544	.75332	.00066	.00236	.09834
3700	.00906	.00145	.06997	.00012	.00000	.00026	.05861	.00000	.00628	.75238	.00100	.00306	.09782
3800	.00905	.00220	.06915	.00020	.00000	.00037	.05797	.00000	.00719	.75121	.00147	.00390	.09728
3900	.00904	.00326	.06801	.00034	.00000	.00053	.05716	.00000	.00818	.74974	.00213	.00490	.09671
4000	.00903	.00469	.06645	.00055	.00000	.00075	.05615	.00000	.00923	.74791	.00303	.00607	.09614
4100	.00900	.00657	.06441	.00087	.00000	.00102	.05490	.00000	.01035	.74564	.00423	.00743	.09557
4200	.00898	.00895	.06182	.00133	.00000	.00137	.05338	.00000	.01154	.74285	.00582	.00897	.09498
4300	.00895	.01186	.05865	.00201	.00000	.00179	.05154	.00000	.01279	.73947	.00789	.01069	.09436
4400	.00891	.01528	.05491	.00295	.00000	.00230	.04935	.00000	.01409	.73544	.01053	.01257	.09366
4500	.00886	.01914	.05067	.00424	.00000	.00288	.04678	.00000	.01543	.73071	.01388	.01458	.09281
4600	.00880	.02332	.04604	.00597	.00001	.00354	.04384	.00000	.01680	.72524	.01803	.01668	.09174
4700	.00873	.02767	.04116	.00822	.00001	.00424	.04051	.00000	.01817	.71904	.02313	.01879	.09033
4800	.00866	.03202	.03622	.01108	.00001	.00497	.03684	.00000	.01951	.71211	.02928	.02082	.08848
4900	.00857	.03620	.03139	.01462	.00001	.00567	.03288	.00001	.02080	.70449	.03657	.02268	.08612
5000	.00848	.04007	.02680	.01887	.00001	.00630	.02873	.00001	.02201	.69625	.04508	.02425	.08316
5100	.00838	.04352	.02257	.02383	.00001	.00681	.02450	.00001	.02309	.68748	.05482	.02541	.07957
5200	.00828	.04649	.01877	.02943	.00001	.00714	.02034	.00002	.02402	.67831	.06578	.02606	.07535
5300	.00817	.04897	.01544	.03554	.00001	.00726	.01640	.00002	.02477	.66888	.07786	.02614	.07053
5400	.00806	.05097	.01257	.04197	.00001	.00715	.01283	.00004	.02531	.65940	.09089	.02562	.06519

TABLE 3.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.034826; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00001	.00000	.75718	.00000	.00000	.10156
1700	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00001	.00000	.75718	.00000	.00000	.10156
1800	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00002	.00000	.75718	.00000	.00000	.10155
1900	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00004	.00000	.75717	.00000	.00000	.10154
2000	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00007	.00000	.75715	.00000	.00000	.10153
2100	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00011	.00000	.75713	.00000	.00000	.10151
2200	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00017	.00000	.75710	.00000	.00000	.10148
2300	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00026	.00000	.75706	.00000	.00001	.10143
2400	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00000	.00036	.00000	.75700	.00000	.00001	.10138
2500	.00908	.00000	.07158	.00000	.00000	.00000	.06057	.00000	.00050	.00000	.75693	.00000	.00002	.10131
2600	.00908	.00000	.07158	.00000	.00000	.00000	.06057	.00000	.00068	.00000	.75684	.00000	.00003	.10121
2700	.00908	.00000	.07158	.00000	.00000	.00000	.06056	.00000	.00090	.00000	.75673	.00000	.00005	.10110
2800	.00908	.00000	.07158	.00000	.00000	.00000	.06054	.00000	.00117	.00000	.75659	.00000	.00008	.10096
2900	.00908	.00001	.07158	.00000	.00000	.00000	.06052	.00000	.00148	.00000	.75642	.00001	.00013	.10078
3000	.00908	.00001	.07157	.00000	.00000	.00000	.06048	.00000	.00186	.00000	.75621	.00001	.00019	.10058
3100	.00908	.00002	.07156	.00000	.00000	.00000	.06043	.00000	.00229	.00000	.75597	.00002	.00028	.10034
3200	.00908	.00004	.07154	.00000	.00000	.00001	.06037	.00000	.00278	.00000	.75569	.00003	.00040	.10006
3300	.00908	.00006	.07150	.00000	.00000	.00001	.06028	.00000	.00334	.00001	.75536	.00005	.00055	.09974
3400	.00908	.00011	.07145	.00000	.00000	.00002	.06016	.00000	.00397	.00001	.75497	.00008	.00076	.09938
3500	.00908	.00018	.07137	.00001	.00000	.00004	.06001	.00000	.00467	.00001	.75452	.00013	.00101	.09897
3600	.00908	.00030	.07124	.00001	.00000	.00005	.05982	.00000	.00545	.00001	.75399	.00021	.00134	.09851
3700	.00907	.00047	.07106	.00002	.00000	.00008	.05957	.00000	.00629	.00001	.75338	.00032	.00173	.09801
3800	.00907	.00071	.07078	.00004	.00000	.00012	.05926	.00000	.00721	.00001	.75265	.00047	.00222	.09747
3900	.00907	.00107	.07040	.00006	.00000	.00017	.05888	.00000	.00819	.00001	.75180	.00067	.00280	.09688
4000	.00906	.00156	.06986	.00010	.00000	.00025	.05840	.00000	.00925	.00001	.75080	.00096	.00349	.09627
4100	.00905	.00223	.06913	.00016	.00001	.00034	.05783	.00000	.01038	.00001	.74961	.00134	.00429	.09562
4200	.00904	.00312	.06816	.00025	.00001	.00046	.05713	.00000	.01158	.00001	.74822	.00184	.00522	.09496
4300	.00903	.00428	.06691	.00037	.00001	.00062	.05630	.00000	.01285	.00001	.74656	.00249	.00628	.09429
4400	.00902	.00575	.06532	.00056	.00001	.00081	.05531	.00000	.01418	.00001	.74462	.00333	.00748	.09361
4500	.00900	.00756	.06335	.00081	.00001	.00105	.05414	.00000	.01557	.00001	.74235	.00439	.00883	.09293
4600	.00897	.00974	.06099	.00116	.00001	.00134	.05278	.00000	.01701	.00001	.73971	.00572	.01031	.09224
4700	.00895	.01230	.05822	.00164	.00001	.00168	.05121	.00000	.01851	.00001	.73667	.00736	.01192	.09152
4800	.00891	.01520	.05507	.00227	.00001	.00208	.04942	.00000	.02005	.00001	.73320	.00938	.01365	.09075
4900	.00888	.01841	.05156	.00309	.00001	.00253	.04740	.00000	.02163	.00001	.72929	.01182	.01548	.08990
5000	.00883	.02185	.04779	.00414	.00002	.00303	.04514	.00000	.02322	.00001	.72494	.01474	.01738	.08892
5100	.00879	.02544	.04382	.00546	.00002	.00357	.04265	.00000	.02482	.00001	.72015	.01821	.01932	.08776
5200	.00873	.02908	.03976	.00709	.00002	.00414	.03994	.00001	.02640	.00001	.71492	.02227	.02125	.08638
5300	.00867	.03268	.03570	.00907	.00002	.00473	.03703	.00001	.02795	.00001	.70930	.02698	.02312	.08472
5400	.00861	.03614	.03174	.01144	.00002	.00531	.03396	.00001	.02945	.00001	.70330	.03238	.02488	.08274

TABLE 3.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.034826; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00001	.00000	.75718	.00000	.00000	.10156
1700	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00001	.00000	.75718	.00000	.00000	.10156
1800	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00002	.00000	.75718	.00000	.00000	.10155
1900	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00004	.00000	.75717	.00000	.00000	.10154
2000	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00007	.00000	.75715	.00000	.00000	.10153
2100	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00011	.00000	.75713	.00000	.00000	.10150
2200	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00017	.00001	.75710	.00000	.00000	.10147
2300	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00026	.00001	.75706	.00000	.00000	.10143
2400	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00036	.00001	.75700	.00000	.00001	.10137
2500	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00050	.00001	.75693	.00000	.00001	.10130
2600	.00908	.00000	.07158	.00000	.00000	.00000	.06057	.00068	.00001	.75684	.00000	.00002	.10121
2700	.00908	.00000	.07158	.00000	.00000	.00000	.06057	.00090	.00001	.75673	.00000	.00003	.10110
2800	.00908	.00000	.07158	.00000	.00000	.00000	.06056	.00117	.00001	.75659	.00000	.00005	.10096
2900	.00908	.00000	.07158	.00000	.00000	.00000	.06055	.00148	.00001	.75643	.00000	.00007	.10079
3000	.00908	.00000	.07158	.00000	.00000	.00000	.06053	.00186	.00001	.75624	.00000	.00011	.10059
3100	.00908	.00001	.07157	.00000	.00000	.00000	.06050	.00229	.00001	.75601	.00001	.00016	.10036
3200	.00908	.00001	.07157	.00000	.00000	.00000	.06046	.00278	.00002	.75574	.00001	.00022	.10010
3300	.00908	.00002	.07156	.00000	.00000	.00000	.06042	.00334	.00002	.75544	.00002	.00031	.09979
3400	.00908	.00004	.07154	.00000	.00000	.00001	.06035	.00398	.00002	.75509	.00003	.00043	.09945
3500	.00908	.00006	.07151	.00000	.00000	.00001	.06027	.00468	.00002	.75470	.00004	.00057	.09906
3600	.00908	.00009	.07147	.00000	.00000	.00002	.06017	.00545	.00002	.75425	.00007	.00075	.09863
3700	.00908	.00015	.07141	.00000	.00001	.00003	.06004	.00630	.00002	.75375	.00010	.00098	.09815
3800	.00908	.00023	.07132	.00001	.00001	.00004	.05988	.00721	.00002	.75318	.00015	.00125	.09763
3900	.00908	.00034	.07119	.00001	.00001	.00006	.05968	.00821	.00002	.75255	.00021	.00158	.09706
4000	.00907	.00050	.07102	.00002	.00001	.00008	.05945	.00927	.00002	.75183	.00030	.00198	.09645
4100	.00907	.00072	.07077	.00003	.00001	.00011	.05916	.01040	.00002	.75103	.00042	.00244	.09581
4200	.00907	.00102	.07045	.00004	.00001	.00015	.05882	.01161	.00002	.75013	.00058	.00298	.09512
4300	.00906	.00142	.07001	.00007	.00001	.00020	.05841	.01288	.00003	.74912	.00079	.00360	.09441
4400	.00906	.00193	.06945	.00010	.00002	.00027	.05793	.01421	.00003	.74797	.00105	.00431	.09366
4500	.00905	.00260	.06874	.00015	.00002	.00035	.05738	.01561	.00003	.74669	.00139	.00511	.09290
4600	.00904	.00343	.06783	.00021	.00002	.00046	.05673	.01707	.00003	.74524	.00181	.00601	.09212
4700	.00903	.00446	.06672	.00030	.00002	.00058	.05599	.01858	.00003	.74361	.00233	.00700	.09134
4800	.00902	.00571	.06537	.00043	.00002	.00073	.05515	.02015	.00003	.74178	.00296	.00810	.09055
4900	.00900	.00720	.06376	.00059	.00003	.00091	.05418	.02176	.00003	.73972	.00373	.00930	.08977
5000	.00899	.00894	.06188	.00080	.00003	.00113	.05310	.02343	.00003	.73744	.00466	.01060	.08898
5100	.00896	.01094	.05973	.00107	.00003	.00137	.05189	.02513	.00003	.73490	.00577	.01200	.08818
5200	.00894	.01318	.05730	.00141	.00004	.00165	.05054	.02687	.00003	.73210	.00708	.01348	.08737
5300	.00892	.01565	.05463	.00185	.00004	.00196	.04905	.02864	.00003	.72904	.00862	.01505	.08652
5400	.00889	.01831	.05174	.00238	.00004	.00231	.04743	.03043	.00003	.72571	.01042	.01668	.08564

TABLE 3.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.034826; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00001	.00000	.75718	.00000	.00000	.00000	.10156
1700	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00001	.00000	.75718	.00000	.00000	.00000	.10155
1800	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00002	.00001	.75717	.00000	.00000	.00000	.10155
1900	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00004	.00001	.75717	.00000	.00000	.00000	.10154
2000	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00007	.00001	.75715	.00000	.00000	.00000	.10152
2100	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00011	.00001	.75713	.00000	.00000	.00000	.10150
2200	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00017	.00001	.75710	.00000	.00000	.00000	.10147
2300	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00026	.00001	.75706	.00000	.00000	.00000	.10142
2400	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00036	.00002	.75700	.00000	.00000	.00000	.10137
2500	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00050	.00002	.75693	.00000	.00000	.00001	.10129
2600	.00908	.00000	.07158	.00000	.00000	.00000	.06058	.00068	.00002	.75684	.00000	.00000	.00001	.10120
2700	.00908	.00000	.07158	.00000	.00000	.00000	.06057	.00090	.00002	.75673	.00000	.00000	.00002	.10109
2800	.00908	.00000	.07158	.00000	.00000	.00000	.06057	.00117	.00002	.75660	.00000	.00000	.00003	.10095
2900	.00908	.00000	.07158	.00000	.00000	.00000	.06056	.00148	.00003	.75643	.00000	.00000	.00005	.10078
3000	.00908	.00000	.07158	.00000	.00000	.00000	.06055	.00186	.00003	.75624	.00000	.00000	.00007	.10059
3100	.00908	.00000	.07158	.00000	.00000	.00000	.06053	.00229	.00003	.75602	.00000	.00000	.00010	.10036
3200	.00908	.00001	.07158	.00000	.00000	.00000	.06050	.00278	.00003	.75576	.00000	.00000	.00015	.10010
3300	.00908	.00001	.07157	.00000	.00000	.00000	.06047	.00335	.00004	.75546	.00000	.00001	.00021	.09980
3400	.00908	.00002	.07156	.00000	.00000	.00000	.06043	.00398	.00004	.75513	.00000	.00001	.00028	.09946
3500	.00908	.00003	.07155	.00000	.00001	.00001	.06038	.00468	.00004	.75475	.00000	.00002	.00038	.09908
3600	.00908	.00004	.07153	.00000	.00001	.00001	.06031	.00545	.00004	.75433	.00000	.00003	.00050	.09866
3700	.00908	.00007	.07150	.00000	.00001	.00001	.06023	.00630	.00004	.75386	.00000	.00004	.00066	.09820
3800	.00908	.00010	.07146	.00000	.00001	.00002	.06012	.00722	.00005	.75334	.00000	.00007	.00084	.09769
3900	.00908	.00015	.07140	.00000	.00001	.00003	.06000	.00821	.00005	.75277	.00000	.00010	.00106	.09714
4000	.00908	.00022	.07132	.00001	.00001	.00004	.05984	.00928	.00005	.75214	.00000	.00014	.00133	.09655
4100	.00908	.00032	.07121	.00001	.00002	.00005	.05966	.01041	.00005	.75145	.00000	.00019	.00164	.09591
4200	.00907	.00046	.07106	.00001	.00002	.00007	.05944	.01162	.00005	.75069	.00000	.00026	.00200	.09523
4300	.00907	.00064	.07086	.00002	.00002	.00009	.05919	.01289	.00006	.74986	.00000	.00035	.00242	.09452
4400	.00907	.00088	.07060	.00003	.00002	.00012	.05889	.01423	.00006	.74894	.00000	.00047	.00291	.09377
4500	.00906	.00119	.07027	.00004	.00003	.00016	.05855	.01563	.00006	.74794	.00001	.00062	.00345	.09299
4600	.00906	.00158	.06984	.00006	.00003	.00021	.05815	.01709	.00006	.74685	.00001	.00081	.00407	.09219
4700	.00905	.00207	.06930	.00009	.00003	.00027	.05770	.01861	.00006	.74565	.00001	.00104	.00475	.09136
4800	.00905	.00268	.06864	.00013	.00004	.00034	.05718	.02018	.00006	.74433	.00001	.00132	.00552	.09052
4900	.00904	.00343	.06784	.00018	.00004	.00043	.05660	.02180	.00007	.74289	.00001	.00167	.00636	.08967
5000	.00903	.00433	.06687	.00024	.00005	.00053	.05594	.02347	.00007	.74131	.00001	.00208	.00727	.08881
5100	.00902	.00539	.06572	.00033	.00005	.00065	.05521	.02518	.00007	.73958	.00001	.00258	.00827	.08795
5200	.00901	.00663	.06438	.00044	.00005	.00079	.05439	.02693	.00007	.73769	.00001	.00316	.00935	.08709
5300	.00900	.00806	.06284	.00058	.00006	.00096	.05349	.02872	.00007	.73563	.00001	.00385	.01050	.08623
5400	.00898	.00968	.06110	.00075	.00006	.00114	.05249	.03054	.00007	.73340	.00001	.00465	.01172	.08538

TABLE 3C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.034826; EQUIV.RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
			PRESSURE = 0.01 ATM				
360	.00908	.07158	.06043	.00000	.00015	.75719	.10157
400	.00908	.07158	.05733	.00000	.00325	.75719	.10157
440	.00908	.07158	.01866	.00000	.04192	.75719	.10157
			PRESSURE = 0.10 ATM				
360	.00908	.07158	.06057	.00000	.00001	.75719	.10157
400	.00908	.07158	.06026	.00000	.00032	.75719	.10157
440	.00908	.07158	.05655	.00000	.00403	.75719	.10157
480	.00908	.07158	.02675	.00000	.03383	.75719	.10157
520	.00908	.07158	.00000	.00000	.06058	.75719	.10157
			PRESSURE = 1.00 ATM				
360	.00908	.07158	.06058	.00000	.00000	.75719	.10157
400	.00908	.07158	.06055	.00000	.00003	.75719	.10157
440	.00908	.07158	.06018	.00000	.00040	.75719	.10157
480	.00908	.07158	.05731	.00000	.00328	.75719	.10157
520	.00908	.07158	.00000	.04378	.01680	.75719	.10157
537	.00908	.07158	.00000	.03041	.03017	.75719	.10157
560	.00908	.07158	.00000	.00000	.06058	.75719	.10157
600	.00908	.07158	.00000	.00000	.06058	.75719	.10157
			PRESSURE = 10.00 ATM				
360	.00908	.07158	.06058	.00000	.00000	.75719	.10157
400	.00908	.07158	.06058	.00000	.00000	.75719	.10157
440	.00908	.07158	.06054	.00000	.00004	.75719	.10157
480	.00908	.07158	.06026	.00000	.00033	.75719	.10157
520	.00908	.07158	.00000	.05893	.00165	.75719	.10157
537	.00908	.07158	.00000	.05765	.00293	.75719	.10157
560	.00908	.07158	.00000	.05445	.00614	.75719	.10157
600	.00908	.07158	.00000	.04173	.01885	.75719	.10157
640	.00908	.07158	.00000	.01027	.05031	.75719	.10157
680	.00908	.07158	.00000	.00000	.06058	.75719	.10157
			PRESSURE = 50.00 ATM				
360	.00908	.07158	.06058	.00000	.00000	.75719	.10157
400	.00908	.07158	.06058	.00000	.00000	.75719	.10157
440	.00908	.07158	.06057	.00000	.00001	.75719	.10157
480	.00908	.07158	.06052	.00000	.00007	.75719	.10157
520	.00908	.07158	.00000	.06025	.00033	.75719	.10157
537	.00908	.07158	.00000	.06000	.00059	.75719	.10157
560	.00908	.07158	.00000	.05936	.00122	.75719	.10157
600	.00908	.07158	.00000	.05687	.00371	.75719	.10157
640	.00908	.07158	.00000	.05093	.00965	.75719	.10157
680	.00908	.07158	.00000	.03840	.02218	.75719	.10157
720	.00908	.07158	.00000	.01426	.04632	.75719	.10157
760	.00908	.07158	.00000	.00000	.06058	.75719	.10157

TABLE 4.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.052240; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00895	.00000	.10562	.00000	.00000	.08952	.00000	.00000	.74589	.00000	.00000	.05002
1700	.00895	.00000	.10562	.00000	.00000	.08952	.00000	.00001	.74589	.00000	.00000	.05002
1800	.00895	.00000	.10562	.00000	.00000	.08952	.00000	.00002	.74588	.00000	.00000	.05002
1900	.00895	.00000	.10562	.00000	.00000	.08952	.00000	.00003	.74588	.00000	.00000	.05001
2000	.00895	.00000	.10562	.00000	.00000	.08952	.00000	.00005	.74587	.00000	.00000	.05000
2100	.00895	.00000	.10562	.00000	.00000	.08952	.00000	.00008	.74585	.00000	.00000	.04998
2200	.00895	.00000	.10562	.00000	.00000	.08951	.00000	.00012	.74583	.00000	.00001	.04996
2300	.00895	.00000	.10562	.00000	.00000	.08951	.00000	.00018	.74580	.00000	.00002	.04993
2400	.00895	.00000	.10562	.00000	.00000	.08950	.00000	.00025	.74576	.00000	.00003	.04989
2500	.00895	.00000	.10561	.00000	.00000	.08949	.00000	.00035	.74570	.00000	.00006	.04984
2600	.00895	.00001	.10561	.00000	.00000	.08946	.00000	.00047	.74563	.00000	.00010	.04977
2700	.00895	.00002	.10559	.00000	.00001	.08942	.00000	.00063	.74553	.00001	.00017	.04968
2800	.00894	.00005	.10556	.00000	.00002	.08936	.00000	.00081	.74540	.00002	.00027	.04957
2900	.00894	.00011	.10549	.00000	.00003	.08926	.00000	.00103	.74523	.00004	.00041	.04945
3000	.00894	.00022	.10537	.00001	.00006	.08912	.00000	.00129	.74500	.00007	.00061	.04931
3100	.00894	.00041	.10515	.00002	.00010	.08891	.00000	.00159	.74468	.00012	.00089	.04918
3200	.00894	.00076	.10476	.00004	.00017	.08861	.00000	.00193	.74424	.00022	.00127	.04906
3300	.00893	.00134	.10412	.00008	.00029	.08817	.00000	.00233	.74361	.00036	.00177	.04900
3400	.00892	.00227	.10310	.00016	.00047	.08755	.00000	.00277	.74272	.00060	.00242	.04903
3500	.00891	.00371	.10152	.00030	.00073	.08669	.00000	.00327	.74148	.00095	.00323	.04921
3600	.00890	.00582	.09921	.00054	.00110	.08552	.00000	.00383	.73975	.00148	.00425	.04961
3700	.00887	.00877	.09596	.00094	.00161	.08393	.00000	.00446	.73739	.00226	.00551	.05030
3800	.00884	.01272	.09162	.00159	.00230	.08183	.00000	.00516	.73425	.00338	.00702	.05129
3900	.00879	.01770	.08612	.00260	.00317	.07912	.00000	.00595	.73018	.00497	.00880	.05259
4000	.00874	.02365	.07950	.00413	.00424	.07569	.00000	.00682	.72506	.00719	.01086	.05411
4100	.00867	.03039	.07195	.00635	.00550	.07147	.00000	.00776	.71880	.01023	.01317	.05571
4200	.00858	.03761	.06374	.00949	.00692	.06639	.00000	.00876	.71134	.01429	.01567	.05719
4300	.00849	.04494	.05525	.01378	.00845	.06045	.00000	.00980	.70265	.01961	.01826	.05832
4400	.00837	.05201	.04686	.01944	.00997	.05371	.00000	.01084	.69276	.02641	.02077	.05886
4500	.00825	.05848	.03890	.02664	.01136	.04634	.00000	.01184	.68172	.03486	.02301	.05859
4600	.00811	.06410	.03164	.03543	.01245	.03860	.00000	.01276	.66971	.04509	.02475	.05736
4700	.00796	.06874	.02525	.04566	.01309	.03086	.00001	.01356	.65694	.05711	.02576	.05507
4800	.00781	.07238	.01979	.05698	.01313	.02355	.00001	.01418	.64380	.07077	.02588	.05171
4900	.00765	.07508	.01527	.06881	.01256	.01709	.00002	.01460	.63074	.08577	.02504	.04737
5000	.00750	.07699	.01161	.08044	.01145	.01177	.00002	.01478	.61826	.10162	.02330	.04226
5100	.00737	.07826	.00871	.09120	.00997	.00770	.00003	.01473	.60679	.11769	.02087	.03667
5200	.00724	.07905	.00647	.10059	.00834	.00482	.00005	.01444	.59667	.13332	.01805	.03095
5300	.00714	.07951	.00476	.10840	.00675	.00290	.00007	.01395	.58807	.14787	.01514	.02544
5400	.00705	.07974	.00348	.11463	.00533	.00169	.00011	.01330	.58099	.16088	.01238	.02042

TABLE 4.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.052240; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00000	.74589	.00000	.00000	.05002
1700	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00001	.74589	.00000	.00000	.05002
1800	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00002	.74588	.00000	.00000	.05002
1900	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00003	.74588	.00000	.00000	.05001
2000	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00005	.74587	.00000	.00000	.05000
2100	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00008	.74585	.00000	.00000	.04998
2200	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00012	.74583	.00000	.00000	.04996
2300	.00895	.00000	.10562	.00000	.00000	.00000	.08951	.00000	.00018	.74580	.00000	.00001	.04993
2400	.00895	.00000	.10562	.00000	.00000	.00000	.08951	.00000	.00025	.74576	.00000	.00002	.04989
2500	.00895	.00000	.10562	.00000	.00000	.00000	.08950	.00000	.00035	.74571	.00000	.00003	.04984
2600	.00895	.00000	.10562	.00000	.00000	.00000	.08949	.00000	.00047	.74564	.00000	.00006	.04977
2700	.00895	.00001	.10561	.00000	.00000	.00000	.08947	.00000	.00063	.74555	.00000	.00009	.04969
2800	.00895	.00002	.10560	.00000	.00000	.00000	.08943	.00000	.00081	.74545	.00001	.00015	.04959
2900	.00895	.00003	.10558	.00000	.00000	.00001	.08939	.00000	.00103	.74531	.00001	.00023	.04946
3000	.00894	.00007	.10554	.00000	.00000	.00002	.08931	.00000	.00129	.74514	.00002	.00035	.04932
3100	.00894	.00013	.10546	.00000	.00000	.00003	.08921	.00000	.00159	.74492	.00004	.00050	.04915
3200	.00894	.00024	.10534	.00001	.00000	.00006	.08907	.00000	.00193	.74465	.00007	.00072	.04898
3300	.00894	.00043	.10513	.00001	.00000	.00009	.08887	.00000	.00232	.74430	.00012	.00100	.04879
3400	.00894	.00073	.10479	.00003	.00000	.00015	.08859	.00000	.00276	.74384	.00019	.00136	.04861
3500	.00893	.00121	.10426	.00005	.00000	.00024	.08822	.00000	.00325	.74325	.00030	.00183	.04846
3600	.00893	.00194	.10346	.00010	.00000	.00036	.08772	.00000	.00379	.74246	.00046	.00241	.04837
3700	.00892	.00302	.10228	.00017	.00000	.00054	.08706	.00000	.00438	.74143	.00070	.00312	.04837
3800	.00891	.00454	.10061	.00029	.00000	.00079	.08619	.00000	.00504	.74009	.00104	.00399	.04850
3900	.00889	.00663	.09833	.00049	.00000	.00112	.08508	.00000	.00576	.73834	.00151	.00504	.04881
4000	.00887	.00939	.09531	.00079	.00000	.00155	.08365	.00000	.00656	.73611	.00217	.00628	.04932
4100	.00884	.01289	.09148	.00124	.00000	.00210	.08187	.00000	.00743	.73331	.00307	.00772	.05006
4200	.00880	.01715	.08680	.00190	.00000	.00278	.07967	.00000	.00838	.72986	.00427	.00938	.05100
4300	.00876	.02213	.08130	.00284	.00000	.00360	.07700	.00000	.00942	.72571	.00586	.01127	.05210
4400	.00871	.02771	.07511	.00416	.00000	.00456	.07383	.00000	.01052	.72082	.00795	.01336	.05329
4500	.00865	.03372	.06838	.00594	.00000	.00564	.07011	.00000	.01169	.71517	.01063	.01563	.05445
4600	.00858	.03995	.06132	.00830	.00000	.00683	.06584	.00000	.01291	.70875	.01402	.01802	.05546
4700	.00850	.04618	.05417	.01136	.00001	.00810	.06103	.00000	.01415	.70159	.01824	.02048	.05619
4800	.00841	.05216	.04716	.01524	.00001	.00940	.05571	.00000	.01539	.69371	.02340	.02289	.05651
4900	.00832	.05772	.04048	.02004	.00001	.01065	.04998	.00001	.01659	.68516	.02958	.02514	.05633
5000	.00821	.06270	.03428	.02581	.00001	.01179	.04394	.00001	.01772	.67600	.03685	.02711	.05556
5100	.00810	.06701	.02867	.03257	.00001	.01272	.03776	.00001	.01876	.66634	.04523	.02865	.05416
5200	.00799	.07061	.02371	.04025	.00001	.01335	.03164	.00002	.01965	.65629	.05471	.02965	.05212
5300	.00787	.07352	.01941	.04870	.00001	.01363	.02578	.00002	.02038	.64603	.06520	.02999	.04946
5400	.00775	.07578	.01573	.05767	.00001	.01350	.02040	.00003	.02093	.63576	.07655	.02965	.04624

TABLE 4.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.052240; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00000	.00000	.74589	.00000	.00000	.05002
1700	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00001	.00000	.74589	.00000	.00000	.05002
1800	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00002	.00000	.74588	.00000	.00000	.05002
1900	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00003	.00000	.74588	.00000	.00000	.05001
2000	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00005	.00000	.74587	.00000	.00000	.05000
2100	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00008	.00000	.74585	.00000	.00000	.04998
2200	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00012	.00000	.74583	.00000	.00000	.04996
2300	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00018	.00000	.74580	.00000	.00001	.04993
2400	.00895	.00000	.10562	.00000	.00000	.00000	.08951	.00000	.00025	.00000	.74576	.00000	.00001	.04989
2500	.00895	.00000	.10562	.00000	.00000	.00000	.08951	.00000	.00035	.00000	.74571	.00000	.00002	.04984
2600	.00895	.00000	.10562	.00000	.00000	.00000	.08950	.00000	.00047	.00000	.74565	.00000	.00003	.04978
2700	.00895	.00000	.10562	.00000	.00000	.00000	.08949	.00000	.00063	.00000	.74557	.00000	.00005	.04970
2800	.00895	.00001	.10561	.00000	.00000	.00000	.08947	.00000	.00081	.00000	.74547	.00000	.00008	.04960
2900	.00895	.00001	.10561	.00000	.00000	.00000	.08945	.00000	.00103	.00000	.74534	.00000	.00013	.04948
3000	.00895	.00002	.10559	.00000	.00000	.00001	.08941	.00000	.00129	.00000	.74520	.00001	.00019	.04934
3100	.00894	.00004	.10557	.00000	.00000	.00001	.08936	.00000	.00159	.00000	.74502	.00001	.00028	.04917
3200	.00894	.00008	.10553	.00000	.00000	.00002	.08928	.00000	.00193	.00000	.74480	.00002	.00040	.04898
3300	.00894	.00014	.10546	.00000	.00000	.00003	.08918	.00000	.00232	.00000	.74455	.00004	.00056	.04877
3400	.00894	.00023	.10535	.00001	.00000	.00005	.08905	.00000	.00276	.00000	.74424	.00006	.00077	.04854
3500	.00894	.00039	.10518	.00001	.00000	.00008	.08887	.00000	.00324	.00000	.74386	.00009	.00103	.04830
3600	.00894	.00062	.10491	.00002	.00000	.00012	.08864	.00000	.00378	.00000	.74341	.00015	.00136	.04805
3700	.00894	.00098	.10452	.00003	.00000	.00017	.08834	.00000	.00436	.00000	.74285	.00022	.00176	.04782
3800	.00893	.00150	.10395	.00005	.00000	.00026	.08796	.00000	.00500	.00000	.74216	.00033	.00226	.04760
3900	.00893	.00223	.10314	.00009	.00000	.00037	.08747	.00000	.00569	.00000	.74132	.00047	.00285	.04743
4000	.00892	.00325	.10204	.00014	.00000	.00052	.08686	.00000	.00644	.00000	.74027	.00067	.00356	.04733
4100	.00891	.00461	.10055	.00023	.00000	.00072	.08609	.00000	.00725	.00000	.73898	.00094	.00439	.04732
4200	.00889	.00639	.09861	.00036	.00000	.00098	.08515	.00000	.00813	.00000	.73740	.00130	.00536	.04744
4300	.00888	.00865	.09614	.00054	.00001	.00130	.08401	.00000	.00907	.00000	.73548	.00177	.00647	.04769
4400	.00885	.01143	.09310	.00080	.00001	.00170	.08262	.00000	.01008	.00000	.73317	.00239	.00774	.04809
4500	.00883	.01476	.08946	.00117	.00001	.00218	.08098	.00000	.01117	.00000	.73044	.00318	.00918	.04865
4600	.00880	.01862	.08523	.00166	.00001	.00275	.07904	.00000	.01234	.00000	.72725	.00418	.01078	.04933
4700	.00876	.02297	.08046	.00233	.00001	.00341	.07680	.00000	.01357	.00000	.72359	.00545	.01255	.05010
4800	.00872	.02772	.07521	.00321	.00001	.00417	.07422	.00000	.01488	.00000	.71945	.00702	.01447	.05091
4900	.00867	.03276	.06961	.00435	.00001	.00502	.07130	.00000	.01624	.00001	.71482	.00896	.01653	.05171
5000	.00862	.03797	.06378	.00580	.00001	.00594	.06804	.00000	.01764	.00001	.70974	.01132	.01870	.05243
5100	.00856	.04322	.05785	.00761	.00001	.00694	.06444	.00000	.01907	.00001	.70421	.01415	.02093	.05299
5200	.00850	.04837	.05196	.00984	.00001	.00799	.06052	.00001	.02051	.00001	.69826	.01750	.02319	.05334
5300	.00843	.05330	.04623	.01255	.00002	.00906	.05631	.00001	.02192	.00001	.69192	.02142	.02541	.05341
5400	.00836	.05791	.04077	.01579	.00002	.01012	.05185	.00001	.02330	.00001	.68522	.02596	.02752	.05317

TABLE 4.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.052240; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00000	.74589	.00000	.00000	.05002
1700	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00001	.00000	.74589	.00000	.00000	.05002
1800	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00002	.00000	.74588	.00000	.00000	.05002
1900	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00003	.00000	.74588	.00000	.00000	.05001
2000	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00005	.00000	.74587	.00000	.00000	.05000
2100	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00008	.00000	.74585	.00000	.00000	.04998
2200	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00012	.00000	.74583	.00000	.00000	.04996
2300	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00018	.00000	.74580	.00000	.00000	.04993
2400	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00025	.00000	.74576	.00000	.00001	.04989
2500	.00895	.00000	.10562	.00000	.00000	.00000	.08951	.00035	.00000	.74571	.00000	.00001	.04984
2600	.00895	.00000	.10562	.00000	.00000	.00000	.08951	.00047	.00000	.74565	.00000	.00002	.04978
2700	.00895	.00000	.10562	.00000	.00000	.00000	.08950	.00063	.00000	.74557	.00000	.00003	.04970
2800	.00895	.00000	.10562	.00000	.00000	.00000	.08949	.00081	.00001	.74547	.00000	.00005	.04960
2900	.00895	.00000	.10562	.00000	.00000	.00000	.08948	.00103	.00001	.74536	.00000	.00007	.04949
3000	.00895	.00001	.10561	.00000	.00000	.00000	.08946	.00129	.00001	.74522	.00000	.00011	.04935
3100	.00895	.00001	.10560	.00000	.00000	.00000	.08943	.00159	.00001	.74506	.00000	.00016	.04919
3200	.00895	.00002	.10559	.00000	.00000	.00001	.08939	.00193	.00001	.74487	.00001	.00023	.04900
3300	.00894	.00004	.10557	.00000	.00000	.00001	.08934	.00232	.00001	.74465	.00001	.00032	.04879
3400	.00894	.00007	.10553	.00000	.00000	.00002	.08927	.00276	.00001	.74439	.00002	.00043	.04856
3500	.00894	.00012	.10547	.00000	.00000	.00002	.08918	.00324	.00001	.74409	.00003	.00058	.04830
3600	.00894	.00020	.10539	.00000	.00000	.00004	.08907	.00378	.00001	.74375	.00005	.00077	.04801
3700	.00894	.00031	.10526	.00001	.00000	.00006	.08892	.00436	.00001	.74336	.00007	.00099	.04771
3800	.00894	.00048	.10507	.00001	.00000	.00008	.08873	.00499	.00001	.74290	.00010	.00127	.04740
3900	.00894	.00072	.10481	.00002	.00001	.00012	.08850	.00568	.00001	.74237	.00015	.00161	.04707
4000	.00893	.00106	.10443	.00003	.00001	.00017	.08822	.00641	.00001	.74176	.00021	.00201	.04675
4100	.00893	.00152	.10392	.00004	.00001	.00023	.08787	.00720	.00001	.74104	.00030	.00248	.04645
4200	.00893	.00214	.10324	.00006	.00001	.00032	.08744	.00803	.00001	.74020	.00041	.00303	.04617
4300	.00892	.00297	.10234	.00010	.00001	.00043	.08693	.00892	.00001	.73922	.00055	.00367	.04593
4400	.00891	.00403	.10118	.00015	.00001	.00057	.08632	.00987	.00001	.73806	.00074	.00440	.04575
4500	.00890	.00537	.09972	.00022	.00001	.00075	.08559	.01087	.00001	.73671	.00097	.00522	.04564
4600	.00889	.00703	.09791	.00031	.00001	.00097	.08473	.01193	.00001	.73514	.00127	.00616	.04562
4700	.00887	.00905	.09572	.00044	.00002	.00123	.08373	.01305	.00001	.73333	.00165	.00720	.04570
4800	.00886	.01143	.09312	.00062	.00002	.00155	.08257	.01424	.00001	.73124	.00211	.00836	.04587
4900	.00883	.01420	.09011	.00085	.00002	.00191	.08124	.01549	.00001	.72887	.00268	.00964	.04615
5000	.00881	.01733	.08669	.00115	.00002	.00234	.07972	.01681	.00002	.72619	.00337	.01105	.04651
5100	.00878	.02081	.08289	.00153	.00002	.00282	.07801	.01819	.00002	.72321	.00421	.01256	.04694
5200	.00875	.02459	.07875	.00202	.00003	.00337	.07609	.01963	.00002	.71992	.00522	.01420	.04741
5300	.00872	.02861	.07432	.00263	.00003	.00397	.07397	.02112	.00002	.71634	.00642	.01594	.04791
5400	.00868	.03281	.06968	.00338	.00003	.00464	.07164	.02266	.00002	.71247	.00783	.01777	.04838

TABLE 4.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.052240; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00000	.00000	.74589	.00000	.00000	.00000	.05002
1700	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00001	.00000	.74589	.00000	.00000	.00000	.05002
1800	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00002	.00000	.74588	.00000	.00000	.00000	.05001
1900	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00003	.00000	.74588	.00000	.00000	.00000	.05001
2000	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00005	.00000	.74586	.00000	.00000	.00000	.05000
2100	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00008	.00001	.74585	.00000	.00000	.00000	.04998
2200	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00012	.00001	.74583	.00000	.00000	.00000	.04996
2300	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00018	.00001	.74580	.00000	.00000	.00000	.04993
2400	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00025	.00001	.74576	.00000	.00000	.00000	.04989
2500	.00895	.00000	.10562	.00000	.00000	.00000	.08952	.00035	.00001	.74571	.00000	.00000	.00001	.04984
2600	.00895	.00000	.10562	.00000	.00000	.00000	.08951	.00047	.00001	.74565	.00000	.00000	.00001	.04977
2700	.00895	.00000	.10562	.00000	.00000	.00000	.08951	.00063	.00001	.74557	.00000	.00000	.00002	.04970
2800	.00895	.00000	.10562	.00000	.00000	.00000	.08950	.00081	.00001	.74548	.00000	.00000	.00003	.04960
2900	.00895	.00000	.10562	.00000	.00000	.00000	.08949	.00103	.00001	.74536	.00000	.00000	.00005	.04948
3000	.00895	.00000	.10562	.00000	.00000	.00000	.08948	.00129	.00001	.74523	.00000	.00000	.00007	.04935
3100	.00895	.00001	.10561	.00000	.00000	.00000	.08946	.00159	.00002	.74507	.00000	.00000	.00011	.04919
3200	.00895	.00001	.10561	.00000	.00000	.00000	.08944	.00193	.00002	.74489	.00000	.00000	.00015	.04901
3300	.00895	.00002	.10560	.00000	.00000	.00000	.08940	.00232	.00002	.74468	.00000	.00001	.00021	.04880
3400	.00895	.00003	.10558	.00000	.00000	.00001	.08936	.00276	.00002	.74444	.00000	.00001	.00029	.04856
3500	.00894	.00005	.10555	.00000	.00000	.00001	.08930	.00324	.00002	.74416	.00000	.00001	.00039	.04830
3600	.00894	.00009	.10551	.00000	.00000	.00002	.08923	.00378	.00002	.74386	.00000	.00002	.00051	.04802
3700	.00894	.00014	.10545	.00000	.00001	.00002	.08913	.00436	.00002	.74351	.00000	.00003	.00067	.04771
3800	.00894	.00022	.10537	.00000	.00001	.00004	.08902	.00499	.00002	.74312	.00000	.00005	.00085	.04737
3900	.00894	.00032	.10525	.00000	.00001	.00005	.08888	.00567	.00002	.74268	.00000	.00007	.00108	.04702
4000	.00894	.00048	.10508	.00001	.00001	.00008	.08870	.00640	.00002	.74219	.00000	.00009	.00135	.04665
4100	.00894	.00069	.10484	.00001	.00001	.00011	.08849	.00718	.00003	.74163	.00000	.00013	.00166	.04627
4200	.00894	.00097	.10452	.00002	.00001	.00015	.08824	.00801	.00003	.74101	.00000	.00018	.00203	.04589
4300	.00893	.00136	.10410	.00003	.00001	.00020	.08793	.00889	.00003	.74030	.00000	.00025	.00246	.04551
4400	.00893	.00186	.10356	.00004	.00002	.00026	.08757	.00981	.00003	.73950	.00000	.00033	.00295	.04515
4500	.00892	.00250	.10285	.00007	.00002	.00035	.08715	.01078	.00003	.73858	.00000	.00043	.00351	.04481
4600	.00892	.00332	.10196	.00010	.00002	.00045	.08665	.01180	.00003	.73755	.00000	.00056	.00414	.04451
4700	.00891	.00433	.10085	.00014	.00002	.00058	.08607	.01287	.00003	.73637	.00000	.00072	.00484	.04425
4800	.00890	.00557	.09950	.00019	.00003	.00073	.08540	.01399	.00003	.73504	.00000	.00092	.00563	.04405
4900	.00889	.00707	.09788	.00026	.00003	.00091	.08464	.01516	.00003	.73354	.00001	.00117	.00650	.04392
5000	.00888	.00883	.09596	.00036	.00003	.00113	.08376	.01639	.00003	.73184	.00001	.00146	.00746	.04386
5100	.00886	.01088	.09373	.00048	.00004	.00139	.08277	.01767	.00003	.72994	.00001	.00182	.00851	.04387
5200	.00884	.01322	.09119	.00064	.00004	.00168	.08165	.01901	.00003	.72783	.00001	.00225	.00965	.04396
5300	.00882	.01585	.08833	.00084	.00004	.00201	.08040	.02040	.00004	.72550	.00001	.00275	.01088	.04411
5400	.00880	.01874	.08518	.00108	.00005	.00239	.07902	.02185	.00004	.72295	.00001	.00335	.01221	.04433

TABLE 4C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.052240; EQUIV.RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00895	.10562	.08937	.00000	.00015	.74589	.05002
400	.00895	.10562	.08637	.00000	.00315	.74589	.05002
440	.00895	.10562	.04889	.00000	.04063	.74589	.05002
		PRESSURE = 0.10 ATM					
360	.00895	.10562	.08950	.00000	.00001	.74589	.05002
400	.00895	.10562	.08920	.00000	.00031	.74589	.05002
440	.00895	.10562	.08561	.00000	.00391	.74589	.05002
480	.00895	.10562	.05673	.00000	.03279	.74589	.05002
520	.00895	.10562	.00000	.00000	.08952	.74589	.05002
		PRESSURE = 1.00 ATM					
360	.00895	.10562	.08952	.00000	.00000	.74589	.05002
400	.00895	.10562	.08949	.00000	.00003	.74589	.05002
440	.00895	.10562	.08913	.00000	.00039	.74589	.05002
480	.00895	.10562	.08634	.00000	.00318	.74589	.05002
520	.00895	.10562	.00000	.07324	.01628	.74589	.05002
537	.00895	.10562	.00000	.06027	.02924	.74589	.05002
560	.00895	.10562	.00000	.02632	.06320	.74589	.05002
600	.00895	.10562	.00000	.00000	.08952	.74589	.05002
		PRESSURE = 10.00 ATM					
360	.00895	.10562	.08952	.00000	.00000	.74589	.05002
400	.00895	.10562	.08952	.00000	.00000	.74589	.05002
440	.00895	.10562	.08948	.00000	.00004	.74589	.05002
480	.00895	.10562	.08920	.00000	.00032	.74589	.05002
520	.00895	.10562	.00000	.08792	.00160	.74589	.05002
537	.00895	.10562	.00000	.08668	.00284	.74589	.05002
560	.00895	.10562	.00000	.08357	.00595	.74589	.05002
600	.00895	.10562	.00000	.07125	.01827	.74589	.05002
640	.00895	.10562	.00000	.04076	.04876	.74589	.05002
680	.00895	.10562	.00000	.00000	.08952	.74589	.05002
		PRESSURE = 50.00 ATM					
360	.00895	.10562	.08952	.00000	.00000	.74589	.05002
400	.00895	.10562	.08952	.00000	.00000	.74589	.05002
440	.00895	.10562	.08951	.00000	.00001	.74589	.05002
480	.00895	.10562	.08946	.00000	.00006	.74589	.05002
520	.00895	.10562	.00000	.08920	.00032	.74589	.05002
537	.00895	.10562	.00000	.08895	.00057	.74589	.05002
560	.00895	.10562	.00000	.08833	.00118	.74589	.05002
600	.00895	.10562	.00000	.08592	.00360	.74589	.05002
640	.00895	.10562	.00000	.08017	.00935	.74589	.05002
680	.00895	.10562	.00000	.06802	.02150	.74589	.05002
720	.00895	.10562	.00000	.04462	.04490	.74589	.05002
760	.00895	.10562	.00000	.00220	.08732	.74589	.05002

TABLE 5.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.069653; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1700	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1800	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1900	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2000	.00881	.00000	.13865	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2100	.00881	.00001	.13865	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2200	.00881	.00001	.13864	.00000	.00001	.11759	.00000	.00000	.73492	.00000	.00000	.00001
2300	.00881	.00003	.13862	.00000	.00002	.11758	.00000	.00000	.73491	.00000	.00000	.00002
2400	.00881	.00006	.13859	.00000	.00003	.11757	.00000	.00001	.73489	.00000	.00001	.00004
2500	.00881	.00013	.13852	.00000	.00005	.11754	.00000	.00001	.73485	.00000	.00001	.00008
2600	.00881	.00024	.13840	.00000	.00009	.11748	.00000	.00003	.73479	.00000	.00003	.00014
2700	.00881	.00042	.13819	.00000	.00014	.11740	.00000	.00004	.73469	.00000	.00005	.00025
2800	.00881	.00073	.13786	.00000	.00022	.11727	.00000	.00007	.73452	.00000	.00009	.00042
2900	.00881	.00121	.13734	.00001	.00034	.11708	.00000	.00012	.73426	.00000	.00016	.00067
3000	.00880	.00192	.13656	.00002	.00050	.11680	.00000	.00019	.73388	.00001	.00027	.00105
3100	.00880	.00296	.13541	.00005	.00073	.11640	.00000	.00028	.73331	.00002	.00043	.00160
3200	.00879	.00444	.13380	.00009	.00103	.11583	.00000	.00042	.73251	.00005	.00068	.00236
3300	.00878	.00645	.13160	.00018	.00144	.11505	.00000	.00061	.73140	.00010	.00104	.00338
3400	.00876	.00914	.12865	.00032	.00195	.11399	.00000	.00085	.72990	.00019	.00154	.00472
3500	.00874	.01260	.12484	.00056	.00261	.11258	.00000	.00117	.72791	.00034	.00222	.00644
3600	.00871	.01695	.12005	.00095	.00343	.11073	.00000	.00157	.72533	.00061	.00312	.00855
3700	.00867	.02224	.11419	.00156	.00444	.10835	.00000	.00207	.72205	.00106	.00429	.01109
3800	.00863	.02847	.10724	.00249	.00565	.10532	.00000	.00267	.71797	.00177	.00576	.01403
3900	.00857	.03557	.09927	.00389	.00709	.10155	.00000	.00337	.71298	.00285	.00755	.01730
4000	.00850	.04337	.09041	.00593	.00875	.09691	.00000	.00417	.70700	.00446	.00968	.02081
4100	.00843	.05164	.08090	.00883	.01062	.09132	.00000	.00507	.69994	.00677	.01211	.02439
4200	.00833	.06005	.07103	.01283	.01266	.08470	.00000	.00603	.69174	.00997	.01479	.02786
4300	.00823	.06824	.06116	.01822	.01477	.07707	.00000	.00704	.68237	.01430	.01760	.03099
4400	.00811	.07588	.05163	.02526	.01684	.06849	.00000	.00806	.67183	.01995	.02038	.03357
4500	.00797	.08267	.04274	.03415	.01866	.05917	.00000	.00906	.66017	.02710	.02292	.03539
4600	.00783	.08840	.03471	.04494	.02005	.04941	.00000	.00998	.64754	.03587	.02497	.03629
4700	.00767	.09299	.02767	.05752	.02076	.03968	.00001	.01079	.63418	.04627	.02629	.03615
4800	.00751	.09646	.02169	.07147	.02066	.03046	.00001	.01145	.62048	.05818	.02669	.03494
4900	.00735	.09891	.01672	.08615	.01969	.02227	.00001	.01190	.60691	.07129	.02606	.03273
5000	.00720	.10052	.01270	.10074	.01796	.01547	.00002	.01214	.59399	.08514	.02445	.02967
5100	.00706	.10148	.00952	.11441	.01569	.01021	.00003	.01215	.58222	.09914	.02206	.02602
5200	.00693	.10198	.00705	.12651	.01319	.00644	.00005	.01195	.57193	.11267	.01919	.02211
5300	.00683	.10219	.00518	.13669	.01074	.00390	.00007	.01156	.56328	.12517	.01616	.01823
5400	.00674	.10222	.00378	.14491	.00852	.00229	.00010	.01102	.55625	.13625	.01326	.01465

TABLE 5.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.069653; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1700	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1800	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1900	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2000	.00881	.00000	.13866	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2100	.00881	.00000	.13865	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2200	.00881	.00001	.13865	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2300	.00881	.00001	.13864	.00000	.00001	.11759	.00000	.00000	.73492	.00000	.00000	.00001
2400	.00881	.00003	.13862	.00000	.00001	.11759	.00000	.00000	.73491	.00000	.00000	.00002
2500	.00881	.00006	.13859	.00000	.00002	.11757	.00000	.00001	.73489	.00000	.00001	.00004
2600	.00881	.00011	.13853	.00000	.00004	.11755	.00000	.00002	.73486	.00000	.00001	.00006
2700	.00881	.00020	.13844	.00000	.00007	.11751	.00000	.00003	.73481	.00000	.00002	.00011
2800	.00881	.00034	.13828	.00000	.00010	.11745	.00000	.00005	.73473	.00000	.00004	.00019
2900	.00881	.00057	.13804	.00000	.00016	.11736	.00000	.00008	.73460	.00000	.00007	.00031
3000	.00881	.00091	.13766	.00001	.00024	.11723	.00000	.00013	.73442	.00000	.00012	.00048
3100	.00881	.00141	.13712	.00001	.00034	.11704	.00000	.00019	.73414	.00000	.00020	.00073
3200	.00880	.00211	.13635	.00002	.00049	.11678	.00000	.00028	.73375	.00001	.00032	.00108
3300	.00880	.00309	.13528	.00004	.00068	.11643	.00000	.00041	.73322	.00002	.00048	.00156
3400	.00879	.00441	.13384	.00007	.00092	.11594	.00000	.00058	.73249	.00004	.00072	.00219
3500	.00878	.00615	.13194	.00012	.00123	.11531	.00000	.00080	.73153	.00007	.00104	.00302
3600	.00877	.00838	.12950	.00021	.00163	.11448	.00000	.00109	.73027	.00013	.00148	.00407
3700	.00875	.01118	.12643	.00034	.00211	.11341	.00000	.00145	.72867	.00023	.00206	.00538
3800	.00873	.01462	.12265	.00055	.00270	.11206	.00000	.00189	.72666	.00039	.00280	.00695
3900	.00870	.01874	.11812	.00085	.00341	.11037	.00000	.00243	.72418	.00064	.00374	.00882
4000	.00867	.02356	.11279	.00131	.00426	.10828	.00000	.00306	.72117	.00102	.00490	.01097
4100	.00863	.02907	.10667	.00196	.00525	.10575	.00000	.00380	.71759	.00158	.00631	.01338
4200	.00858	.03520	.09983	.00289	.00640	.10269	.00000	.00464	.71338	.00239	.00797	.01601
4300	.00853	.04185	.09235	.00416	.00771	.09908	.00000	.00559	.70851	.00352	.00990	.01879
4400	.00847	.04886	.08439	.00590	.00918	.09484	.00000	.00662	.70295	.00506	.01208	.02163
4500	.00840	.05605	.07613	.00821	.01080	.08995	.00000	.00773	.69669	.00712	.01448	.02443
4600	.00833	.06320	.06777	.01124	.01254	.08440	.00000	.00890	.68972	.00980	.01705	.02707
4700	.00824	.07011	.05952	.01512	.01434	.07819	.00000	.01010	.68204	.01320	.01972	.02942
4800	.00815	.07657	.05160	.01998	.01615	.07138	.00000	.01130	.67367	.01744	.02237	.03139
4900	.00805	.08242	.04415	.02596	.01788	.06406	.00000	.01248	.66464	.02259	.02488	.03287
5000	.00794	.08754	.03733	.03311	.01940	.05639	.00001	.01361	.65503	.02873	.02712	.03379
5100	.00782	.09187	.03119	.04146	.02061	.04855	.00001	.01464	.64491	.03589	.02894	.03410
5200	.00770	.09538	.02578	.05095	.02139	.04080	.00002	.01555	.63441	.04404	.03020	.03377
5300	.00758	.09812	.02110	.06138	.02165	.03337	.00002	.01632	.62373	.05311	.03080	.03282
5400	.00745	.10016	.01710	.07252	.02134	.02652	.00003	.01690	.61306	.06296	.03066	.03128

TABLE 5.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.069653; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1700	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1800	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1900	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
2000	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2100	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2200	.00881	.00000	.13865	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2300	.00881	.00001	.13865	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2400	.00881	.00001	.13864	.00000	.00000	.00001	.11759	.00000	.00000	.73492	.00000	.00000	.00001
2500	.00881	.00003	.13863	.00000	.00000	.00001	.11759	.00000	.00001	.73491	.00000	.00000	.00002
2600	.00881	.00005	.13860	.00000	.00000	.00002	.11758	.00000	.00001	.73489	.00000	.00001	.00003
2700	.00881	.00009	.13855	.00000	.00000	.00003	.11756	.00000	.00002	.73487	.00000	.00001	.00005
2800	.00881	.00016	.13848	.00000	.00000	.00005	.11753	.00000	.00003	.73483	.00000	.00002	.00008
2900	.00881	.00027	.13836	.00000	.00000	.00008	.11749	.00000	.00005	.73477	.00000	.00003	.00014
3000	.00881	.00043	.13819	.00000	.00000	.00011	.11743	.00000	.00008	.73467	.00000	.00006	.00021
3100	.00881	.00067	.13793	.00000	.00000	.00016	.11734	.00000	.00013	.73454	.00000	.00009	.00033
3200	.00881	.00100	.13756	.00000	.00000	.00023	.11722	.00000	.00019	.73435	.00000	.00015	.00049
3300	.00881	.00147	.13705	.00001	.00000	.00032	.11705	.00000	.00028	.73408	.00000	.00022	.00070
3400	.00880	.00211	.13636	.00002	.00000	.00044	.11683	.00000	.00039	.73372	.00001	.00033	.00099
3500	.00880	.00296	.13543	.00003	.00000	.00058	.11654	.00000	.00054	.73324	.00002	.00048	.00138
3600	.00879	.00406	.13424	.00004	.00000	.00077	.11616	.00000	.00074	.73262	.00003	.00069	.00187
3700	.00878	.00546	.13271	.00007	.00000	.00100	.11567	.00000	.00099	.73182	.00005	.00096	.00249
3800	.00877	.00721	.13080	.00012	.00000	.00128	.11505	.00000	.00130	.73082	.00009	.00132	.00325
3900	.00876	.00936	.12845	.00019	.00000	.00162	.11428	.00000	.00168	.72957	.00014	.00178	.00418
4000	.00874	.01195	.12561	.00029	.00000	.00203	.11333	.00000	.00214	.72805	.00022	.00235	.00529
4100	.00873	.01502	.12225	.00043	.00000	.00251	.11217	.00000	.00268	.72622	.00035	.00306	.00659
4200	.00870	.01858	.11834	.00063	.00000	.00307	.11077	.00000	.00332	.72404	.00054	.00392	.00807
4300	.00868	.02265	.11385	.00092	.00000	.00373	.10911	.00000	.00406	.72149	.00080	.00496	.00975
4400	.00865	.02722	.10881	.00130	.00000	.00448	.10715	.00000	.00490	.71854	.00117	.00618	.01159
4500	.00861	.03224	.10325	.00183	.00000	.00534	.10486	.00000	.00584	.71518	.00168	.00759	.01358
4600	.00857	.03766	.09721	.00252	.00000	.00631	.10221	.00000	.00688	.71138	.00236	.00921	.01569
4700	.00853	.04340	.09077	.00343	.00000	.00739	.09919	.00000	.00801	.70715	.00325	.01102	.01786
4800	.00848	.04936	.08404	.00460	.00001	.00858	.09576	.00000	.00922	.70247	.00441	.01302	.02004
4900	.00843	.05543	.07714	.00610	.00001	.00987	.09191	.00000	.01050	.69737	.00587	.01519	.02218
5000	.00837	.06147	.07017	.00798	.00001	.01127	.08765	.00000	.01184	.69184	.00769	.01750	.02422
5100	.00831	.06738	.06327	.01031	.00001	.01273	.08297	.00000	.01321	.68590	.00993	.01990	.02608
5200	.00824	.07303	.05656	.01315	.00001	.01426	.07791	.00001	.01459	.67957	.01262	.02234	.02773
5300	.00817	.07831	.05014	.01658	.00001	.01579	.07248	.00001	.01596	.67286	.01582	.02477	.02910
5400	.00809	.08315	.04410	.02064	.00001	.01730	.06675	.00001	.01730	.66581	.01955	.02710	.03017

TABLE 5.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.069653; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1700	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1800	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1900	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
2000	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
2100	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2200	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2300	.00881	.00000	.13865	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2400	.00881	.00001	.13865	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2500	.00881	.00001	.13864	.00000	.00000	.00001	.11760	.00000	.00000	.73492	.00000	.00000	.00001
2600	.00881	.00002	.13863	.00000	.00000	.00001	.11759	.00001	.00000	.73491	.00000	.00000	.00001
2700	.00881	.00004	.13861	.00000	.00000	.00001	.11758	.00001	.00000	.73490	.00000	.00000	.00002
2800	.00881	.00008	.13857	.00000	.00000	.00002	.11757	.00002	.00000	.73488	.00000	.00001	.00004
2900	.00881	.00013	.13852	.00000	.00000	.00004	.11755	.00004	.00000	.73484	.00000	.00002	.00006
3000	.00881	.00021	.13843	.00000	.00000	.00005	.11752	.00006	.00000	.73480	.00000	.00003	.00009
3100	.00881	.00032	.13831	.00000	.00000	.00008	.11748	.00009	.00000	.73473	.00000	.00004	.00014
3200	.00881	.00048	.13813	.00000	.00000	.00011	.11742	.00013	.00000	.73463	.00000	.00007	.00021
3300	.00881	.00070	.13789	.00000	.00000	.00015	.11734	.00018	.00000	.73450	.00000	.00010	.00031
3400	.00881	.00101	.13756	.00000	.00000	.00021	.11724	.00026	.00000	.73432	.00000	.00015	.00044
3500	.00881	.00142	.13711	.00001	.00000	.00028	.11710	.00036	.00000	.73408	.00000	.00022	.00061
3600	.00880	.00195	.13653	.00001	.00000	.00037	.11692	.00049	.00000	.73376	.00001	.00032	.00083
3700	.00880	.00264	.13579	.00002	.00000	.00048	.11670	.00066	.00000	.73336	.00001	.00045	.00111
3800	.00879	.00350	.13484	.00003	.00000	.00061	.11641	.00087	.00000	.73284	.00002	.00061	.00147
3900	.00879	.00457	.13368	.00004	.00000	.00077	.11605	.00113	.00000	.73221	.00003	.00083	.00190
4000	.00878	.00588	.13225	.00006	.00000	.00097	.11561	.00145	.00000	.73143	.00005	.00110	.00242
4100	.00877	.00746	.13053	.00009	.00000	.00120	.11507	.00183	.00000	.73049	.00008	.00144	.00304
4200	.00876	.00933	.12849	.00014	.00000	.00147	.11443	.00228	.00000	.72936	.00012	.00185	.00377
4300	.00875	.01152	.12610	.00020	.00000	.00178	.11366	.00281	.00000	.72802	.00017	.00236	.00462
4400	.00873	.01405	.12333	.00029	.00000	.00215	.11275	.00342	.00000	.72647	.00026	.00297	.00559
4500	.00872	.01693	.12018	.00040	.00000	.00257	.11168	.00412	.00000	.72467	.00037	.00369	.00667
4600	.00870	.02016	.11664	.00055	.00000	.00304	.11044	.00491	.00000	.72261	.00053	.00453	.00788
4700	.00867	.02374	.11270	.00075	.00001	.00358	.10902	.00580	.00000	.72029	.00074	.00550	.00920
4800	.00865	.02766	.10838	.00102	.00001	.00418	.10739	.00678	.00000	.71768	.00101	.00662	.01061
4900	.00862	.03189	.10371	.00135	.00001	.00485	.10555	.00786	.00000	.71480	.00137	.00787	.01212
5000	.00859	.03639	.09872	.00178	.00001	.00560	.10347	.00902	.00000	.71163	.00183	.00927	.01368
5100	.00856	.04111	.09347	.00231	.00001	.00641	.10116	.01027	.00001	.70818	.00240	.01081	.01529
5200	.00852	.04601	.08799	.00298	.00001	.00731	.09861	.01160	.00001	.70445	.00312	.01249	.01691
5300	.00848	.05101	.08237	.00380	.00002	.00828	.09580	.01298	.00001	.70046	.00399	.01430	.01851
5400	.00844	.05605	.07667	.00479	.00002	.00932	.09273	.01443	.00001	.69622	.00504	.01622	.02007

TABLE 5.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.069653; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1700	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1800	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
1900	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
2000	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73493	.00000	.00000	.00000
2100	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2200	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2300	.00881	.00000	.13866	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2400	.00881	.00000	.13865	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2500	.00881	.00001	.13865	.00000	.00000	.00000	.11760	.00000	.00000	.73492	.00000	.00000	.00000
2600	.00881	.00001	.13864	.00000	.00000	.00001	.11760	.00001	.00000	.73492	.00000	.00000	.00001
2700	.00881	.00003	.13863	.00000	.00000	.00001	.11759	.00001	.00000	.73491	.00000	.00000	.00001
2800	.00881	.00005	.13861	.00000	.00000	.00001	.11758	.00002	.00000	.73489	.00000	.00001	.00002
2900	.00881	.00008	.13857	.00000	.00000	.00002	.11757	.00003	.00000	.73487	.00000	.00001	.00003
3000	.00881	.00012	.13852	.00000	.00000	.00003	.11755	.00004	.00000	.73485	.00000	.00002	.00005
3100	.00881	.00019	.13845	.00000	.00000	.00005	.11753	.00006	.00000	.73480	.00000	.00002	.00008
3200	.00881	.00029	.13834	.00000	.00000	.00007	.11750	.00009	.00000	.73474	.00000	.00004	.00012
3300	.00881	.00042	.13820	.00000	.00000	.00009	.11745	.00014	.00000	.73466	.00000	.00006	.00017
3400	.00881	.00061	.13800	.00000	.00000	.00012	.11739	.00020	.00000	.73454	.00000	.00009	.00025
3500	.00881	.00085	.13773	.00000	.00000	.00017	.11731	.00027	.00000	.73439	.00000	.00013	.00034
3600	.00881	.00117	.13738	.00000	.00000	.00022	.11720	.00037	.00000	.73419	.00000	.00018	.00047
3700	.00881	.00159	.13693	.00001	.00000	.00029	.11707	.00050	.00000	.73394	.00000	.00026	.00062
3800	.00880	.00211	.13636	.00001	.00000	.00037	.11690	.00065	.00000	.73362	.00001	.00035	.00082
3900	.00880	.00277	.13565	.00001	.00000	.00046	.11669	.00085	.00000	.73321	.00001	.00048	.00107
4000	.00879	.00357	.13478	.00002	.00000	.00058	.11643	.00109	.00000	.73272	.00002	.00064	.00137
4100	.00879	.00454	.13372	.00003	.00000	.00072	.11611	.00138	.00000	.73212	.00003	.00084	.00172
4200	.00878	.00570	.13245	.00005	.00000	.00088	.11573	.00172	.00000	.73141	.00004	.00108	.00215
4300	.00877	.00707	.13096	.00007	.00000	.00107	.11528	.00213	.00000	.73055	.00006	.00138	.00265
4400	.00877	.00867	.12922	.00010	.00000	.00129	.11474	.00260	.00000	.72956	.00009	.00175	.00322
4500	.00875	.01052	.12721	.00014	.00000	.00154	.11411	.00315	.00000	.72840	.00013	.00218	.00387
4600	.00874	.01262	.12491	.00019	.00000	.00182	.11338	.00377	.00000	.72707	.00018	.00269	.00461
4700	.00873	.01499	.12232	.00026	.00001	.00215	.11254	.00448	.00000	.72555	.00025	.00328	.00544
4800	.00871	.01763	.11943	.00035	.00001	.00251	.11158	.00527	.00000	.72384	.00035	.00397	.00635
4900	.00870	.02054	.11624	.00047	.00001	.00292	.11048	.00615	.00001	.72192	.00048	.00475	.00734
5000	.00868	.02372	.11276	.00062	.00001	.00337	.10925	.00711	.00001	.71980	.00064	.00564	.00840
5100	.00865	.02715	.10898	.00080	.00001	.00387	.10787	.00816	.00001	.71747	.00085	.00663	.00953
5200	.00863	.03082	.10494	.00104	.00002	.00443	.10633	.00930	.00001	.71492	.00111	.00774	.01072
5300	.00860	.03469	.10066	.00132	.00002	.00503	.10462	.01052	.00001	.71217	.00143	.00896	.01195
5400	.00858	.03875	.09617	.00167	.00002	.00569	.10275	.01182	.00001	.70920	.00183	.01029	.01321

TABLE 5C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.069653; EQUIV.RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2
		PRESSURE = 0.01 ATM				
360	.00881	.13866	.11746	.00000	.00014	.73493
400	.00881	.13866	.11455	.00000	.00305	.73493
440	.00881	.13866	.07823	.00000	.03938	.73493
		PRESSURE = 0.10 ATM				
360	.00881	.13866	.11759	.00000	.00001	.73493
400	.00881	.13866	.11730	.00000	.00030	.73493
440	.00881	.13866	.11382	.00000	.00379	.73493
480	.00881	.13866	.08582	.00000	.03178	.73493
520	.00881	.13866	.00000	.00000	.11760	.73493
		PRESSURE = 1.00 ATM				
360	.00881	.13866	.11760	.00000	.00000	.73493
400	.00881	.13866	.11757	.00000	.00003	.73493
440	.00881	.13866	.11723	.00000	.00038	.73493
480	.00881	.13866	.11452	.00000	.00308	.73493
520	.00881	.13866	.00000	.10182	.01578	.73493
537	.00881	.13866	.00000	.08926	.02834	.73493
560	.00881	.13866	.00000	.05635	.06125	.73493
600	.00881	.13866	.00000	.00000	.11760	.73493
		PRESSURE = 10.00 ATM				
360	.00881	.13866	.11760	.00000	.00000	.73493
400	.00881	.13866	.11760	.00000	.00000	.73493
440	.00881	.13866	.11757	.00000	.00004	.73493
480	.00881	.13866	.11730	.00000	.00031	.73493
520	.00881	.13866	.00000	.11605	.00155	.73493
537	.00881	.13866	.00000	.11485	.00275	.73493
560	.00881	.13866	.00000	.11184	.00577	.73493
600	.00881	.13866	.00000	.09990	.01771	.73493
640	.00881	.13866	.00000	.07034	.04726	.73493
680	.00881	.13866	.00000	.00257	.11503	.73493
		PRESSURE = 50.00 ATM				
360	.00881	.13866	.11760	.00000	.00000	.73493
400	.00881	.13866	.11760	.00000	.00000	.73493
440	.00881	.13866	.11760	.00000	.00001	.73493
480	.00881	.13866	.11754	.00000	.00006	.73493
520	.00881	.13866	.00000	.11729	.00031	.73493
537	.00881	.13866	.00000	.11705	.00055	.73493
560	.00881	.13866	.00000	.11646	.00115	.73493
600	.00881	.13866	.00000	.11412	.00349	.73493
640	.00881	.13866	.00000	.10854	.00906	.73493
680	.00881	.13866	.00000	.09677	.02083	.73493
720	.00881	.13866	.00000	.07409	.04351	.73493
760	.00881	.13866	.00000	.03297	.08463	.73493

TABLE 6.1D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
380	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
400	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
420	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
440	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
460	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
480	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
500	.00869	.02429	.00000	.14645	.00000	.00001	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
520	.00869	.02428	.00000	.14645	.00000	.00001	.09629	.00000	.00000	.00000	.72427	.00000	.00000	.00000
537	.00869	.02428	.00000	.14645	.00000	.00002	.09629	.00000	.00000	.00000	.72427	.00000	.00000	.00000
540	.00869	.02428	.00000	.14645	.00000	.00002	.09629	.00000	.00000	.00000	.72427	.00000	.00000	.00000
560	.00869	.02428	.00000	.14646	.00000	.00004	.09628	.00000	.00000	.00000	.72426	.00000	.00000	.00000
580	.00869	.02427	.00000	.14646	.00000	.00007	.09626	.00000	.00000	.00000	.72425	.00000	.00000	.00000
600	.00869	.02426	.00000	.14647	.00000	.00012	.09623	.00000	.00000	.00000	.72423	.00000	.00000	.00000
620	.00869	.02424	.00000	.14648	.00000	.00020	.09619	.00000	.00000	.00000	.72421	.00000	.00000	.00000
640	.00869	.02420	.00000	.14650	.00000	.00031	.09613	.00000	.00000	.00000	.72416	.00000	.00000	.00000
660	.00868	.02416	.00000	.14653	.00000	.00048	.09603	.00000	.00000	.00000	.72410	.00000	.00000	.00000
680	.00868	.02410	.00000	.14658	.00000	.00072	.09590	.00000	.00000	.00000	.72402	.00000	.00000	.00000
700	.00868	.02401	.00000	.14664	.00000	.00106	.09572	.00000	.00000	.00000	.72389	.00000	.00000	.00000
720	.00868	.02389	.00000	.14672	.00000	.00152	.09546	.00000	.00000	.00000	.72373	.00000	.00000	.00000
740	.00868	.02372	.00000	.14683	.00000	.00214	.09512	.00000	.00000	.00000	.72350	.00000	.00000	.00000
760	.00867	.02351	.00001	.14697	.00000	.00297	.09467	.00000	.00000	.00000	.72320	.00000	.00000	.00000
780	.00867	.02323	.00001	.14715	.00000	.00403	.09409	.00000	.00000	.00000	.72281	.00000	.00000	.00000
800	.00866	.02287	.00002	.14739	.00000	.00539	.09335	.00000	.00000	.00000	.72232	.00000	.00000	.00000
820	.00866	.02242	.00003	.14768	.00000	.00708	.09243	.00000	.00001	.00000	.72170	.00000	.00000	.00000
840	.00865	.02187	.00005	.14803	.00000	.00918	.09129	.00000	.00001	.00000	.72093	.00000	.00000	.00000
860	.00864	.02119	.00009	.14845	.00000	.01171	.08992	.00000	.00001	.00000	.72000	.00000	.00000	.00000
880	.00862	.02039	.00015	.14894	.00000	.01473	.08829	.00000	.00001	.00000	.71889	.00000	.00000	.00000
900	.00861	.01944	.00023	.14949	.00000	.01826	.08639	.00000	.00001	.00000	.71758	.00000	.00000	.00000
920	.00859	.01834	.00036	.15010	.00000	.02231	.08422	.00000	.00001	.00000	.71607	.00000	.00000	.00000
940	.00857	.01710	.00054	.15076	.00000	.02689	.08180	.00000	.00001	.00000	.71434	.00000	.00000	.00000
960	.00854	.01570	.00081	.15143	.00000	.03194	.07915	.00000	.00001	.00000	.71242	.00000	.00000	.00000
980	.00852	.01417	.00118	.15209	.00000	.03741	.07632	.00000	.00001	.00000	.71030	.00000	.00000	.00000
1000	.00849	.01252	.00169	.15269	.00000	.04320	.07338	.00000	.00001	.00000	.70802	.00000	.00000	.00000
1020	.00846	.01077	.00238	.15318	.00000	.04917	.07042	.00000	.00001	.00000	.70561	.00000	.00000	.00000
1040	.00843	.00897	.00327	.15351	.00000	.05513	.06755	.00000	.00001	.00000	.70313	.00000	.00000	.00000
1060	.00840	.00718	.00438	.15360	.00000	.06088	.06490	.00000	.00001	.00000	.70064	.00000	.00000	.00000
1080	.00837	.00545	.00571	.15344	.00000	.06613	.06263	.00000	.00001	.00000	.69826	.00000	.00000	.00000
1100	.00835	.00389	.00721	.15300	.00000	.07059	.06086	.00000	.00001	.00000	.69610	.00000	.00000	.00000
1120	.00833	.00258	.00878	.15230	.00000	.07400	.05970	.00000	.00000	.00000	.69430	.00000	.00000	.00000
1140	.00831	.00160	.01034	.15141	.00000	.07621	.05919	.00000	.00000	.00000	.69293	.00000	.00000	.00000

TABLE 6.1D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00830	.00093	.01180	.15040	.00000	.07730	.05926	.00000	.00000	.00000	.69201	.00000	.00000	.00000
1180	.00829	.00052	.01316	.14932	.00000	.07752	.05975	.00000	.00000	.00000	.69144	.00000	.00000	.00000
1200	.00829	.00028	.01443	.14821	.00000	.07715	.06053	.00000	.00000	.00000	.69112	.00000	.00000	.00000
1220	.00829	.00015	.01564	.14709	.00000	.07643	.06147	.00000	.00000	.00000	.69094	.00000	.00000	.00000
1240	.00829	.00008	.01681	.14596	.00000	.07552	.06250	.00000	.00000	.00000	.69084	.00000	.00000	.00000
1260	.00828	.00005	.01797	.14483	.00000	.07451	.06358	.00000	.00000	.00000	.69079	.00000	.00000	.00000
1280	.00828	.00003	.01912	.14369	.00000	.07343	.06468	.00000	.00000	.00000	.69076	.00000	.00000	.00000
1300	.00828	.00001	.02026	.14256	.00000	.07234	.06580	.00000	.00000	.00000	.69075	.00000	.00000	.00000
1320	.00828	.00001	.02139	.14143	.00000	.07123	.06692	.00000	.00000	.00000	.69074	.00000	.00000	.00000
1340	.00828	.00000	.02252	.14030	.00000	.07011	.06804	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1360	.00828	.00000	.02364	.13919	.00000	.06900	.06916	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1380	.00828	.00000	.02475	.13808	.00000	.06790	.07026	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1400	.00828	.00000	.02585	.13698	.00000	.06680	.07136	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1420	.00828	.00000	.02693	.13589	.00000	.06572	.07245	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1440	.00828	.00000	.02800	.13482	.00000	.06464	.07352	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1460	.00828	.00000	.02906	.13376	.00000	.06359	.07458	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1480	.00828	.00000	.03010	.13272	.00000	.06255	.07562	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1500	.00828	.00000	.03113	.13170	.00000	.06152	.07664	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1520	.00828	.00000	.03214	.13069	.00000	.06051	.07765	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1540	.00828	.00000	.03313	.12970	.00000	.05952	.07864	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1560	.00828	.00000	.03410	.12873	.00000	.05855	.07961	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1580	.00828	.00000	.03506	.12777	.00000	.05759	.08057	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1600	.00828	.00000	.03599	.12684	.00000	.05666	.08150	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1620	.00828	.00000	.03691	.12592	.00000	.05574	.08242	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1640	.00828	.00000	.03780	.12502	.00000	.05485	.08332	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1660	.00828	.00000	.03868	.12414	.00000	.05397	.08419	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1680	.00828	.00000	.03954	.12329	.00000	.05311	.08505	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1700	.00828	.00000	.04038	.12245	.00000	.05227	.08589	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1720	.00828	.00000	.04120	.12162	.00000	.05145	.08672	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1740	.00828	.00000	.04201	.12082	.00000	.05064	.08752	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1760	.00828	.00000	.04279	.12004	.00000	.04986	.08830	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1780	.00828	.00000	.04356	.11927	.00000	.04909	.08907	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1800	.00828	.00000	.04431	.11852	.00000	.04835	.08982	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1900	.00828	.00000	.04779	.11504	.00000	.04486	.09330	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2000	.00828	.00000	.05087	.11196	.00000	.04178	.09638	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2100	.00828	.00000	.05360	.10923	.00000	.03905	.09911	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2200	.00828	.00000	.05601	.10682	.00000	.03664	.10152	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2300	.00828	.00000	.05814	.10468	.00000	.03450	.10366	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2400	.00828	.00000	.06004	.10279	.00000	.03261	.10555	.00000	.00000	.00000	.69072	.00000	.00000	.00000
2500	.00828	.00000	.06173	.10110	.00001	.03092	.10724	.00000	.00000	.00000	.69072	.00000	.00000	.00000

TABLE 6.1D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00828	.00000	.06323	.09960	.00002	.02941	.10874	.00000	.00000	.00000	.69072	.00000	.00000	.00000
2700	.00828	.00000	.06457	.09825	.00003	.02806	.11008	.00000	.00000	.00000	.69071	.00000	.00000	.00000
2800	.00828	.00000	.06578	.09705	.00005	.02685	.11128	.00000	.00000	.00000	.69070	.00000	.00001	.00000
2900	.00828	.00000	.06685	.09596	.00010	.02575	.11234	.00000	.00000	.00000	.69068	.00000	.00002	.00000
3000	.00828	.00000	.06782	.09499	.00017	.02476	.11329	.00000	.00000	.00000	.69065	.00000	.00004	.00000
3100	.00828	.00000	.06869	.09411	.00028	.02385	.11411	.00000	.00000	.00001	.69060	.00000	.00007	.00000
3200	.00828	.00000	.06948	.09330	.00045	.02302	.11480	.00000	.00000	.00002	.69050	.00000	.00014	.00000
3300	.00828	.00000	.07020	.09254	.00070	.02226	.11535	.00000	.00000	.00004	.69035	.00001	.00026	.00001
3400	.00828	.00000	.07089	.09180	.00106	.02156	.11572	.00000	.00000	.00008	.69009	.00002	.00047	.00004
3500	.00827	.00000	.07159	.09100	.00158	.02094	.11583	.00000	.00000	.00015	.68967	.00004	.00081	.00011
3600	.00826	.00000	.07243	.09002	.00231	.02042	.11560	.00000	.00000	.00027	.68898	.00011	.00134	.00026
3700	.00825	.00000	.07359	.08862	.00331	.02006	.11485	.00000	.00000	.00047	.68785	.00025	.00214	.00061
3800	.00823	.00000	.07534	.08647	.00469	.01997	.11334	.00000	.00000	.00079	.68603	.00054	.00330	.00130
3900	.00820	.00000	.07802	.08318	.00658	.02025	.11080	.00000	.00000	.00126	.68321	.00109	.00488	.00252
4000	.00816	.00000	.08183	.07849	.00919	.02100	.10699	.00000	.00000	.00188	.67912	.00205	.00690	.00441
4100	.00809	.00000	.08671	.07239	.01276	.02221	.10174	.00000	.00000	.00265	.67358	.00361	.00933	.00693
4200	.00802	.00000	.09237	.06517	.01760	.02381	.09502	.00000	.00000	.00353	.66653	.00595	.01210	.00991
4300	.00792	.00000	.09837	.05727	.02401	.02564	.08689	.00000	.00000	.00449	.65799	.00929	.01506	.01307
4400	.00780	.00000	.10425	.04916	.03228	.02749	.07751	.00000	.00000	.00549	.64802	.01382	.01805	.01613
4500	.00768	.00000	.10960	.04126	.04263	.02910	.06717	.00000	.00000	.00648	.63673	.01973	.02084	.01877
4600	.00753	.00000	.11415	.03390	.05515	.03018	.05628	.00000	.00000	.00742	.62432	.02713	.02318	.02076
4700	.00738	.00000	.11774	.02729	.06968	.03047	.04534	.00001	.00000	.00825	.61108	.03603	.02481	.02192
4800	.00722	.00000	.12035	.02154	.08581	.02978	.03495	.00001	.00000	.00894	.59743	.04631	.02551	.02214
4900	.00706	.00000	.12206	.01670	.10283	.02806	.02567	.00001	.00000	.00945	.58387	.05769	.02517	.02143
5000	.00691	.00000	.12302	.01272	.11986	.02542	.01792	.00002	.00000	.00975	.57096	.06971	.02382	.01989
5100	.00677	.00000	.12344	.00955	.13595	.02216	.01190	.00003	.00000	.00983	.55922	.08181	.02163	.01772
5200	.00664	.00000	.12349	.00708	.15034	.01863	.00754	.00005	.00000	.00971	.54900	.09343	.01891	.01520
5300	.00654	.00000	.12333	.00520	.16258	.01519	.00459	.00007	.00000	.00941	.54046	.10407	.01598	.01260
5400	.00645	.00000	.12307	.00379	.17255	.01209	.00271	.00010	.00000	.00898	.53358	.11340	.01314	.01015

TABLE 6.2D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
380	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
400	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
420	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
440	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
460	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
480	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
500	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
520	.00869	.02429	.00000	.14645	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
537	.00869	.02429	.00000	.14645	.00000	.00001	.09629	.00000	.00000	.00000	.72428	.00000	.00000	.00000
540	.00869	.02429	.00000	.14645	.00000	.00001	.09629	.00000	.00000	.00000	.72427	.00000	.00000	.00000
560	.00869	.02428	.00000	.14645	.00000	.00001	.09629	.00000	.00000	.00000	.72427	.00000	.00000	.00000
580	.00869	.02428	.00000	.14645	.00000	.00002	.09628	.00000	.00000	.00000	.72427	.00000	.00000	.00000
600	.00869	.02428	.00000	.14646	.00000	.00004	.09628	.00000	.00000	.00000	.72426	.00000	.00000	.00000
620	.00869	.02427	.00000	.14646	.00000	.00006	.09626	.00000	.00000	.00000	.72425	.00000	.00000	.00000
640	.00869	.02426	.00000	.14647	.00000	.00010	.09624	.00000	.00000	.00000	.72424	.00000	.00000	.00000
660	.00869	.02425	.00000	.14648	.00000	.00015	.09621	.00000	.00000	.00000	.72422	.00000	.00000	.00000
680	.00869	.02423	.00000	.14649	.00000	.00023	.09617	.00000	.00000	.00000	.72419	.00000	.00000	.00000
700	.00869	.02420	.00000	.14651	.00000	.00034	.09611	.00000	.00000	.00000	.72415	.00000	.00000	.00000
720	.00868	.02416	.00000	.14654	.00000	.00048	.09603	.00000	.00001	.00000	.72410	.00000	.00000	.00000
740	.00868	.02411	.00000	.14657	.00000	.00068	.09592	.00000	.00001	.00000	.72403	.00000	.00000	.00000
760	.00868	.02404	.00000	.14662	.00000	.00095	.09577	.00000	.00001	.00000	.72393	.00000	.00000	.00000
780	.00868	.02394	.00000	.14668	.00000	.00130	.09558	.00000	.00001	.00000	.72381	.00000	.00000	.00000
800	.00868	.02383	.00001	.14676	.00000	.00174	.09534	.00000	.00001	.00000	.72364	.00000	.00000	.00000
820	.00868	.02368	.00001	.14685	.00000	.00231	.09503	.00000	.00001	.00000	.72344	.00000	.00000	.00000
840	.00867	.02349	.00002	.14697	.00000	.00301	.09465	.00000	.00001	.00000	.72318	.00000	.00000	.00000
860	.00867	.02326	.00003	.14712	.00000	.00389	.09417	.00000	.00001	.00000	.72286	.00000	.00000	.00000
880	.00866	.02297	.00005	.14729	.00000	.00495	.09359	.00000	.00001	.00000	.72246	.00000	.00000	.00000
900	.00866	.02263	.00007	.14750	.00000	.00624	.09290	.00000	.00001	.00000	.72199	.00000	.00000	.00000
920	.00865	.02222	.00011	.14774	.00000	.00777	.09208	.00000	.00001	.00000	.72142	.00000	.00000	.00000
940	.00864	.02173	.00017	.14801	.00000	.00957	.09112	.00000	.00002	.00000	.72075	.00000	.00000	.00000
960	.00863	.02116	.00025	.14831	.00000	.01167	.09001	.00000	.00002	.00000	.71996	.00000	.00000	.00000
980	.00862	.02050	.00037	.14864	.00000	.01407	.08874	.00000	.00002	.00000	.71904	.00000	.00000	.00000
1000	.00861	.01974	.00054	.14898	.00000	.01680	.08732	.00000	.00002	.00000	.71799	.00000	.00000	.00000
1020	.00860	.01887	.00077	.14933	.00000	.01986	.08574	.00000	.00002	.00000	.71680	.00000	.00000	.00000
1040	.00858	.01790	.00108	.14968	.00000	.02326	.08403	.00000	.00002	.00000	.71546	.00000	.00000	.00000
1060	.00856	.01682	.00150	.14999	.00000	.02696	.08218	.00000	.00002	.00000	.71397	.00000	.00000	.00000
1080	.00854	.01563	.00204	.15025	.00000	.03096	.08024	.00000	.00002	.00000	.71232	.00000	.00000	.00000
1100	.00852	.01433	.00275	.15042	.00000	.03521	.07823	.00000	.00002	.00000	.71052	.00000	.00000	.00000
1120	.00850	.01293	.00364	.15047	.00000	.03966	.07619	.00000	.00002	.00000	.70859	.00000	.00000	.00000
1140	.00847	.01144	.00475	.15036	.00000	.04423	.07419	.00000	.00002	.00000	.70653	.00000	.00000	.00000

TABLE 6.2D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00845	.00989	.00610	.15007	.00000	.04882	.07228	.00000	.00002	.00000	.70439	.00000	.00000	.00000
1180	.00842	.00830	.00768	.14956	.00000	.05330	.07054	.00000	.00002	.00000	.70219	.00000	.00000	.00000
1200	.00840	.00672	.00947	.14883	.00000	.05753	.06903	.00000	.00002	.00000	.70001	.00000	.00000	.00000
1220	.00837	.00521	.01143	.14789	.00000	.06132	.06784	.00000	.00002	.00000	.69793	.00000	.00000	.00000
1240	.00835	.00385	.01346	.14677	.00000	.06449	.06702	.00000	.00001	.00000	.69605	.00000	.00000	.00000
1260	.00833	.00269	.01547	.14554	.00000	.06688	.06662	.00000	.00001	.00000	.69445	.00000	.00000	.00000
1280	.00831	.00179	.01736	.14426	.00000	.06843	.06662	.00000	.00001	.00000	.69320	.00000	.00000	.00000
1300	.00830	.00114	.01909	.14297	.00000	.06920	.06699	.00000	.00001	.00000	.69230	.00000	.00000	.00000
1320	.00830	.00070	.02064	.14171	.00000	.06932	.06762	.00000	.00001	.00000	.69170	.00000	.00000	.00000
1340	.00829	.00042	.02205	.14049	.00000	.06897	.06845	.00000	.00001	.00000	.69131	.00000	.00000	.00000
1360	.00829	.00025	.02335	.13931	.00000	.06832	.06939	.00000	.00001	.00000	.69108	.00000	.00000	.00000
1380	.00829	.00015	.02457	.13816	.00000	.06749	.07040	.00000	.00001	.00000	.69094	.00000	.00000	.00000
1400	.00829	.00009	.02573	.13703	.00000	.06656	.07144	.00000	.00001	.00000	.69085	.00000	.00000	.00000
1420	.00829	.00006	.02686	.13593	.00000	.06557	.07249	.00000	.00000	.00000	.69080	.00000	.00000	.00000
1440	.00828	.00003	.02796	.13484	.00000	.06455	.07354	.00000	.00000	.00000	.69077	.00000	.00000	.00000
1460	.00828	.00002	.02903	.13378	.00000	.06353	.07459	.00000	.00000	.00000	.69076	.00000	.00000	.00000
1480	.00828	.00001	.03009	.13273	.00000	.06251	.07563	.00000	.00000	.00000	.69074	.00000	.00000	.00000
1500	.00828	.00001	.03112	.13170	.00000	.06150	.07665	.00000	.00000	.00000	.69074	.00000	.00000	.00000
1520	.00828	.00001	.03213	.13069	.00000	.06050	.07765	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1540	.00828	.00000	.03312	.12970	.00000	.05951	.07864	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1560	.00828	.00000	.03410	.12873	.00000	.05854	.07961	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1580	.00828	.00000	.03505	.12777	.00000	.05759	.08057	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1600	.00828	.00000	.03599	.12684	.00000	.05666	.08150	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1620	.00828	.00000	.03691	.12592	.00000	.05574	.08242	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1640	.00828	.00000	.03780	.12502	.00000	.05484	.08332	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1660	.00828	.00000	.03868	.12415	.00000	.05397	.08419	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1680	.00828	.00000	.03954	.12329	.00000	.05311	.08505	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1700	.00828	.00000	.04038	.12245	.00000	.05227	.08589	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1720	.00828	.00000	.04120	.12162	.00000	.05145	.08672	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1740	.00828	.00000	.04201	.12082	.00000	.05064	.08752	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1760	.00828	.00000	.04279	.12004	.00000	.04986	.08830	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1780	.00828	.00000	.04356	.11927	.00000	.04909	.08907	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1800	.00828	.00000	.04430	.11852	.00000	.04834	.08982	.00000	.00000	.00000	.69073	.00000	.00000	.00000
1900	.00828	.00000	.04779	.11504	.00000	.04486	.09330	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2000	.00828	.00000	.05087	.11196	.00000	.04178	.09638	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2100	.00828	.00000	.05360	.10923	.00000	.03905	.09911	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2200	.00828	.00000	.05601	.10682	.00000	.03664	.10152	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2300	.00828	.00000	.05815	.10468	.00000	.03451	.10366	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2400	.00828	.00000	.06004	.10279	.00000	.03261	.10555	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2500	.00828	.00000	.06173	.10110	.00000	.03092	.10724	.00000	.00000	.00000	.69072	.00000	.00000	.00000

TABLE 6.2D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00828	.00000	.06323	.09959	.00000	.02942	.10874	.00000	.00000	.00000	.69072	.00000	.00000	.00000
2700	.00828	.00000	.06458	.09825	.00001	.02807	.11009	.00000	.00000	.00000	.69072	.00000	.00000	.00000
2800	.00828	.00000	.06578	.09704	.00002	.02686	.11129	.00000	.00000	.00000	.69072	.00000	.00000	.00000
2900	.00828	.00000	.06687	.09596	.00003	.02577	.11237	.00000	.00000	.00000	.69071	.00000	.00001	.00000
3000	.00828	.00000	.06784	.09498	.00005	.02478	.11334	.00000	.00000	.00000	.69070	.00000	.00001	.00000
3100	.00828	.00000	.06873	.09409	.00009	.02389	.11421	.00000	.00000	.00000	.69069	.00000	.00002	.00000
3200	.00828	.00000	.06952	.09329	.00014	.02308	.11498	.00000	.00000	.00001	.69066	.00000	.00005	.00000
3300	.00828	.00000	.07025	.09255	.00022	.02233	.11566	.00000	.00000	.00001	.69061	.00000	.00008	.00000
3400	.00828	.00000	.07092	.09187	.00034	.02165	.11623	.00000	.00000	.00002	.69053	.00000	.00015	.00000
3500	.00828	.00000	.07153	.09122	.00050	.02103	.11670	.00000	.00000	.00005	.69041	.00000	.00026	.00001
3600	.00828	.00000	.07213	.09059	.00073	.02046	.11704	.00000	.00000	.00009	.69023	.00001	.00043	.00003
3700	.00828	.00000	.07274	.08992	.00104	.01995	.11720	.00000	.00000	.00015	.68993	.00003	.00069	.00006
3800	.00827	.00000	.07342	.08915	.00147	.01951	.11715	.00000	.00000	.00027	.68948	.00006	.00109	.00015
3900	.00826	.00000	.07426	.08816	.00202	.01917	.11680	.00000	.00000	.00045	.68877	.00012	.00167	.00031
4000	.00825	.00000	.07541	.08679	.00276	.01898	.11603	.00000	.00000	.00072	.68770	.00025	.00249	.00063
4100	.00824	.00000	.07705	.08482	.00373	.01899	.11469	.00000	.00000	.00111	.68609	.00048	.00360	.00120
4200	.00821	.00000	.07936	.08202	.00501	.01927	.11265	.00000	.00000	.00166	.68378	.00087	.00504	.00213
4300	.00818	.00000	.08247	.07825	.00668	.01987	.10975	.00000	.00000	.00235	.68062	.00151	.00683	.00347
4400	.00813	.00000	.08637	.07348	.00888	.02082	.10590	.00000	.00000	.00320	.67651	.00249	.00896	.00525
4500	.00808	.00000	.09091	.06785	.01175	.02208	.10107	.00000	.00000	.00417	.67141	.00391	.01138	.00738
4600	.00801	.00000	.09586	.06161	.01542	.02361	.09527	.00000	.00000	.00524	.66535	.00587	.01403	.00973
4700	.00793	.00000	.10092	.05502	.02008	.02530	.08858	.00000	.00000	.00637	.65836	.00848	.01682	.01213
4800	.00785	.00000	.10585	.04838	.02586	.02705	.08107	.00000	.00000	.00753	.65050	.01183	.01963	.01444
4900	.00775	.00000	.11041	.04192	.03290	.02871	.07292	.00000	.00000	.00869	.64183	.01601	.02235	.01651
5000	.00764	.00000	.11444	.03581	.04127	.03014	.06430	.00001	.00000	.00981	.63246	.02109	.02481	.01820
5100	.00753	.00000	.11782	.03020	.05101	.03119	.05547	.00001	.00000	.01086	.62249	.02710	.02688	.01944
5200	.00741	.00000	.12052	.02516	.06202	.03170	.04670	.00002	.00000	.01180	.61209	.03402	.02840	.02015
5300	.00729	.00000	.12254	.02073	.07413	.03158	.03829	.00002	.00000	.01261	.60145	.04178	.02926	.02032
5400	.00717	.00000	.12394	.01690	.08705	.03076	.03052	.00003	.00000	.01325	.59079	.05027	.02938	.01994

TABLE 6.3D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
380	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
400	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
420	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
440	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
460	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
480	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
500	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
520	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
537	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
540	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
560	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.00000	.72428	.00000	.00000	.00000
580	.00869	.02429	.00000	.14645	.00000	.00000	.00001	.09629	.00000	.00000	.00000	.72427	.00000	.00000	.00000
600	.00869	.02428	.00000	.14645	.00000	.00000	.00001	.09629	.00000	.00000	.00000	.72427	.00000	.00000	.00000
620	.00869	.02428	.00000	.14645	.00000	.00000	.00002	.09628	.00000	.00000	.00000	.72427	.00000	.00000	.00000
640	.00869	.02428	.00000	.14646	.00000	.00000	.00003	.09628	.00000	.00001	.00000	.72427	.00000	.00000	.00000
660	.00869	.02427	.00000	.14646	.00000	.00000	.00005	.09627	.00000	.00001	.00000	.72426	.00000	.00000	.00000
680	.00869	.02427	.00000	.14646	.00000	.00000	.00007	.09625	.00000	.00001	.00000	.72425	.00000	.00000	.00000
700	.00869	.02426	.00000	.14647	.00000	.00000	.00011	.09623	.00000	.00001	.00000	.72424	.00000	.00000	.00000
720	.00869	.02424	.00000	.14648	.00000	.00000	.00015	.09621	.00000	.00001	.00000	.72422	.00000	.00000	.00000
740	.00869	.02423	.00000	.14649	.00000	.00000	.00022	.09617	.00000	.00001	.00000	.72420	.00000	.00000	.00000
760	.00869	.02420	.00000	.14651	.00000	.00000	.00030	.09612	.00000	.00001	.00000	.72416	.00000	.00000	.00000
780	.00868	.02417	.00000	.14653	.00000	.00000	.00041	.09606	.00000	.00001	.00000	.72412	.00000	.00000	.00000
800	.00868	.02414	.00000	.14655	.00000	.00000	.00055	.09598	.00000	.00002	.00000	.72407	.00000	.00000	.00000
820	.00868	.02409	.00000	.14658	.00000	.00000	.00074	.09588	.00000	.00002	.00000	.72401	.00000	.00000	.00000
840	.00868	.02403	.00001	.14662	.00000	.00000	.00096	.09576	.00000	.00002	.00000	.72392	.00000	.00000	.00000
860	.00868	.02395	.00001	.14667	.00000	.00000	.00125	.09560	.00000	.00002	.00000	.72382	.00000	.00000	.00000
880	.00868	.02386	.00001	.14673	.00000	.00000	.00160	.09541	.00000	.00002	.00000	.72369	.00000	.00000	.00000
900	.00868	.02374	.00002	.14680	.00000	.00000	.00202	.09518	.00000	.00002	.00000	.72353	.00000	.00000	.00000
920	.00868	.02360	.00004	.14688	.00000	.00000	.00254	.09490	.00000	.00003	.00000	.72334	.00000	.00000	.00000
940	.00867	.02344	.00005	.14697	.00000	.00000	.00315	.09458	.00000	.00003	.00000	.72311	.00000	.00000	.00000
960	.00867	.02324	.00008	.14708	.00000	.00000	.00387	.09419	.00000	.00003	.00000	.72284	.00000	.00000	.00000
980	.00867	.02301	.00012	.14720	.00000	.00000	.00472	.09374	.00000	.00003	.00000	.72252	.00000	.00000	.00000
1000	.00866	.02274	.00017	.14733	.00000	.00000	.00570	.09322	.00000	.00003	.00000	.72214	.00000	.00000	.00000
1020	.00866	.02242	.00024	.14747	.00000	.00000	.00684	.09263	.00000	.00004	.00000	.72170	.00000	.00000	.00000
1040	.00865	.02205	.00034	.14762	.00000	.00000	.00813	.09197	.00000	.00004	.00000	.72120	.00000	.00000	.00000
1060	.00864	.02163	.00047	.14777	.00000	.00000	.00960	.09122	.00000	.00004	.00000	.72062	.00000	.00000	.00000
1080	.00864	.02115	.00065	.14792	.00000	.00000	.01125	.09039	.00000	.00004	.00000	.71995	.00000	.00000	.00000
1100	.00863	.02061	.00088	.14806	.00000	.00000	.01309	.08949	.00000	.00004	.00000	.71920	.00000	.00000	.00000
1120	.00862	.02000	.00118	.14817	.00000	.00000	.01513	.08850	.00000	.00005	.00000	.71836	.00000	.00000	.00000
1140	.00860	.01931	.00156	.14825	.00000	.00000	.01737	.08745	.00000	.00005	.00000	.71741	.00000	.00000	.00000

TABLE 6.3D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00859	.01854	.00205	.14828	.00000	.00000	.01980	.08633	.00000	.00005	.00000	.71635	.00000	.00000	.00000
1180	.00858	.01769	.00265	.14825	.00000	.00000	.02243	.08517	.00000	.00005	.00000	.71518	.00000	.00000	.00000
1200	.00856	.01676	.00340	.14813	.00000	.00000	.02524	.08396	.00000	.00005	.00000	.71389	.00000	.00000	.00000
1220	.00855	.01574	.00431	.14791	.00000	.00000	.02823	.08274	.00000	.00005	.00000	.71248	.00000	.00000	.00000
1240	.00853	.01463	.00541	.14756	.00000	.00000	.03136	.08152	.00000	.00005	.00000	.71095	.00000	.00000	.00000
1260	.00851	.01344	.00671	.14706	.00000	.00000	.03461	.08032	.00000	.00005	.00000	.70930	.00000	.00000	.00000
1280	.00849	.01217	.00822	.14641	.00000	.00000	.03794	.07918	.00000	.00005	.00000	.70754	.00000	.00000	.00000
1300	.00846	.01083	.00995	.14558	.00000	.00000	.04131	.07812	.00000	.00005	.00000	.70570	.00000	.00000	.00000
1320	.00844	.00945	.01188	.14458	.00000	.00000	.04463	.07717	.00000	.00005	.00000	.70380	.00000	.00000	.00000
1340	.00842	.00806	.01400	.14340	.00000	.00000	.04784	.07636	.00000	.00005	.00000	.70187	.00000	.00000	.00000
1360	.00840	.00668	.01624	.14209	.00000	.00000	.05085	.07573	.00000	.00005	.00000	.69997	.00000	.00000	.00000
1380	.00837	.00537	.01855	.14066	.00000	.00000	.05354	.07530	.00000	.00004	.00000	.69816	.00000	.00000	.00000
1400	.00835	.00417	.02085	.13917	.00000	.00000	.05583	.07509	.00000	.00004	.00000	.69650	.00000	.00000	.00000
1420	.00834	.00312	.02307	.13766	.00000	.00000	.05761	.07511	.00000	.00004	.00000	.69505	.00000	.00000	.00000
1440	.00832	.00226	.02513	.13618	.00000	.00000	.05886	.07536	.00000	.00004	.00000	.69385	.00000	.00000	.00000
1460	.00831	.00158	.02699	.13477	.00000	.00000	.05959	.07581	.00000	.00003	.00000	.69291	.00000	.00000	.00000
1480	.00830	.00108	.02866	.13345	.00000	.00000	.05984	.07642	.00000	.00003	.00000	.69222	.00000	.00000	.00000
1500	.00830	.00072	.03014	.13221	.00000	.00000	.05972	.07716	.00000	.00003	.00000	.69173	.00000	.00000	.00000
1520	.00829	.00048	.03146	.13104	.00000	.00000	.05933	.07798	.00000	.00002	.00000	.69139	.00000	.00000	.00000
1540	.00829	.00032	.03267	.12994	.00000	.00000	.05874	.07885	.00000	.00002	.00000	.69117	.00000	.00000	.00000
1560	.00829	.00021	.03379	.12890	.00000	.00000	.05804	.07974	.00000	.00002	.00000	.69102	.00000	.00000	.00000
1580	.00829	.00014	.03485	.12789	.00000	.00000	.05726	.08065	.00000	.00002	.00000	.69092	.00000	.00000	.00000
1600	.00829	.00009	.03585	.12692	.00000	.00000	.05643	.08155	.00000	.00002	.00000	.69085	.00000	.00000	.00000
1620	.00829	.00006	.03681	.12598	.00000	.00000	.05559	.08245	.00000	.00001	.00000	.69081	.00000	.00000	.00000
1640	.00828	.00004	.03774	.12507	.00000	.00000	.05474	.08333	.00000	.00001	.00000	.69078	.00000	.00000	.00000
1660	.00828	.00003	.03863	.12418	.00000	.00000	.05390	.08421	.00000	.00001	.00000	.69077	.00000	.00000	.00000
1680	.00828	.00002	.03951	.12331	.00000	.00000	.05306	.08506	.00000	.00001	.00000	.69075	.00000	.00000	.00000
1700	.00828	.00001	.04036	.12246	.00000	.00000	.05223	.08590	.00000	.00001	.00000	.69075	.00000	.00000	.00000
1720	.00828	.00001	.04119	.12164	.00000	.00000	.05142	.08672	.00000	.00001	.00000	.69074	.00000	.00000	.00000
1740	.00828	.00001	.04199	.12083	.00000	.00000	.05062	.08752	.00000	.00001	.00000	.69074	.00000	.00000	.00000
1760	.00828	.00000	.04278	.12004	.00000	.00000	.04984	.08830	.00000	.00001	.00000	.69073	.00000	.00000	.00000
1780	.00828	.00000	.04355	.11928	.00000	.00000	.04908	.08907	.00000	.00001	.00000	.69073	.00000	.00000	.00000
1800	.00828	.00000	.04430	.11853	.00000	.00000	.04834	.08982	.00000	.00001	.00000	.69073	.00000	.00000	.00000
1900	.00828	.00000	.04779	.11504	.00000	.00000	.04486	.09330	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2000	.00828	.00000	.05087	.11196	.00000	.00000	.04178	.09638	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2100	.00828	.00000	.05360	.10923	.00000	.00000	.03905	.09911	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2200	.00828	.00000	.05601	.10682	.00000	.00000	.03664	.10152	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2300	.00828	.00000	.05814	.10468	.00000	.00000	.03450	.10366	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2400	.00828	.00000	.06004	.10279	.00000	.00000	.03261	.10555	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2500	.00828	.00000	.06173	.10110	.00000	.00000	.03092	.10724	.00000	.00000	.00000	.69073	.00000	.00000	.00000

TABLE 6.3D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00828	.00000	.06323	.09959	.00000	.00000	.02942	.10875	.00000	.00000	.00000	.69073	.00000	.00000	.00000
2700	.00828	.00000	.06458	.09825	.00000	.00000	.02807	.11009	.00000	.00000	.00000	.69072	.00000	.00000	.00000
2800	.00828	.00000	.06579	.09704	.00001	.00000	.02686	.11130	.00000	.00000	.00000	.69072	.00000	.00000	.00000
2900	.00828	.00000	.06687	.09595	.00001	.00000	.02577	.11238	.00000	.00000	.00000	.69072	.00000	.00000	.00000
3000	.00828	.00000	.06785	.09497	.00002	.00000	.02479	.11336	.00000	.00000	.00000	.69072	.00000	.00000	.00000
3100	.00828	.00000	.06874	.09409	.00003	.00000	.02390	.11424	.00000	.00000	.00000	.69071	.00000	.00001	.00000
3200	.00828	.00000	.06954	.09328	.00004	.00000	.02309	.11504	.00000	.00000	.00000	.69070	.00000	.00001	.00000
3300	.00828	.00000	.07027	.09255	.00007	.00000	.02236	.11575	.00000	.00000	.00000	.69069	.00000	.00003	.00000
3400	.00828	.00000	.07094	.09188	.00011	.00000	.02168	.11639	.00000	.00000	.00001	.69067	.00000	.00005	.00000
3500	.00828	.00000	.07155	.09126	.00016	.00000	.02107	.11696	.00000	.00000	.00001	.69063	.00000	.00008	.00000
3600	.00828	.00000	.07211	.09068	.00023	.00000	.02050	.11745	.00000	.00000	.00003	.69057	.00000	.00014	.00000
3700	.00828	.00000	.07264	.09013	.00033	.00000	.01999	.11786	.00000	.00000	.00005	.69049	.00000	.00022	.00001
3800	.00828	.00000	.07316	.08959	.00046	.00000	.01951	.11818	.00000	.00000	.00009	.69036	.00001	.00035	.00001
3900	.00828	.00000	.07367	.08904	.00064	.00000	.01909	.11839	.00000	.00000	.00014	.69017	.00001	.00054	.00003
4000	.00828	.00000	.07421	.08845	.00087	.00000	.01871	.11847	.00000	.00000	.00024	.68988	.00003	.00081	.00007
4100	.00827	.00000	.07483	.08775	.00116	.00000	.01840	.11838	.00000	.00000	.00038	.68947	.00005	.00119	.00014
4200	.00827	.00000	.07558	.08687	.00154	.00000	.01816	.11806	.00000	.00000	.00058	.68886	.00010	.00172	.00026
4300	.00826	.00000	.07656	.08573	.00201	.00000	.01802	.11746	.00000	.00000	.00088	.68799	.00018	.00243	.00048
4400	.00824	.00000	.07786	.08418	.00261	.00000	.01802	.11650	.00000	.00000	.00130	.68677	.00032	.00335	.00085
4500	.00823	.00000	.07960	.08212	.00337	.00000	.01819	.11508	.00000	.00000	.00184	.68510	.00054	.00452	.00141
4600	.00821	.00000	.08186	.07942	.00433	.00000	.01857	.11314	.00000	.00000	.00253	.68289	.00089	.00594	.00222
4700	.00818	.00000	.08467	.07604	.00553	.00000	.01918	.11061	.00000	.00000	.00337	.68009	.00140	.00763	.00329
4800	.00814	.00000	.08801	.07201	.00704	.00000	.02003	.10745	.00000	.00000	.00435	.67666	.00212	.00956	.00463
4900	.00810	.00000	.09179	.06741	.00892	.00000	.02110	.10366	.00000	.00000	.00544	.67259	.00310	.01172	.00618
5000	.00805	.00000	.09585	.06238	.01124	.00000	.02237	.09924	.00000	.00000	.00663	.66791	.00439	.01406	.00787
5100	.00799	.00000	.10004	.05710	.01409	.00000	.02380	.09423	.00000	.00000	.00789	.66265	.00603	.01653	.00964
5200	.00793	.00000	.10422	.05171	.01753	.00001	.02533	.08867	.00001	.00000	.00919	.65686	.00808	.01908	.01138
5300	.00787	.00000	.10823	.04637	.02164	.00001	.02690	.08264	.00001	.00000	.01050	.65058	.01058	.02163	.01303
5400	.00779	.00000	.11196	.04121	.02648	.00001	.02846	.07621	.00001	.00000	.01181	.64385	.01357	.02412	.01453

TABLE 6.4D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
380	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
400	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
420	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
440	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
460	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
480	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
500	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
520	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
537	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
540	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
560	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
580	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09629	.00001	.00000	.72428	.00000	.00000	.00000
600	.00869	.02428	.00000	.14645	.00000	.00000	.00000	.09629	.00001	.00000	.72427	.00000	.00000	.00000
620	.00869	.02428	.00000	.14645	.00000	.00000	.00001	.09629	.00001	.00000	.72427	.00000	.00000	.00000
640	.00869	.02428	.00000	.14645	.00000	.00000	.00001	.09629	.00001	.00000	.72427	.00000	.00000	.00000
660	.00869	.02428	.00000	.14646	.00000	.00000	.00002	.09628	.00001	.00000	.72427	.00000	.00000	.00000
680	.00869	.02428	.00000	.14646	.00000	.00000	.00002	.09628	.00001	.00000	.72427	.00000	.00000	.00000
700	.00869	.02427	.00000	.14646	.00000	.00000	.00003	.09627	.00002	.00000	.72426	.00000	.00000	.00000
720	.00869	.02427	.00000	.14646	.00000	.00000	.00005	.09626	.00002	.00000	.72425	.00000	.00000	.00000
740	.00869	.02426	.00000	.14647	.00000	.00000	.00007	.09625	.00002	.00000	.72425	.00000	.00000	.00000
760	.00869	.02425	.00000	.14647	.00000	.00000	.00010	.09623	.00002	.00000	.72424	.00000	.00000	.00000
780	.00869	.02424	.00000	.14648	.00000	.00000	.00013	.09621	.00003	.00000	.72422	.00000	.00000	.00000
800	.00869	.02423	.00000	.14649	.00000	.00000	.00018	.09618	.00003	.00000	.72421	.00000	.00000	.00000
820	.00869	.02421	.00000	.14650	.00000	.00000	.00023	.09615	.00003	.00000	.72418	.00000	.00000	.00000
840	.00869	.02419	.00000	.14652	.00000	.00000	.00031	.09611	.00003	.00000	.72416	.00000	.00000	.00000
860	.00868	.02417	.00000	.14653	.00000	.00000	.00040	.09606	.00004	.00000	.72412	.00000	.00000	.00000
880	.00868	.02414	.00000	.14655	.00000	.00000	.00051	.09599	.00004	.00000	.72408	.00000	.00000	.00000
900	.00868	.02410	.00001	.14658	.00000	.00000	.00065	.09592	.00004	.00000	.72403	.00000	.00000	.00000
920	.00868	.02405	.00001	.14660	.00000	.00000	.00081	.09582	.00005	.00000	.72397	.00000	.00000	.00000
940	.00868	.02400	.00002	.14663	.00000	.00000	.00101	.09572	.00005	.00000	.72389	.00000	.00000	.00000
960	.00868	.02393	.00003	.14667	.00000	.00000	.00124	.09559	.00006	.00000	.72380	.00000	.00000	.00000
980	.00868	.02386	.00004	.14671	.00000	.00000	.00152	.09544	.00006	.00000	.72369	.00000	.00000	.00000
1000	.00868	.02377	.00005	.14676	.00000	.00000	.00185	.09526	.00006	.00000	.72357	.00000	.00000	.00000
1020	.00868	.02366	.00008	.14681	.00000	.00000	.00222	.09507	.00007	.00000	.72342	.00000	.00000	.00000
1040	.00867	.02354	.00011	.14686	.00000	.00000	.00266	.09484	.00007	.00000	.72325	.00000	.00000	.00000
1060	.00867	.02339	.00015	.14692	.00000	.00000	.00316	.09458	.00008	.00000	.72306	.00000	.00000	.00000
1080	.00867	.02323	.00020	.14697	.00000	.00000	.00373	.09429	.00008	.00000	.72283	.00000	.00000	.00000
1100	.00867	.02304	.00028	.14703	.00000	.00000	.00437	.09397	.00009	.00000	.72257	.00000	.00000	.00000
1120	.00866	.02282	.00037	.14708	.00000	.00000	.00510	.09361	.00009	.00000	.72227	.00000	.00000	.00000
1140	.00866	.02257	.00049	.14712	.00000	.00000	.00591	.09322	.00009	.00000	.72193	.00000	.00000	.00000

TABLE 6.4D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00865	.02230	.00065	.14716	.00000	.00000	.00681	.09279	.00010	.00000	.72155	.00000	.00000	.00000
1180	.00865	.02198	.00085	.14718	.00000	.00000	.00781	.09233	.00010	.00000	.72111	.00000	.00000	.00000
1200	.00864	.02163	.00109	.14717	.00000	.00000	.00891	.09183	.00011	.00000	.72062	.00000	.00000	.00000
1220	.00864	.02123	.00139	.14714	.00000	.00000	.01012	.09130	.00011	.00000	.72007	.00000	.00000	.00000
1240	.00863	.02079	.00177	.14706	.00000	.00000	.01143	.09075	.00011	.00000	.71946	.00000	.00000	.00000
1260	.00862	.02029	.00222	.14694	.00000	.00000	.01286	.09017	.00012	.00000	.71878	.00000	.00000	.00000
1280	.00861	.01974	.00276	.14677	.00000	.00000	.01440	.08957	.00012	.00000	.71803	.00000	.00000	.00000
1300	.00860	.01914	.00342	.14652	.00000	.00000	.01604	.08896	.00012	.00000	.71719	.00000	.00000	.00000
1320	.00859	.01848	.00419	.14620	.00000	.00000	.01780	.08834	.00013	.00000	.71627	.00000	.00000	.00000
1340	.00858	.01775	.00509	.14579	.00000	.00000	.01967	.08772	.00013	.00000	.71527	.00000	.00000	.00000
1360	.00857	.01695	.00614	.14527	.00000	.00000	.02165	.08712	.00013	.00000	.71417	.00000	.00000	.00000
1380	.00855	.01610	.00735	.14464	.00000	.00000	.02371	.08653	.00013	.00000	.71299	.00000	.00000	.00000
1400	.00854	.01517	.00873	.14389	.00000	.00000	.02587	.08597	.00013	.00000	.71171	.00000	.00000	.00000
1420	.00852	.01418	.01027	.14301	.00000	.00000	.02809	.08544	.00013	.00000	.71034	.00000	.00000	.00000
1440	.00850	.01313	.01199	.14200	.00000	.00000	.03038	.08497	.00014	.00000	.70889	.00000	.00000	.00000
1460	.00848	.01203	.01388	.14086	.00000	.00000	.03269	.08455	.00013	.00000	.70737	.00000	.00000	.00000
1480	.00847	.01089	.01592	.13959	.00000	.00000	.03502	.08420	.00013	.00000	.70579	.00000	.00000	.00000
1500	.00845	.00972	.01809	.13820	.00000	.00000	.03731	.08393	.00013	.00000	.70417	.00000	.00000	.00000
1520	.00843	.00854	.02037	.13672	.00000	.00000	.03954	.08374	.00013	.00000	.70254	.00000	.00000	.00000
1540	.00841	.00737	.02272	.13516	.00000	.00000	.04165	.08364	.00013	.00000	.70093	.00000	.00000	.00000
1560	.00839	.00624	.02508	.13356	.00000	.00000	.04361	.08364	.00012	.00000	.69936	.00000	.00000	.00000
1580	.00837	.00517	.02742	.13194	.00000	.00000	.04535	.08374	.00012	.00000	.69789	.00000	.00000	.00000
1600	.00835	.00419	.02968	.13034	.00000	.00000	.04684	.08395	.00011	.00000	.69653	.00000	.00000	.00000
1620	.00834	.00331	.03182	.12879	.00000	.00000	.04804	.08427	.00011	.00000	.69533	.00000	.00000	.00000
1640	.00833	.00257	.03379	.12732	.00000	.00000	.04892	.08468	.00010	.00000	.69429	.00000	.00000	.00000
1660	.00832	.00195	.03558	.12595	.00000	.00000	.04950	.08517	.00009	.00000	.69343	.00000	.00000	.00000
1680	.00831	.00145	.03719	.12467	.00000	.00000	.04980	.08574	.00009	.00000	.69275	.00000	.00000	.00000
1700	.00830	.00107	.03862	.12350	.00000	.00000	.04984	.08637	.00008	.00000	.69222	.00000	.00000	.00000
1720	.00830	.00078	.03990	.12241	.00000	.00000	.04968	.08704	.00007	.00000	.69181	.00000	.00000	.00000
1740	.00829	.00056	.04105	.12141	.00000	.00000	.04937	.08774	.00007	.00000	.69151	.00000	.00000	.00000
1760	.00829	.00040	.04209	.12048	.00000	.00000	.04894	.08845	.00006	.00000	.69130	.00000	.00000	.00000
1780	.00829	.00029	.04304	.11960	.00000	.00000	.04842	.08916	.00006	.00000	.69114	.00000	.00000	.00000
1800	.00829	.00021	.04392	.11877	.00000	.00000	.04786	.08987	.00005	.00000	.69103	.00000	.00000	.00000
1900	.00829	.00004	.04770	.11511	.00000	.00000	.04475	.09330	.00003	.00000	.69079	.00000	.00000	.00000
2000	.00828	.00001	.05084	.11198	.00000	.00000	.04174	.09638	.00002	.00000	.69074	.00000	.00000	.00000
2100	.00828	.00000	.05358	.10924	.00000	.00000	.03904	.09910	.00001	.00000	.69073	.00000	.00000	.00000
2200	.00828	.00000	.05600	.10683	.00000	.00000	.03663	.10152	.00001	.00000	.69073	.00000	.00000	.00000
2300	.00828	.00000	.05814	.10469	.00000	.00000	.03450	.10365	.00001	.00000	.69073	.00000	.00000	.00000
2400	.00828	.00000	.06004	.10279	.00000	.00000	.03260	.10555	.00001	.00000	.69073	.00000	.00000	.00000
2500	.00828	.00000	.06173	.10110	.00000	.00000	.03092	.10724	.00000	.00000	.69073	.00000	.00000	.00000

TABLE 6.4D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00828	.00000	.06323	.09960	.00000	.00000	.02941	.10874	.00000	.00000	.69073	.00000	.00000	.00000
2700	.00828	.00000	.06458	.09825	.00000	.00000	.02807	.11009	.00000	.00000	.69073	.00000	.00000	.00000
2800	.00828	.00000	.06579	.09704	.00000	.00000	.02686	.11130	.00000	.00000	.69073	.00000	.00000	.00000
2900	.00828	.00000	.06687	.09595	.00000	.00000	.02577	.11239	.00000	.00000	.69072	.00000	.00000	.00000
3000	.00828	.00000	.06785	.09497	.00001	.00000	.02479	.11337	.00000	.00000	.69072	.00000	.00000	.00000
3100	.00828	.00000	.06874	.09409	.00001	.00000	.02390	.11425	.00000	.00000	.69072	.00000	.00000	.00000
3200	.00828	.00000	.06955	.09328	.00001	.00000	.02310	.11505	.00000	.00000	.69072	.00000	.00000	.00000
3300	.00828	.00000	.07028	.09255	.00002	.00000	.02236	.11578	.00000	.00000	.69071	.00000	.00001	.00000
3400	.00828	.00000	.07094	.09188	.00003	.00000	.02170	.11644	.00000	.00000	.69071	.00000	.00001	.00000
3500	.00828	.00000	.07156	.09127	.00005	.00000	.02108	.11704	.00000	.00000	.69070	.00000	.00003	.00000
3600	.00828	.00000	.07212	.09070	.00007	.00000	.02052	.11757	.00000	.00001	.69068	.00000	.00004	.00000
3700	.00828	.00000	.07263	.09018	.00010	.00000	.02001	.11806	.00000	.00002	.69065	.00000	.00007	.00000
3800	.00828	.00000	.07312	.08969	.00015	.00000	.01953	.11848	.00000	.00003	.69061	.00000	.00011	.00000
3900	.00828	.00000	.07357	.08922	.00020	.00000	.01910	.11885	.00000	.00005	.69056	.00000	.00017	.00000
4000	.00828	.00000	.07401	.08877	.00027	.00000	.01870	.11915	.00000	.00008	.69047	.00000	.00026	.00001
4100	.00828	.00000	.07443	.08832	.00037	.00000	.01834	.11939	.00000	.00012	.69035	.00001	.00038	.00001
4200	.00828	.00000	.07487	.08785	.00048	.00000	.01801	.11954	.00000	.00019	.69018	.00001	.00055	.00003
4300	.00828	.00000	.07533	.08734	.00063	.00000	.01772	.11960	.00000	.00029	.68994	.00002	.00079	.00005
4400	.00827	.00000	.07585	.08676	.00081	.00000	.01748	.11954	.00000	.00043	.68961	.00003	.00110	.00009
4500	.00827	.00000	.07646	.08607	.00104	.00000	.01729	.11934	.00000	.00064	.68915	.00006	.00152	.00017
4600	.00826	.00000	.07721	.08521	.00132	.00000	.01717	.11896	.00000	.00092	.68852	.00010	.00205	.00029
4700	.00826	.00000	.07814	.08412	.00165	.00000	.01713	.11837	.00000	.00129	.68768	.00017	.00273	.00047
4800	.00825	.00000	.07933	.08273	.00206	.00000	.01718	.11751	.00000	.00177	.68658	.00027	.00357	.00075
4900	.00823	.00000	.08082	.08098	.00256	.00000	.01736	.11636	.00000	.00237	.68517	.00042	.00459	.00115
5000	.00821	.00000	.08265	.07881	.00316	.00000	.01767	.11486	.00000	.00311	.68339	.00064	.00579	.00169
5100	.00819	.00000	.08486	.07620	.00389	.00000	.01814	.11299	.00000	.00398	.68123	.00095	.00718	.00239
5200	.00817	.00000	.08742	.07315	.00477	.00000	.01876	.11073	.00000	.00498	.67867	.00136	.00875	.00324
5300	.00814	.00000	.09031	.06969	.00583	.00001	.01953	.10806	.00000	.00609	.67569	.00191	.01050	.00423
5400	.00811	.00000	.09345	.06590	.00710	.00001	.02046	.10500	.00000	.00731	.67233	.00260	.01240	.00533

TABLE 6.5D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
380	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
400	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
420	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
440	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
460	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
480	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
500	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
520	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09630	.00000	.00000	.72428	.00000	.00000	.00000
537	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09629	.00001	.00000	.72428	.00000	.00000	.00000
540	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09629	.00001	.00000	.72428	.00000	.00000	.00000
560	.00869	.02429	.00000	.14645	.00000	.00000	.00000	.09629	.00001	.00000	.72428	.00000	.00000	.00000
580	.00869	.02428	.00000	.14645	.00000	.00000	.00000	.09629	.00001	.00000	.72427	.00000	.00000	.00000
600	.00869	.02428	.00000	.14645	.00000	.00000	.00000	.09629	.00001	.00000	.72427	.00000	.00000	.00000
620	.00869	.02428	.00000	.14645	.00000	.00000	.00000	.09629	.00001	.00000	.72427	.00000	.00000	.00000
640	.00869	.02428	.00000	.14646	.00000	.00000	.00000	.09629	.00001	.00000	.72427	.00000	.00000	.00000
660	.00869	.02428	.00000	.14646	.00000	.00000	.00001	.09628	.00002	.00000	.72427	.00000	.00000	.00000
680	.00869	.02428	.00000	.14646	.00000	.00000	.00001	.09628	.00002	.00000	.72427	.00000	.00000	.00000
700	.00869	.02428	.00000	.14646	.00000	.00000	.00002	.09627	.00002	.00000	.72427	.00000	.00000	.00000
720	.00869	.02427	.00000	.14646	.00000	.00000	.00002	.09627	.00003	.00000	.72426	.00000	.00000	.00000
740	.00869	.02427	.00000	.14647	.00000	.00000	.00003	.09626	.00003	.00000	.72426	.00000	.00000	.00000
760	.00869	.02426	.00000	.14647	.00000	.00000	.00004	.09625	.00003	.00000	.72425	.00000	.00000	.00000
780	.00869	.02426	.00000	.14647	.00000	.00000	.00006	.09624	.00004	.00000	.72425	.00000	.00000	.00000
800	.00869	.02425	.00000	.14648	.00000	.00000	.00008	.09623	.00004	.00000	.72424	.00000	.00000	.00000
820	.00869	.02424	.00000	.14649	.00000	.00000	.00010	.09621	.00005	.00000	.72423	.00000	.00000	.00000
840	.00869	.02423	.00000	.14649	.00000	.00000	.00014	.09619	.00005	.00000	.72421	.00000	.00000	.00000
860	.00869	.02422	.00000	.14650	.00000	.00000	.00018	.09616	.00006	.00000	.72420	.00000	.00000	.00000
880	.00869	.02420	.00000	.14651	.00000	.00000	.00023	.09613	.00006	.00000	.72418	.00000	.00000	.00000
900	.00869	.02419	.00000	.14652	.00000	.00000	.00029	.09609	.00007	.00000	.72415	.00000	.00000	.00000
920	.00869	.02416	.00000	.14654	.00000	.00000	.00036	.09605	.00007	.00000	.72412	.00000	.00000	.00000
940	.00868	.02414	.00001	.14655	.00000	.00000	.00045	.09600	.00008	.00000	.72409	.00000	.00000	.00000
960	.00868	.02411	.00001	.14657	.00000	.00000	.00056	.09594	.00008	.00000	.72405	.00000	.00000	.00000
980	.00868	.02407	.00002	.14659	.00000	.00000	.00068	.09587	.00009	.00000	.72400	.00000	.00000	.00000
1000	.00868	.02403	.00002	.14662	.00000	.00000	.00083	.09578	.00010	.00000	.72394	.00000	.00000	.00000
1020	.00868	.02398	.00003	.14664	.00000	.00000	.00100	.09569	.00010	.00000	.72387	.00000	.00000	.00000
1040	.00868	.02392	.00005	.14667	.00000	.00000	.00120	.09558	.00011	.00000	.72379	.00000	.00000	.00000
1060	.00868	.02385	.00007	.14669	.00000	.00000	.00143	.09546	.00012	.00000	.72370	.00000	.00000	.00000
1080	.00868	.02378	.00009	.14672	.00000	.00000	.00169	.09533	.00012	.00000	.72360	.00000	.00000	.00000
1100	.00868	.02369	.00012	.14675	.00000	.00000	.00198	.09517	.00013	.00000	.72347	.00000	.00000	.00000
1120	.00868	.02359	.00017	.14678	.00000	.00000	.00232	.09500	.00014	.00000	.72334	.00000	.00000	.00000
1140	.00867	.02347	.00022	.14680	.00000	.00000	.00269	.09482	.00014	.00000	.72318	.00000	.00000	.00000

TABLE 6.5D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00867	.02334	.00029	.14682	.00000	.00000	.00311	.09461	.00015	.00000	.72300	.00000	.00000	.00000
1180	.00867	.02319	.00038	.14684	.00000	.00000	.00358	.09439	.00016	.00000	.72279	.00000	.00000	.00000
1200	.00867	.02302	.00049	.14684	.00000	.00000	.00410	.09415	.00017	.00000	.72256	.00000	.00000	.00000
1220	.00866	.02283	.00063	.14683	.00000	.00000	.00468	.09389	.00017	.00000	.72230	.00000	.00000	.00000
1240	.00866	.02262	.00079	.14681	.00000	.00000	.00531	.09362	.00018	.00000	.72201	.00000	.00000	.00000
1260	.00866	.02238	.00100	.14676	.00000	.00000	.00600	.09333	.00019	.00000	.72169	.00000	.00000	.00000
1280	.00865	.02212	.00125	.14669	.00000	.00000	.00675	.09302	.00019	.00000	.72132	.00000	.00000	.00000
1300	.00865	.02182	.00155	.14660	.00000	.00000	.00757	.09270	.00020	.00000	.72091	.00000	.00000	.00000
1320	.00864	.02150	.00190	.14646	.00000	.00000	.00845	.09238	.00021	.00000	.72046	.00000	.00000	.00000
1340	.00864	.02113	.00233	.14628	.00000	.00000	.00941	.09204	.00021	.00000	.71996	.00000	.00000	.00000
1360	.00863	.02073	.00283	.14605	.00000	.00000	.01043	.09170	.00022	.00000	.71941	.00000	.00000	.00000
1380	.00862	.02029	.00341	.14577	.00000	.00000	.01152	.09136	.00023	.00000	.71880	.00000	.00000	.00000
1400	.00861	.01980	.00409	.14542	.00000	.00000	.01269	.09102	.00023	.00000	.71813	.00000	.00000	.00000
1420	.00861	.01927	.00487	.14500	.00000	.00000	.01393	.09069	.00024	.00000	.71740	.00000	.00000	.00000
1440	.00860	.01870	.00576	.14450	.00000	.00000	.01524	.09037	.00024	.00000	.71660	.00000	.00000	.00000
1460	.00859	.01807	.00677	.14392	.00000	.00000	.01662	.09007	.00025	.00000	.71573	.00000	.00000	.00000
1480	.00857	.01739	.00790	.14324	.00000	.00000	.01806	.08979	.00025	.00000	.71480	.00000	.00000	.00000
1500	.00856	.01666	.00917	.14246	.00000	.00000	.01957	.08953	.00025	.00000	.71379	.00000	.00000	.00000
1520	.00855	.01588	.01058	.14158	.00000	.00000	.02114	.08930	.00026	.00000	.71271	.00000	.00000	.00000
1540	.00854	.01505	.01212	.14060	.00000	.00000	.02276	.08911	.00026	.00000	.71156	.00000	.00000	.00000
1560	.00852	.01417	.01380	.13951	.00000	.00000	.02443	.08896	.00026	.00000	.71035	.00000	.00000	.00000
1580	.00851	.01325	.01561	.13832	.00000	.00000	.02612	.08884	.00026	.00000	.70908	.00000	.00000	.00000
1600	.00849	.01229	.01755	.13704	.00000	.00000	.02785	.08877	.00026	.00000	.70776	.00000	.00000	.00000
1620	.00847	.01130	.01959	.13566	.00000	.00000	.02957	.08875	.00026	.00000	.70639	.00000	.00000	.00000
1640	.00846	.01029	.02173	.13420	.00000	.00000	.03129	.08878	.00026	.00000	.70500	.00000	.00000	.00000
1660	.00844	.00928	.02393	.13268	.00000	.00000	.03297	.08885	.00026	.00000	.70359	.00000	.00000	.00000
1680	.00842	.00826	.02619	.13111	.00000	.00000	.03460	.08898	.00026	.00000	.70218	.00000	.00000	.00000
1700	.00841	.00726	.02846	.12952	.00000	.00000	.03614	.08916	.00025	.00000	.70080	.00000	.00000	.00000
1720	.00839	.00630	.03071	.12791	.00000	.00000	.03758	.08939	.00025	.00000	.69947	.00000	.00000	.00000
1740	.00838	.00538	.03291	.12633	.00000	.00000	.03889	.08968	.00024	.00000	.69820	.00000	.00000	.00000
1760	.00836	.00452	.03503	.12478	.00000	.00000	.04003	.09002	.00023	.00000	.69702	.00000	.00000	.00000
1780	.00835	.00375	.03705	.12329	.00000	.00000	.04100	.09040	.00022	.00000	.69594	.00000	.00000	.00000
1800	.00834	.00306	.03893	.12188	.00000	.00000	.04177	.09084	.00021	.00000	.69499	.00000	.00000	.00000
1900	.00830	.00091	.04606	.11618	.00000	.00000	.04290	.09348	.00015	.00000	.69201	.00000	.00000	.00000
2000	.00829	.00024	.05037	.11232	.00000	.00000	.04123	.09638	.00011	.00000	.69107	.00000	.00000	.00000
2100	.00829	.00006	.05343	.10936	.00000	.00000	.03887	.09908	.00007	.00000	.69083	.00000	.00000	.00000
2200	.00828	.00002	.05594	.10688	.00000	.00000	.03657	.10150	.00005	.00000	.69076	.00000	.00000	.00000
2300	.00828	.00001	.05811	.10472	.00000	.00000	.03447	.10364	.00004	.00000	.69074	.00000	.00000	.00000
2400	.00828	.00000	.06002	.10281	.00000	.00000	.03258	.10554	.00003	.00000	.69073	.00000	.00000	.00000
2500	.00828	.00000	.06171	.10112	.00000	.00000	.03091	.10723	.00002	.00000	.69073	.00000	.00000	.00000

TABLE 6.5D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00828	.00000	.06322	.09961	.00000	.00000	.02941	.10874	.00002	.00000	.69073	.00000	.00000	.00000
2700	.00828	.00000	.06457	.09826	.00000	.00000	.02806	.11008	.00001	.00000	.69073	.00000	.00000	.00000
2800	.00828	.00000	.06578	.09705	.00000	.00000	.02686	.11129	.00001	.00000	.69073	.00000	.00000	.00000
2900	.00828	.00000	.06687	.09596	.00000	.00000	.02577	.11238	.00001	.00000	.69073	.00000	.00000	.00000
3000	.00828	.00000	.06785	.09498	.00000	.00000	.02479	.11336	.00001	.00000	.69073	.00000	.00000	.00000
3100	.00828	.00000	.06874	.09409	.00000	.00000	.02390	.11425	.00001	.00000	.69073	.00000	.00000	.00000
3200	.00828	.00000	.06954	.09328	.00001	.00000	.02310	.11505	.00000	.00000	.69072	.00000	.00000	.00000
3300	.00828	.00000	.07028	.09255	.00001	.00000	.02237	.11578	.00000	.00000	.69072	.00000	.00000	.00000
3400	.00828	.00000	.07094	.09188	.00002	.00000	.02170	.11645	.00000	.00000	.69072	.00000	.00001	.00000
3500	.00828	.00000	.07156	.09127	.00002	.00000	.02109	.11705	.00000	.00000	.69071	.00000	.00001	.00000
3600	.00828	.00000	.07212	.09071	.00003	.00000	.02053	.11760	.00000	.00000	.69071	.00000	.00002	.00000
3700	.00828	.00000	.07263	.09019	.00005	.00000	.02001	.11810	.00000	.00001	.69069	.00000	.00003	.00000
3800	.00828	.00000	.07311	.08971	.00007	.00000	.01954	.11856	.00000	.00001	.69068	.00000	.00005	.00000
3900	.00828	.00000	.07355	.08926	.00009	.00000	.01910	.11896	.00000	.00002	.69065	.00000	.00008	.00000
4000	.00828	.00000	.07397	.08884	.00012	.00000	.01870	.11932	.00000	.00003	.69061	.00000	.00012	.00000
4100	.00828	.00000	.07436	.08843	.00016	.00000	.01833	.11963	.00000	.00005	.69056	.00000	.00017	.00000
4200	.00828	.00000	.07474	.08804	.00022	.00000	.01799	.11990	.00000	.00008	.69049	.00000	.00025	.00001
4300	.00828	.00000	.07512	.08764	.00028	.00000	.01769	.12010	.00000	.00013	.69039	.00000	.00035	.00001
4400	.00828	.00000	.07550	.08724	.00036	.00000	.01741	.12025	.00000	.00020	.69024	.00001	.00050	.00002
4500	.00828	.00000	.07590	.08680	.00046	.00000	.01716	.12032	.00000	.00029	.69005	.00001	.00069	.00003
4600	.00828	.00000	.07634	.08631	.00058	.00000	.01695	.12031	.00000	.00042	.68979	.00002	.00094	.00006
4700	.00827	.00000	.07684	.08575	.00073	.00000	.01677	.12020	.00000	.00060	.68944	.00003	.00125	.00010
4800	.00827	.00000	.07743	.08509	.00091	.00000	.01665	.11997	.00000	.00083	.68898	.00006	.00166	.00017
4900	.00826	.00000	.07813	.08428	.00112	.00000	.01657	.11960	.00000	.00114	.68838	.00009	.00216	.00027
5000	.00826	.00000	.07899	.08329	.00137	.00000	.01656	.11906	.00000	.00154	.68761	.00014	.00277	.00041
5100	.00825	.00000	.08003	.08207	.00167	.00000	.01663	.11833	.00000	.00204	.68663	.00022	.00351	.00062
5200	.00824	.00000	.08131	.08058	.00202	.00000	.01679	.11738	.00000	.00265	.68542	.00032	.00439	.00091
5300	.00822	.00000	.08284	.07879	.00244	.00000	.01704	.11618	.00000	.00338	.68395	.00047	.00540	.00128
5400	.00821	.00000	.08464	.07668	.00293	.00001	.01740	.11473	.00000	.00423	.68219	.00067	.00657	.00176

TABLE 6.1E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00828	.04633	.00000	.00000	.11650	.00000	.13803	.00013	.00000	.69073
400	.00828	.04633	.00000	.00000	.11650	.00000	.13534	.00282	.00000	.69073
440	.00828	.04628	.00002	.00000	.11653	.00000	.10173	.03640	.00000	.69076
480	.00829	.04517	.00060	.00000	.11725	.00000	.00000	.13712	.00000	.69156
520	.00830	.04438	.00102	.00000	.11776	.00001	.00000	.13640	.00000	.69213
537	.00830	.04397	.00123	.00000	.11803	.00001	.00000	.13602	.00000	.69243
560	.00831	.04331	.00157	.00000	.11845	.00003	.00000	.13543	.00000	.69290
600	.00832	.04198	.00226	.00000	.11932	.00008	.00000	.13419	.00000	.69384
640	.00833	.04040	.00305	.00000	.12037	.00023	.00000	.13268	.00000	.69494
680	.00835	.03858	.00392	.00000	.12161	.00055	.00000	.13086	.00000	.69614
720	.00836	.03654	.00481	.00000	.12305	.00121	.00000	.12865	.00000	.69737
760	.00838	.03426	.00568	.00000	.12473	.00245	.00000	.12592	.00000	.69857
800	.00839	.03174	.00644	.00001	.12673	.00459	.00000	.12247	.00000	.69962
840	.00840	.02895	.00700	.00003	.12912	.00800	.00000	.11809	.00000	.70040
880	.00840	.02586	.00728	.00009	.13197	.01307	.00000	.11254	.00001	.70078
920	.00840	.02243	.00720	.00023	.13531	.02008	.00000	.10566	.00001	.70068
960	.00840	.01861	.00677	.00055	.13911	.02906	.00000	.09743	.00001	.70008
1000	.00838	.01435	.00602	.00122	.14320	.03975	.00000	.08802	.00001	.69905
1040	.00837	.00955	.00508	.00255	.14730	.05161	.00000	.07779	.00001	.69775
1080	.00835	.00408	.00408	.00505	.15095	.06387	.00000	.06725	.00001	.69636
1120	.00833	.00000	.00258	.00878	.15230	.07400	.00000	.05970	.00000	.69430
1160	.00830	.00000	.00093	.01180	.15040	.07730	.00000	.05926	.00000	.69201
1200	.00829	.00000	.00028	.01443	.14821	.07715	.00000	.06053	.00000	.69112
1240	.00829	.00000	.00008	.01681	.14596	.07552	.00000	.06250	.00000	.69084
1280	.00828	.00000	.00003	.01912	.14369	.07343	.00000	.06468	.00000	.69076
1320	.00828	.00000	.00001	.02139	.14143	.07123	.00000	.06692	.00000	.69074
1360	.00828	.00000	.00000	.02364	.13919	.06900	.00000	.06916	.00000	.69073
1400	.00828	.00000	.00000	.02585	.13698	.06680	.00000	.07136	.00000	.69073

TABLE 6.2E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00828	.04633	.00000	.00000	.11650	.00000	.13815	.00001	.00000	.69073
400	.00828	.04633	.00000	.00000	.11650	.00000	.13788	.00028	.00000	.69073
440	.00828	.04632	.00000	.00000	.11650	.00000	.13466	.00350	.00000	.69073
480	.00828	.04627	.00003	.00000	.11654	.00000	.10874	.02938	.00000	.69076
520	.00830	.04438	.00102	.00000	.11776	.00000	.00000	.13640	.00000	.69213
537	.00830	.04397	.00123	.00000	.11803	.00000	.00000	.13603	.00000	.69243
560	.00831	.04332	.00157	.00000	.11845	.00001	.00000	.13544	.00000	.69290
600	.00832	.04201	.00226	.00000	.11930	.00003	.00000	.13424	.00000	.69384
640	.00833	.04046	.00306	.00000	.12031	.00007	.00000	.13282	.00000	.69495
680	.00835	.03872	.00394	.00000	.12145	.00017	.00000	.13119	.00000	.69617
720	.00837	.03682	.00488	.00000	.12271	.00039	.00000	.12936	.00000	.69747
760	.00838	.03480	.00584	.00000	.12409	.00079	.00000	.12731	.00001	.69879
800	.00840	.03267	.00677	.00000	.12559	.00149	.00000	.12500	.00001	.70008
840	.00841	.03045	.00763	.00001	.12723	.00264	.00000	.12236	.00001	.70126
880	.00842	.02814	.00836	.00003	.12902	.00443	.00000	.11931	.00001	.70228
920	.00843	.02574	.00892	.00007	.13100	.00705	.00000	.11571	.00001	.70305
960	.00844	.02322	.00925	.00017	.13320	.01072	.00000	.11148	.00001	.70351
1000	.00844	.02057	.00931	.00037	.13560	.01558	.00000	.10651	.00002	.70359
1040	.00843	.01773	.00909	.00078	.13819	.02173	.00000	.10075	.00002	.70328
1080	.00843	.01461	.00858	.00154	.14090	.02913	.00000	.09422	.00002	.70258
1120	.00841	.01109	.00784	.00289	.14356	.03763	.00000	.08699	.00002	.70156
1160	.00840	.00700	.00694	.00520	.14595	.04694	.00000	.07923	.00002	.70032
1200	.00838	.00209	.00596	.00899	.14773	.05672	.00000	.07114	.00002	.69896
1240	.00835	.00000	.00385	.01346	.14677	.06449	.00000	.06702	.00001	.69605
1280	.00831	.00000	.00179	.01736	.14426	.06843	.00000	.06662	.00001	.69320
1320	.00830	.00000	.00070	.02064	.14171	.06932	.00000	.06762	.00001	.69170
1360	.00829	.00000	.00025	.02335	.13931	.06832	.00000	.06939	.00001	.69108
1400	.00829	.00000	.00009	.02573	.13703	.06656	.00000	.07144	.00001	.69085

TABLE 6.3E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00828	.04633	.00000	.00000	.11650	.00000	.13816	.00000	.00000	.00000	.69073
400	.00828	.04633	.00000	.00000	.11650	.00000	.13813	.00000	.00003	.00000	.69073
440	.00828	.04633	.00000	.00000	.11650	.00000	.13781	.00000	.00035	.00000	.69073
480	.00828	.04632	.00000	.00000	.11650	.00000	.13532	.00000	.00284	.00000	.69073
520	.00828	.04630	.00001	.00000	.11652	.00000	.00000	.12356	.01458	.00000	.69074
537	.00828	.04624	.00005	.00000	.11656	.00000	.00000	.11188	.02620	.00000	.69079
560	.00829	.04579	.00028	.00000	.11685	.00000	.00000	.08100	.05668	.00000	.69111
600	.00832	.04201	.00226	.00000	.11929	.00001	.00000	.00000	.13426	.00000	.69385
640	.00833	.04048	.00306	.00000	.12029	.00002	.00000	.00000	.13286	.00000	.69495
680	.00835	.03876	.00395	.00000	.12140	.00006	.00000	.00000	.13130	.00001	.69618
720	.00837	.03691	.00490	.00000	.12261	.00012	.00000	.00000	.12958	.00001	.69750
760	.00838	.03497	.00589	.00000	.12389	.00025	.00000	.00000	.12775	.00001	.69886
800	.00840	.03296	.00688	.00000	.12523	.00047	.00000	.00000	.12582	.00001	.70023
840	.00841	.03093	.00784	.00000	.12661	.00085	.00000	.00000	.12378	.00002	.70156
880	.00843	.02889	.00876	.00001	.12803	.00143	.00000	.00000	.12161	.00002	.70283
920	.00844	.02685	.00959	.00002	.12949	.00231	.00000	.00000	.11929	.00002	.70398
960	.00846	.02481	.01032	.00005	.13101	.00358	.00000	.00000	.11676	.00003	.70499
1000	.00847	.02277	.01091	.00012	.13259	.00533	.00000	.00000	.11399	.00003	.70580
1040	.00847	.02073	.01134	.00024	.13422	.00766	.00000	.00000	.11091	.00004	.70639
1080	.00848	.01864	.01158	.00048	.13591	.01068	.00000	.00000	.10748	.00004	.70672
1120	.00848	.01648	.01161	.00089	.13763	.01444	.00000	.00000	.10365	.00004	.70678
1160	.00847	.01418	.01144	.00160	.13934	.01899	.00000	.00000	.09939	.00005	.70654
1200	.00847	.01164	.01107	.00277	.14097	.02433	.00000	.00000	.09470	.00005	.70602
1240	.00846	.00874	.01051	.00461	.14240	.03040	.00000	.00000	.08958	.00005	.70525
1280	.00845	.00532	.00980	.00743	.14348	.03713	.00000	.00000	.08408	.00005	.70427
1320	.00843	.00117	.00898	.01161	.14400	.04438	.00000	.00000	.07824	.00005	.70314
1360	.00840	.00000	.00668	.01624	.14209	.05085	.00000	.00000	.07573	.00005	.69997
1400	.00835	.00000	.00417	.02085	.13917	.05583	.00000	.00000	.07509	.00004	.69650

TABLE 6.4E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00828	.04633	.00000	.00000	.11650	.00000	.13816	.00000	.00000	.00000	.69073
400	.00828	.04633	.00000	.00000	.11650	.00000	.13816	.00000	.00000	.00000	.69073
440	.00828	.04633	.00000	.00000	.11650	.00000	.13813	.00000	.00003	.00000	.69073
480	.00828	.04633	.00000	.00000	.11650	.00000	.13788	.00000	.00028	.00000	.69073
520	.00828	.04633	.00000	.00000	.11650	.00000	.00000	.13673	.00144	.00000	.69073
537	.00828	.04632	.00000	.00000	.11650	.00000	.00000	.13562	.00255	.00000	.69073
560	.00828	.04632	.00000	.00000	.11650	.00000	.00000	.13283	.00533	.00000	.69073
600	.00828	.04626	.00003	.00000	.11654	.00000	.00000	.12174	.01637	.00000	.69077
640	.00829	.04567	.00034	.00000	.11692	.00000	.00000	.09383	.04374	.00000	.69120
680	.00833	.04119	.00269	.00000	.11983	.00001	.00000	.02592	.10759	.00001	.69444
720	.00837	.03694	.00491	.00000	.12258	.00004	.00000	.00000	.12965	.00001	.69751
760	.00838	.03502	.00590	.00000	.12383	.00008	.00000	.00000	.12789	.00002	.69888
800	.00840	.03306	.00691	.00000	.12512	.00015	.00000	.00000	.12607	.00002	.70028
840	.00842	.03108	.00791	.00000	.12641	.00027	.00000	.00000	.12422	.00003	.70166
880	.00843	.02912	.00888	.00000	.12771	.00046	.00000	.00000	.12234	.00004	.70301
920	.00845	.02720	.00982	.00001	.12901	.00074	.00000	.00000	.12045	.00004	.70429
960	.00846	.02532	.01069	.00002	.13029	.00115	.00000	.00000	.11852	.00005	.70550
1000	.00848	.02348	.01149	.00004	.13157	.00173	.00000	.00000	.11654	.00006	.70661
1040	.00849	.02169	.01221	.00008	.13283	.00251	.00000	.00000	.11451	.00007	.70761
1080	.00850	.01995	.01283	.00015	.13409	.00355	.00000	.00000	.11239	.00008	.70846
1120	.00851	.01823	.01334	.00028	.13533	.00489	.00000	.00000	.11016	.00009	.70917
1160	.00851	.01653	.01373	.00050	.13655	.00657	.00000	.00000	.10779	.00009	.70971
1200	.00852	.01481	.01399	.00086	.13773	.00864	.00000	.00000	.10527	.00010	.71008
1240	.00852	.01303	.01412	.00144	.13885	.01112	.00000	.00000	.10255	.00011	.71026
1280	.00852	.01114	.01411	.00231	.13988	.01405	.00000	.00000	.09963	.00012	.71025
1320	.00852	.00907	.01397	.00362	.14074	.01744	.00000	.00000	.09648	.00012	.71005
1360	.00851	.00672	.01370	.00550	.14139	.02129	.00000	.00000	.09310	.00013	.70967
1400	.00851	.00398	.01330	.00817	.14173	.02558	.00000	.00000	.08947	.00013	.70913

TABLE 6.5E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.087066; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00828	.04633	.00000	.00000	.11650	.00000	.13816	.00000	.00000	.00000	.69073
400	.00828	.04633	.00000	.00000	.11650	.00000	.13816	.00000	.00000	.00000	.69073
440	.00828	.04633	.00000	.00000	.11650	.00000	.13816	.00000	.00001	.00000	.69073
480	.00828	.04633	.00000	.00000	.11650	.00000	.13811	.00000	.00006	.00000	.69073
520	.00828	.04633	.00000	.00000	.11650	.00000	.00000	.13788	.00029	.00000	.69073
537	.00828	.04633	.00000	.00000	.11650	.00000	.00000	.13766	.00051	.00000	.69073
560	.00828	.04633	.00000	.00000	.11650	.00000	.00000	.13710	.00106	.00000	.69073
600	.00828	.04632	.00000	.00000	.11650	.00000	.00000	.13494	.00322	.00000	.69073
640	.00828	.04630	.00001	.00000	.11652	.00000	.00000	.12976	.00838	.00000	.69074
680	.00829	.04616	.00009	.00000	.11661	.00000	.00000	.11875	.01926	.00000	.69085
720	.00829	.04537	.00050	.00000	.11712	.00001	.00000	.09699	.04030	.00000	.69141
760	.00832	.04185	.00234	.00000	.11941	.00002	.00000	.05506	.07903	.00001	.69396
800	.00840	.03308	.00692	.00000	.12509	.00007	.00000	.00000	.12613	.00003	.70029
840	.00842	.03112	.00793	.00000	.12637	.00012	.00000	.00000	.12432	.00004	.70168
880	.00843	.02918	.00892	.00000	.12764	.00020	.00000	.00000	.12252	.00005	.70305
920	.00845	.02728	.00987	.00000	.12889	.00033	.00000	.00000	.12073	.00006	.70438
960	.00846	.02544	.01078	.00001	.13012	.00052	.00000	.00000	.11895	.00008	.70564
1000	.00848	.02366	.01164	.00002	.13132	.00078	.00000	.00000	.11719	.00009	.70683
1040	.00849	.02194	.01244	.00003	.13248	.00113	.00000	.00000	.11544	.00010	.70793
1080	.00850	.02028	.01317	.00007	.13362	.00161	.00000	.00000	.11369	.00012	.70895
1120	.00851	.01868	.01383	.00012	.13472	.00223	.00000	.00000	.11192	.00013	.70986
1160	.00852	.01712	.01441	.00022	.13579	.00301	.00000	.00000	.11012	.00015	.71066
1200	.00853	.01560	.01490	.00038	.13682	.00398	.00000	.00000	.10827	.00016	.71135
1240	.00854	.01410	.01531	.00064	.13780	.00518	.00000	.00000	.10636	.00017	.71191
1280	.00854	.01258	.01562	.00103	.13872	.00661	.00000	.00000	.10437	.00019	.71234
1320	.00855	.01102	.01584	.00161	.13955	.00830	.00000	.00000	.10229	.00020	.71264
1360	.00855	.00938	.01596	.00245	.14027	.01026	.00000	.00000	.10010	.00022	.71282
1400	.00855	.00760	.01599	.00364	.14085	.01252	.00000	.00000	.09778	.00023	.71285

TABLE 7.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016907; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00920	.00000	.03463	.00000	.00000	.03431	.00000	.00001	.76744	.00000	.00000	.15441
1700	.00920	.00000	.03463	.00000	.00000	.03431	.00000	.00002	.76744	.00000	.00000	.15440
1800	.00920	.00000	.03463	.00000	.00000	.03431	.00000	.00003	.76743	.00000	.00000	.15440
1900	.00920	.00000	.03463	.00000	.00000	.03431	.00000	.00005	.76742	.00000	.00000	.15438
2000	.00920	.00000	.03463	.00000	.00000	.03431	.00000	.00009	.76740	.00000	.00000	.15437
2100	.00920	.00000	.03463	.00000	.00000	.03431	.00000	.00014	.76737	.00000	.00000	.15434
2200	.00920	.00000	.03463	.00000	.00000	.03431	.00000	.00022	.76733	.00000	.00001	.15430
2300	.00920	.00000	.03463	.00000	.00000	.03431	.00000	.00032	.76728	.00000	.00001	.15425
2400	.00920	.00000	.03463	.00000	.00000	.03430	.00000	.00045	.76721	.00000	.00003	.15418
2500	.00920	.00000	.03463	.00000	.00000	.03429	.00000	.00063	.76712	.00000	.00005	.15408
2600	.00920	.00000	.03462	.00000	.00000	.03427	.00000	.00085	.76700	.00001	.00008	.15396
2700	.00920	.00000	.03462	.00000	.00000	.03424	.00000	.00112	.76685	.00002	.00014	.15381
2800	.00920	.00001	.03462	.00000	.00000	.03420	.00000	.00145	.76666	.00003	.00022	.15361
2900	.00920	.00002	.03460	.00000	.00001	.03413	.00000	.00184	.76642	.00006	.00034	.15337
3000	.00920	.00004	.03458	.00000	.00001	.03404	.00000	.00230	.76613	.00012	.00050	.15307
3100	.00920	.00008	.03454	.00001	.00002	.03391	.00000	.00284	.76576	.00022	.00073	.15270
3200	.00920	.00014	.03447	.00002	.00004	.03373	.00000	.00345	.76529	.00038	.00104	.15224
3300	.00920	.00025	.03435	.00004	.00006	.03348	.00000	.00415	.76470	.00064	.00145	.15169
3400	.00919	.00043	.03415	.00007	.00010	.03315	.00000	.00493	.76395	.00105	.00197	.15101
3500	.00919	.00071	.03385	.00014	.00016	.03271	.00000	.00579	.76300	.00166	.00262	.15018
3600	.00918	.00113	.03339	.00025	.00024	.03213	.00000	.00674	.76176	.00257	.00343	.14918
3700	.00916	.00174	.03273	.00044	.00035	.03139	.00000	.00776	.76017	.00387	.00441	.14797
3800	.00915	.00261	.03180	.00075	.00051	.03043	.00000	.00887	.75813	.00571	.00556	.14649
3900	.00912	.00378	.03053	.00123	.00071	.02924	.00000	.01004	.75551	.00825	.00689	.14470
4000	.00909	.00530	.02890	.00196	.00096	.02775	.00000	.01127	.75219	.01167	.00838	.14253
4100	.00905	.00716	.02687	.00304	.00126	.02595	.00000	.01254	.74805	.01620	.00999	.13987
4200	.00899	.00935	.02449	.00457	.00161	.02380	.00000	.01384	.74297	.02209	.01167	.13662
4300	.00893	.01177	.02182	.00666	.00198	.02132	.00000	.01514	.73686	.02958	.01331	.13263
4400	.00885	.01430	.01899	.00941	.00234	.01854	.00000	.01639	.72967	.03891	.01481	.12778
4500	.00876	.01681	.01613	.01286	.00265	.01557	.00000	.01758	.72142	.05029	.01602	.12192
4600	.00865	.01916	.01339	.01696	.00286	.01253	.00000	.01864	.71219	.06385	.01678	.11498
4700	.00854	.02125	.01087	.02159	.00293	.00962	.00001	.01953	.70217	.07958	.01698	.10693
4800	.00842	.02301	.00865	.02650	.00284	.00701	.00001	.02022	.69163	.09734	.01656	.09782
4900	.00829	.02442	.00676	.03137	.00261	.00484	.00002	.02065	.68088	.11679	.01554	.08783
5000	.00816	.02551	.00520	.03591	.00228	.00317	.00002	.02081	.67028	.13737	.01406	.07723
5100	.00804	.02631	.00394	.03989	.00191	.00198	.00004	.02067	.66016	.15837	.01229	.06640
5200	.00793	.02687	.00295	.04322	.00154	.00119	.00005	.02025	.65082	.17898	.01041	.05578
5300	.00782	.02724	.00219	.04591	.00121	.00070	.00008	.01956	.64247	.19841	.00860	.04581
5400	.00773	.02748	.00161	.04801	.00094	.00040	.00011	.01867	.63525	.21602	.00696	.03682

TABLE 7.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016907; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00001	.76744	.00000	.00000	.15441
1700	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00002	.76744	.00000	.00000	.15440
1800	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00003	.76743	.00000	.00000	.15440
1900	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00005	.76742	.00000	.00000	.15438
2000	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00009	.76740	.00000	.00000	.15437
2100	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00014	.76737	.00000	.00000	.15434
2200	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00022	.76733	.00000	.00000	.15430
2300	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00032	.76728	.00000	.00001	.15425
2400	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00045	.76721	.00000	.00002	.15418
2500	.00920	.00000	.03463	.00000	.00000	.00000	.03430	.00000	.00063	.76712	.00000	.00003	.15409
2600	.00920	.00000	.03463	.00000	.00000	.00000	.03429	.00000	.00085	.76701	.00000	.00005	.15397
2700	.00920	.00000	.03463	.00000	.00000	.00000	.03427	.00000	.00112	.76687	.00000	.00008	.15383
2800	.00920	.00000	.03462	.00000	.00000	.00000	.03425	.00000	.00145	.76669	.00001	.00012	.15365
2900	.00920	.00001	.03462	.00000	.00000	.00000	.03421	.00000	.00184	.76647	.00002	.00019	.15343
3000	.00920	.00001	.03461	.00000	.00000	.00000	.03416	.00000	.00230	.76621	.00004	.00028	.15316
3100	.00920	.00002	.03460	.00000	.00000	.00001	.03409	.00000	.00284	.76590	.00007	.00041	.15284
3200	.00920	.00005	.03457	.00000	.00000	.00001	.03400	.00000	.00346	.76553	.00012	.00059	.15247
3300	.00920	.00008	.03453	.00001	.00000	.00002	.03387	.00000	.00415	.76509	.00020	.00082	.15202
3400	.00920	.00014	.03447	.00001	.00000	.00003	.03370	.00000	.00494	.76456	.00033	.00112	.15150
3500	.00920	.00023	.03437	.00002	.00000	.00005	.03348	.00000	.00581	.76393	.00053	.00150	.15089
3600	.00919	.00036	.03422	.00005	.00000	.00008	.03319	.00000	.00676	.76318	.00081	.00197	.15018
3700	.00919	.00057	.03400	.00008	.00000	.00012	.03283	.00000	.00781	.76227	.00123	.00254	.14936
3800	.00918	.00087	.03368	.00014	.00000	.00017	.03238	.00000	.00894	.76118	.00182	.00324	.14841
3900	.00917	.00129	.03322	.00023	.00000	.00024	.03182	.00000	.01016	.75986	.00263	.00406	.14731
4000	.00916	.00187	.03260	.00037	.00000	.00034	.03113	.00000	.01145	.75826	.00374	.00502	.14605
4100	.00915	.00263	.03178	.00058	.00000	.00046	.03029	.00000	.01283	.75634	.00521	.00612	.14460
4200	.00913	.00363	.03072	.00089	.00000	.00061	.02929	.00000	.01426	.75402	.00714	.00736	.14294
4300	.00910	.00486	.02939	.00134	.00000	.00080	.02811	.00000	.01576	.75124	.00964	.00873	.14101
4400	.00907	.00635	.02779	.00197	.00000	.00102	.02672	.00000	.01730	.74795	.01282	.01021	.13879
4500	.00904	.00808	.02592	.00282	.00000	.00128	.02512	.00000	.01887	.74409	.01681	.01176	.13621
4600	.00899	.01001	.02382	.00397	.00001	.00156	.02331	.00000	.02044	.73960	.02173	.01335	.13321
4700	.00894	.01209	.02155	.00544	.00001	.00186	.02129	.00000	.02200	.73446	.02772	.01491	.12973
4800	.00888	.01423	.01918	.00731	.00001	.00216	.01910	.00000	.02352	.72866	.03489	.01637	.12569
4900	.00881	.01635	.01680	.00959	.00001	.00244	.01679	.00001	.02497	.72220	.04335	.01764	.12103
5000	.00873	.01837	.01449	.01230	.00001	.00268	.01441	.00001	.02631	.71514	.05317	.01865	.11572
5100	.00865	.02023	.01232	.01542	.00001	.00285	.01204	.00001	.02751	.70754	.06438	.01930	.10974
5200	.00856	.02187	.01033	.01887	.00001	.00293	.00977	.00002	.02853	.69951	.07694	.01954	.10310
5300	.00847	.02329	.00856	.02255	.00001	.00292	.00770	.00003	.02935	.69117	.09077	.01933	.09586
5400	.00837	.02447	.00701	.02633	.00000	.00281	.00587	.00004	.02994	.68269	.10567	.01868	.08812

TABLE 7.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016907; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00001	.00000	.76744	.00000	.00000	.15441
1700	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00002	.00000	.76744	.00000	.00000	.15440
1800	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00003	.00000	.76743	.00000	.00000	.15440
1900	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00005	.00000	.76742	.00000	.00000	.15438
2000	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00009	.00000	.76740	.00000	.00000	.15437
2100	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00014	.00000	.76737	.00000	.00000	.15434
2200	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00022	.00000	.76733	.00000	.00000	.15430
2300	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00032	.00000	.76728	.00000	.00000	.15425
2400	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00045	.00000	.76722	.00000	.00001	.15418
2500	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00000	.00063	.00000	.76713	.00000	.00002	.15409
2600	.00920	.00000	.03463	.00000	.00000	.00000	.03430	.00000	.00085	.00000	.76701	.00000	.00003	.15398
2700	.00920	.00000	.03463	.00000	.00000	.00000	.03429	.00000	.00112	.00000	.76687	.00000	.00004	.15383
2800	.00920	.00000	.03463	.00000	.00000	.00000	.03428	.00000	.00145	.00001	.76670	.00000	.00007	.15366
2900	.00920	.00000	.03462	.00000	.00000	.00000	.03426	.00000	.00184	.00001	.76650	.00001	.00011	.15345
3000	.00920	.00000	.03462	.00000	.00000	.00000	.03423	.00000	.00231	.00001	.76625	.00001	.00016	.15320
3100	.00920	.00001	.03462	.00000	.00000	.00000	.03419	.00000	.00284	.00001	.76596	.00002	.00023	.15291
3200	.00920	.00001	.03461	.00000	.00000	.00000	.03414	.00000	.00346	.00001	.76563	.00004	.00033	.15256
3300	.00920	.00003	.03460	.00000	.00000	.00001	.03407	.00000	.00416	.00001	.76524	.00006	.00046	.15217
3400	.00920	.00004	.03458	.00000	.00000	.00001	.03398	.00000	.00494	.00001	.76479	.00011	.00063	.15171
3500	.00920	.00007	.03454	.00000	.00000	.00002	.03386	.00000	.00581	.00001	.76427	.00017	.00085	.15119
3600	.00920	.00012	.03449	.00001	.00000	.00002	.03371	.00000	.00678	.00001	.76368	.00026	.00111	.15060
3700	.00920	.00018	.03442	.00001	.00000	.00004	.03352	.00000	.00783	.00001	.76301	.00039	.00145	.14994
3800	.00920	.00028	.03432	.00002	.00000	.00005	.03329	.00000	.00897	.00001	.76224	.00058	.00185	.14919
3900	.00919	.00042	.03417	.00004	.00000	.00008	.03300	.00000	.01020	.00001	.76136	.00083	.00233	.14836
4000	.00919	.00061	.03396	.00007	.00000	.00011	.03266	.00000	.01152	.00001	.76035	.00119	.00290	.14743
4100	.00918	.00088	.03367	.00011	.00001	.00015	.03224	.00000	.01293	.00001	.75920	.00166	.00356	.14640
4200	.00918	.00123	.03329	.00016	.00001	.00021	.03175	.00000	.01442	.00001	.75788	.00228	.00433	.14526
4300	.00917	.00170	.03279	.00025	.00001	.00028	.03117	.00000	.01598	.00001	.75637	.00308	.00520	.14399
4400	.00916	.00229	.03215	.00037	.00001	.00036	.03049	.00000	.01761	.00001	.75464	.00411	.00617	.14261
4500	.00914	.00304	.03136	.00054	.00001	.00047	.02971	.00000	.01931	.00001	.75266	.00541	.00726	.14108
4600	.00913	.00395	.03039	.00078	.00001	.00060	.02881	.00000	.02106	.00001	.75040	.00703	.00844	.13939
4700	.00911	.00503	.02922	.00109	.00001	.00075	.02779	.00000	.02286	.00001	.74784	.00903	.00972	.13753
4800	.00908	.00630	.02787	.00151	.00001	.00092	.02664	.00000	.02470	.00001	.74494	.01146	.01108	.13549
4900	.00905	.00772	.02634	.00205	.00001	.00111	.02537	.00000	.02655	.00001	.74168	.01438	.01249	.13322
5000	.00902	.00929	.02465	.00274	.00001	.00133	.02396	.00000	.02841	.00001	.73806	.01787	.01394	.13070
5100	.00899	.01098	.02283	.00360	.00002	.00156	.02244	.00000	.03025	.00001	.73404	.02198	.01540	.12791
5200	.00894	.01273	.02092	.00467	.00002	.00179	.02080	.00001	.03207	.00001	.72965	.02677	.01681	.12481
5300	.00890	.01450	.01897	.00595	.00002	.00203	.01907	.00001	.03383	.00001	.72488	.03230	.01816	.12138
5400	.00885	.01626	.01702	.00747	.00002	.00227	.01728	.00001	.03551	.00001	.71974	.03860	.01937	.11759

TABLE 7.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016907; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00001	.00000	.76744	.00000	.00000	.00000	.15441
1700	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00002	.00000	.76743	.00000	.00000	.00000	.15440
1800	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00003	.00000	.76743	.00000	.00000	.00000	.15439
1900	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00005	.00001	.76742	.00000	.00000	.00000	.15438
2000	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00009	.00001	.76740	.00000	.00000	.00000	.15436
2100	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00014	.00001	.76737	.00000	.00000	.00000	.15433
2200	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00022	.00001	.76733	.00000	.00000	.00000	.15430
2300	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00032	.00001	.76728	.00000	.00000	.00000	.15424
2400	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00045	.00001	.76722	.00000	.00000	.00000	.15417
2500	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00063	.00001	.76713	.00000	.00000	.00001	.15408
2600	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00085	.00001	.76702	.00000	.00000	.00001	.15397
2700	.00920	.00000	.03463	.00000	.00000	.00000	.03430	.00112	.00002	.76688	.00000	.00000	.00002	.15383
2800	.00920	.00000	.03463	.00000	.00000	.00000	.03429	.00145	.00002	.76671	.00000	.00000	.00004	.15366
2900	.00920	.00000	.03463	.00000	.00000	.00000	.03428	.00184	.00002	.76651	.00000	.00000	.00006	.15345
3000	.00920	.00000	.03463	.00000	.00000	.00000	.03427	.00231	.00002	.76627	.00000	.00000	.00009	.15321
3100	.00920	.00000	.03462	.00000	.00000	.00000	.03425	.00284	.00002	.76599	.00000	.00001	.00013	.15293
3200	.00920	.00000	.03462	.00000	.00000	.00000	.03422	.00346	.00002	.76567	.00000	.00001	.00019	.15260
3300	.00920	.00001	.03462	.00000	.00000	.00000	.03418	.00416	.00002	.76530	.00000	.00002	.00026	.15223
3400	.00920	.00001	.03461	.00000	.00000	.00000	.03413	.00494	.00003	.76488	.00000	.00003	.00036	.15180
3500	.00920	.00002	.03460	.00000	.00000	.00001	.03406	.00582	.00003	.76441	.00000	.00005	.00048	.15132
3600	.00920	.00004	.03458	.00000	.00000	.00001	.03398	.00678	.00003	.76388	.00000	.00008	.00063	.15078
3700	.00920	.00006	.03456	.00000	.00001	.00001	.03388	.00784	.00003	.76329	.00000	.00012	.00082	.15018
3800	.00920	.00009	.03452	.00000	.00001	.00002	.03375	.00898	.00003	.76263	.00000	.00018	.00105	14952
3900	.00920	.00013	.03448	.00001	.00001	.00003	.03360	.01022	.00003	.76191	.00000	.00026	.00132	.14880
4000	.00920	.00020	.03441	.00001	.00001	.00004	.03342	.01155	.00004	.76111	.00000	.00038	.00165	.14800
4100	.00920	.00028	.03431	.00002	.00001	.00005	.03320	.01297	.00004	.76022	.00000	.00053	.00204	.14714
4200	.00919	.00040	.03419	.00003	.00001	.00007	.03294	.01448	.00004	.75925	.00000	.00072	.00248	.14620
4300	.00919	.00055	.03402	.00005	.00001	.00009	.03264	.01606	.00004	.75818	.00000	.00098	.00300	.14518
4400	.00919	.00076	.03380	.00007	.00002	.00012	.03229	.01773	.00004	.75701	.00000	.00131	.00358	.14409
4500	.00918	.00102	.03352	.00010	.00002	.00016	.03189	.01948	.00004	.75572	.00000	.00172	.00424	.14292
4600	.00917	.00135	.03316	.00014	.00002	.00020	.03143	.02129	.00004	.75430	.00000	.00224	.00498	.14166
4700	.00917	.00176	.03272	.00020	.00002	.00026	.03091	.02317	.00004	.75274	.00000	.00288	.00579	.14032
4800	.00916	.00227	.03218	.00028	.00002	.00033	.03032	.02511	.00004	.75104	.00000	.00367	.00669	.13889
4900	.00915	.00288	.03154	.00039	.00003	.00040	.02966	.02709	.00004	.74917	.00000	.00462	.00765	.13737
5000	.00914	.00360	.03077	.00053	.00003	.00050	.02893	.02913	.00005	.74712	.00000	.00576	.00870	.13575
5100	.00912	.00444	.02988	.00071	.00003	.00060	.02813	.03119	.00005	.74489	.00000	.00712	.00981	.13403
5200	.00910	.00540	.02886	.00094	.00004	.00072	.02725	.03329	.00005	.74246	.00001	.00871	.01098	.13221
5300	.00909	.00647	.02771	.00122	.00004	.00086	.02629	.03540	.00005	.73982	.00001	.01058	.01220	.13027
5400	.00906	.00765	.02645	.00157	.00004	.00100	.02525	.03752	.00005	.73698	.00001	.01275	.01346	.12820

TABLE 7.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016907; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00001	.00001	.76744	.00000	.00000	.00000	.15440
1700	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00002	.00001	.76743	.00000	.00000	.00000	.15440
1800	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00003	.00001	.76743	.00000	.00000	.00000	.15439
1900	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00005	.00001	.76742	.00000	.00000	.00000	.15437
2000	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00009	.00001	.76740	.00000	.00000	.00000	.15435
2100	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00014	.00002	.76737	.00000	.00000	.00000	.15433
2200	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00022	.00002	.76733	.00000	.00000	.00000	.15429
2300	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00032	.00002	.76728	.00000	.00000	.00000	.15423
2400	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00045	.00003	.76721	.00000	.00000	.00000	.15416
2500	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00063	.00003	.76713	.00000	.00000	.00001	.15407
2600	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00085	.00003	.76701	.00000	.00000	.00001	.15396
2700	.00920	.00000	.03463	.00000	.00000	.00000	.03431	.00112	.00003	.76688	.00000	.00000	.00002	.15382
2800	.00920	.00000	.03463	.00000	.00000	.00000	.03430	.00145	.00004	.76671	.00000	.00000	.00003	.15364
2900	.00920	.00000	.03463	.00000	.00000	.00000	.03429	.00184	.00004	.76651	.00000	.00000	.00004	.15344
3000	.00920	.00000	.03463	.00000	.00000	.00000	.03428	.00231	.00004	.76627	.00000	.00000	.00006	.15320
3100	.00920	.00000	.03463	.00000	.00000	.00000	.03427	.00284	.00005	.76600	.00000	.00000	.00009	.15292
3200	.00920	.00000	.03462	.00000	.00000	.00000	.03425	.00346	.00005	.76568	.00000	.00001	.00012	.15259
3300	.00920	.00000	.03462	.00000	.00000	.00000	.03422	.00416	.00006	.76532	.00000	.00001	.00017	.15222
3400	.00920	.00001	.03462	.00000	.00000	.00000	.03419	.00494	.00006	.76491	.00000	.00001	.00024	.15181
3500	.00920	.00001	.03461	.00000	.00001	.00000	.03415	.00582	.00006	.76445	.00000	.00002	.00032	.15134
3600	.00920	.00002	.03461	.00000	.00001	.00000	.03409	.00678	.00007	.76394	.00000	.00004	.00042	.15082
3700	.00920	.00003	.03460	.00000	.00001	.00001	.03402	.00784	.00007	.76338	.00000	.00006	.00055	.15025
3800	.00920	.00004	.03458	.00000	.00001	.00001	.03394	.00899	.00007	.76276	.00000	.00008	.00070	.14961
3900	.00920	.00006	.03456	.00000	.00001	.00001	.03384	.01023	.00008	.76208	.00000	.00012	.00089	.14892
4000	.00920	.00009	.03453	.00000	.00001	.00002	.03372	.01156	.00008	.76133	.00000	.00017	.00111	.14817
4100	.00920	.00013	.03448	.00001	.00002	.00002	.03358	.01298	.00008	.76053	.00000	.00024	.00137	.14736
4200	.00920	.00018	.03443	.00001	.00002	.00003	.03341	.01449	.00008	.75966	.00001	.00032	.00167	.14649
4300	.00920	.00025	.03435	.00001	.00002	.00004	.03321	.01609	.00009	.75871	.00001	.00044	.00202	.14556
4400	.00919	.00034	.03425	.00002	.00002	.00006	.03299	.01777	.00009	.75769	.00001	.00059	.00242	.14456
4500	.00919	.00046	.03412	.00003	.00003	.00007	.03273	.01953	.00009	.75660	.00001	.00077	.00288	.14350
4600	.00919	.00062	.03395	.00004	.00003	.00009	.03243	.02136	.00009	.75542	.00001	.00100	.00339	.14237
4700	.00919	.00081	.03374	.00006	.00003	.00012	.03210	.02326	.00010	.75416	.00001	.00129	.00395	.14118
4800	.00918	.00105	.03349	.00009	.00004	.00015	.03172	.02523	.00010	.75280	.00001	.00165	.00458	.13992
4900	.00918	.00135	.03317	.00012	.00004	.00019	.03130	.02726	.00010	.75134	.00001	.00207	.00527	.13860
5000	.00917	.00171	.03279	.00016	.00005	.00024	.03083	.02934	.00010	.74978	.00001	.00259	.00602	.13722
5100	.00916	.00213	.03233	.00022	.00005	.00029	.03032	.03146	.00010	.74811	.00001	.00320	.00683	.13578
5200	.00915	.00264	.03180	.00029	.00006	.00035	.02975	.03363	.00011	.74632	.00001	.00393	.00770	.13426
5300	.00914	.00322	.03117	.00038	.00006	.00042	.02913	.03584	.00011	.74441	.00001	.00478	.00863	.13269
5400	.00913	.00390	.03046	.00050	.00006	.00050	.02846	.03807	.00011	.74237	.00001	.00576	.00961	.13105

TABLE 7C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016907; EQUIV.RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00920	.03463	.03416	.00000	.00015	.76744	.15441
400	.00920	.03463	.03097	.00000	.00334	.76744	.15441
440	.00920	.03463	.00000	.00000	.03431	.76744	.15441
		PRESSURE = 0.10 ATM					
360	.00920	.03463	.03430	.00000	.00002	.76744	.15441
400	.00920	.03463	.03398	.00000	.00033	.76744	.15441
440	.00920	.03463	.03017	.00000	.00414	.76744	.15441
480	.00920	.03463	.00000	.00000	.03431	.76744	.15441
520	.00920	.03463	.00000	.00000	.03431	.76744	.15441
		PRESSURE = 1.00 ATM					
360	.00920	.03463	.03431	.00000	.00000	.76744	.15441
400	.00920	.03463	.03428	.00000	.00003	.76744	.15441
440	.00920	.03463	.03390	.00000	.00041	.76744	.15441
480	.00920	.03463	.03094	.00000	.00337	.76744	.15441
520	.00920	.03463	.00000	.01704	.01727	.76744	.15441
537	.00920	.03463	.00000	.00330	.03102	.76744	.15441
560	.00920	.03463	.00000	.00000	.03431	.76744	.15441
600	.00920	.03463	.00000	.00000	.03431	.76744	.15441
		PRESSURE = 10.00 ATM					
360	.00920	.03463	.03431	.00000	.00000	.76744	.15441
400	.00920	.03463	.03431	.00000	.00000	.76744	.15441
440	.00920	.03463	.03427	.00000	.00004	.76744	.15441
480	.00920	.03463	.03398	.00000	.00034	.76744	.15441
520	.00920	.03463	.00000	.03261	.00170	.76744	.15441
537	.00920	.03463	.00000	.03130	.00301	.76744	.15441
560	.00920	.03463	.00000	.02800	.00631	.76744	.15441
600	.00920	.03463	.00000	.01494	.01938	.76744	.15441
640	.00920	.03463	.00000	.00000	.03431	.76744	.15441
680	.00920	.03463	.00000	.00000	.03431	.76744	.15441
		PRESSURE = 50.00 ATM					
360	.00920	.03463	.03431	.00000	.00000	.76744	.15441
400	.00920	.03463	.03431	.00000	.00000	.76744	.15441
440	.00920	.03463	.03431	.00000	.00001	.76744	.15441
480	.00920	.03463	.03425	.00000	.00007	.76744	.15441
520	.00920	.03463	.00000	.03397	.00034	.76744	.15441
537	.00920	.03463	.00000	.03371	.00060	.76744	.15441
560	.00920	.03463	.00000	.03306	.00126	.76744	.15441
600	.00920	.03463	.00000	.03050	.00381	.76744	.15441
640	.00920	.03463	.00000	.02439	.00992	.76744	.15441
680	.00920	.03463	.00000	.01151	.02280	.76744	.15441
720	.00920	.03463	.00000	.00000	.03431	.76744	.15441
760	.00920	.03463	.00000	.00000	.03431	.76744	.15441

TABLE 8.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.033814; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00905	.00000	.06778	.00000	.00000	.06747	.00000	.00001	.75449	.00000	.00000	.10120
1700	.00905	.00000	.06778	.00000	.00000	.06747	.00000	.00001	.75449	.00000	.00000	.10120
1800	.00905	.00000	.06778	.00000	.00000	.06747	.00000	.00002	.75449	.00000	.00000	.10119
1900	.00905	.00000	.06778	.00000	.00000	.06747	.00000	.00004	.75448	.00000	.00000	.10118
2000	.00905	.00000	.06778	.00000	.00000	.06747	.00000	.00007	.75446	.00000	.00000	.10117
2100	.00905	.00000	.06778	.00000	.00000	.06747	.00000	.00011	.75444	.00000	.00000	.10115
2200	.00905	.00000	.06778	.00000	.00000	.06747	.00000	.00017	.75441	.00000	.00001	.10112
2300	.00905	.00000	.06778	.00000	.00000	.06746	.00000	.00025	.75437	.00000	.00002	.10107
2400	.00905	.00000	.06778	.00000	.00000	.06745	.00000	.00036	.75431	.00000	.00003	.10101
2500	.00905	.00000	.06778	.00000	.00000	.06744	.00000	.00050	.75423	.00000	.00006	.10094
2600	.00905	.00000	.06777	.00000	.00000	.06741	.00000	.00068	.75413	.00001	.00011	.10084
2700	.00905	.00001	.06776	.00000	.00000	.06738	.00000	.00090	.75401	.00001	.00017	.10071
2800	.00905	.00002	.06775	.00000	.00001	.06732	.00000	.00116	.75384	.00003	.00028	.10055
2900	.00905	.00005	.06772	.00000	.00002	.06723	.00000	.00148	.75363	.00005	.00043	.10035
3000	.00905	.00010	.06766	.00001	.00003	.06710	.00000	.00185	.75337	.00010	.00064	.10011
3100	.00905	.00019	.06756	.00001	.00005	.06692	.00000	.00228	.75302	.00018	.00093	.09982
3200	.00904	.00034	.06739	.00003	.00009	.06666	.00000	.00277	.75257	.00031	.00132	.09949
3300	.00904	.00061	.06709	.00006	.00015	.06630	.00000	.00333	.75197	.00052	.00183	.09910
3400	.00903	.00104	.06662	.00011	.00025	.06580	.00000	.00395	.75119	.00085	.00249	.09867
3500	.00902	.00170	.06589	.00022	.00039	.06513	.00000	.00464	.75013	.00134	.00333	.09820
3600	.00901	.00271	.06480	.00039	.00059	.06423	.00000	.00540	.74872	.00208	.00437	.09770
3700	.00899	.00416	.06321	.00069	.00087	.06303	.00000	.00624	.74685	.00314	.00563	.09719
3800	.00897	.00617	.06102	.00118	.00126	.06147	.00000	.00714	.74437	.00464	.00713	.09666
3900	.00894	.00883	.05811	.00194	.00176	.05947	.00000	.00810	.74114	.00672	.00887	.09611
4000	.00889	.01219	.05443	.00311	.00240	.05693	.00000	.00913	.73702	.00955	.01086	.09549
4100	.00884	.01620	.05000	.00483	.00318	.05379	.00000	.01021	.73186	.01333	.01305	.09471
4200	.00877	.02073	.04496	.00728	.00407	.04998	.00000	.01133	.72556	.01829	.01538	.09365
4300	.00869	.02556	.03950	.01066	.00506	.04550	.00000	.01245	.71804	.02465	.01776	.09213
4400	.00859	.03043	.03390	.01516	.00606	.04038	.00000	.01356	.70928	.03265	.02002	.08997
4500	.00848	.03506	.02842	.02090	.00699	.03475	.00000	.01462	.69932	.04248	.02199	.08699
4600	.00835	.03923	.02330	.02791	.00773	.02883	.00000	.01557	.68830	.05426	.02346	.08305
4700	.00821	.04279	.01871	.03606	.00816	.02292	.00001	.01638	.67645	.06800	.02423	.07807
4800	.00807	.04567	.01475	.04502	.00820	.01736	.00001	.01701	.66411	.08356	.02415	.07209
4900	.00792	.04790	.01143	.05430	.00782	.01249	.00002	.01741	.65170	.10063	.02318	.06520
5000	.00778	.04953	.00872	.06332	.00710	.00852	.00002	.01756	.63969	.11868	.02142	.05765
5100	.00764	.05067	.00657	.07156	.00614	.00552	.00004	.01746	.62850	.13707	.01908	.04974
5200	.00752	.05143	.00489	.07867	.00510	.00343	.00005	.01710	.61847	.15505	.01642	.04186
5300	.00741	.05191	.00361	.08451	.00410	.00205	.00007	.01651	.60978	.17192	.01373	.03439
5400	.00732	.05219	.00265	.08914	.00323	.00119	.00011	.01575	.60248	.18712	.01120	.02763

TABLE 8.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.033814; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00001	.75449	.00000	.00000	.10120
1700	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00001	.75449	.00000	.00000	.10120
1800	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00002	.75449	.00000	.00000	.10119
1900	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00004	.75448	.00000	.00000	.10118
2000	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00007	.75446	.00000	.00000	.10117
2100	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00011	.75444	.00000	.00000	.10115
2200	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00017	.75441	.00000	.00001	.10112
2300	.00905	.00000	.06778	.00000	.00000	.00000	.06746	.00000	.00025	.75437	.00000	.00001	.10107
2400	.00905	.00000	.06778	.00000	.00000	.00000	.06746	.00000	.00036	.75431	.00000	.00002	.10102
2500	.00905	.00000	.06778	.00000	.00000	.00000	.06745	.00000	.00050	.75424	.00000	.00003	.10094
2600	.00905	.00000	.06778	.00000	.00000	.00000	.06744	.00000	.00068	.75415	.00000	.00006	.10085
2700	.00905	.00000	.06777	.00000	.00000	.00000	.06742	.00000	.00090	.75403	.00000	.00010	.10073
2800	.00905	.00001	.06777	.00000	.00000	.00000	.06739	.00000	.00116	.75388	.00001	.00016	.10058
2900	.00905	.00002	.06776	.00000	.00000	.00001	.06734	.00000	.00148	.75370	.00002	.00024	.10040
3000	.00905	.00003	.06774	.00000	.00000	.00001	.06727	.00000	.00185	.75348	.00003	.00036	.10018
3100	.00905	.00006	.06771	.00000	.00000	.00002	.06718	.00000	.00228	.75321	.00006	.00052	.09992
3200	.00905	.00011	.06765	.00001	.00000	.00003	.06705	.00000	.00277	.75288	.00010	.00074	.09962
3300	.00904	.00019	.06755	.00001	.00000	.00005	.06687	.00000	.00333	.75248	.00016	.00103	.09927
3400	.00904	.00033	.06740	.00002	.00000	.00008	.06663	.00000	.00396	.75199	.00027	.00141	.09888
3500	.00904	.00055	.06716	.00004	.00000	.00012	.06631	.00000	.00465	.75138	.00043	.00189	.09843
3600	.00904	.00088	.06679	.00007	.00000	.00019	.06589	.00000	.00542	.75063	.00066	.00249	.09794
3700	.00903	.00138	.06625	.00012	.00000	.00029	.06536	.00000	.00625	.74969	.00099	.00322	.09741
3800	.00902	.00209	.06547	.00021	.00000	.00042	.06467	.00000	.00716	.74852	.00147	.00411	.09684
3900	.00901	.00309	.06438	.00036	.00000	.00060	.06381	.00000	.00814	.74706	.00213	.00517	.09626
4000	.00899	.00445	.06291	.00058	.00000	.00084	.06272	.00000	.00919	.74523	.00302	.00641	.09565
4100	.00897	.00624	.06097	.00092	.00000	.00114	.06137	.00000	.01031	.74297	.00422	.00785	.09504
4200	.00895	.00850	.05851	.00141	.00000	.00153	.05972	.00000	.01149	.74020	.00581	.00948	.09440
4300	.00891	.01126	.05550	.00213	.00000	.00201	.05773	.00000	.01272	.73683	.00786	.01130	.09373
4400	.00887	.01451	.05195	.00313	.00000	.00259	.05536	.00000	.01401	.73280	.01050	.01329	.09298
4500	.00882	.01817	.04792	.00451	.00001	.00325	.05257	.00000	.01534	.72807	.01382	.01543	.09208
4600	.00877	.02214	.04352	.00635	.00001	.00400	.04936	.00000	.01670	.72259	.01796	.01766	.09095
4700	.00870	.02627	.03890	.00875	.00001	.00481	.04572	.00000	.01805	.71635	.02302	.01991	.08950
4800	.00862	.03039	.03421	.01182	.00001	.00565	.04169	.00000	.01938	.70937	.02913	.02210	.08763
4900	.00854	.03434	.02962	.01561	.00001	.00647	.03734	.00001	.02066	.70166	.03639	.02411	.08525
5000	.00845	.03799	.02528	.02020	.00001	.00722	.03274	.00001	.02185	.69330	.04484	.02582	.08230
5100	.00835	.04123	.02127	.02556	.00001	.00783	.02805	.00001	.02292	.68436	.05454	.02711	.07875
5200	.00824	.04402	.01768	.03165	.00001	.00826	.02340	.00002	.02384	.67499	.06544	.02788	.07457
5300	.00813	.04634	.01453	.03832	.00001	.00844	.01897	.00002	.02458	.66533	.07746	.02804	.06982
5400	.00801	.04820	.01182	.04538	.00001	.00836	.01492	.00004	.02511	.65558	.09045	.02756	.06456

TABLE 8.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.033814; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00001	.00000	.75449	.00000	.00000	.10120
1700	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00001	.00000	.75449	.00000	.00000	.10120
1800	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00002	.00000	.75449	.00000	.00000	.10119
1900	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00004	.00000	.75448	.00000	.00000	.10118
2000	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00007	.00000	.75446	.00000	.00000	.10117
2100	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00011	.00000	.75444	.00000	.00000	.10115
2200	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00017	.00000	.75441	.00000	.00000	.10112
2300	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00000	.00025	.00000	.75437	.00000	.00001	.10107
2400	.00905	.00000	.06778	.00000	.00000	.00000	.06746	.00000	.00036	.00000	.75431	.00000	.00001	.10102
2500	.00905	.00000	.06778	.00000	.00000	.00000	.06746	.00000	.00050	.00000	.75424	.00000	.00002	.10095
2600	.00905	.00000	.06778	.00000	.00000	.00000	.06745	.00000	.00068	.00000	.75415	.00000	.00003	.10085
2700	.00905	.00000	.06778	.00000	.00000	.00000	.06744	.00000	.00090	.00000	.75404	.00000	.00005	.10074
2800	.00905	.00000	.06777	.00000	.00000	.00000	.06742	.00000	.00116	.00000	.75390	.00000	.00009	.10060
2900	.00905	.00000	.06777	.00000	.00000	.00000	.06740	.00000	.00148	.00000	.75373	.00001	.00013	.10042
3000	.00905	.00001	.06776	.00000	.00000	.00000	.06736	.00000	.00185	.00000	.75353	.00001	.00020	.10022
3100	.00905	.00002	.06775	.00000	.00000	.00001	.06731	.00000	.00228	.00000	.75329	.00002	.00029	.09998
3200	.00905	.00003	.06773	.00000	.00000	.00001	.06724	.00000	.00277	.00000	.75300	.00003	.00042	.09970
3300	.00905	.00006	.06770	.00000	.00000	.00002	.06715	.00000	.00333	.00001	.75267	.00005	.00058	.09938
3400	.00905	.00010	.06765	.00000	.00000	.00003	.06702	.00000	.00396	.00001	.75229	.00008	.00080	.09901
3500	.00905	.00017	.06757	.00001	.00000	.00004	.06686	.00000	.00466	.00001	.75183	.00013	.00107	.09860
3600	.00904	.00028	.06745	.00001	.00000	.00006	.06665	.00000	.00543	.00001	.75131	.00021	.00141	.09814
3700	.00904	.00044	.06728	.00002	.00000	.00009	.06639	.00000	.00627	.00001	.75069	.00031	.00183	.09763
3800	.00904	.00068	.06702	.00004	.00000	.00013	.06606	.00000	.00718	.00001	.74997	.00046	.00234	.09708
3900	.00903	.00101	.06665	.00006	.00000	.00019	.06565	.00000	.00816	.00001	.74912	.00067	.00295	.09648
4000	.00903	.00148	.06614	.00010	.00001	.00027	.06514	.00000	.00922	.00001	.74811	.00096	.00368	.09585
4100	.00902	.00211	.06545	.00017	.00001	.00038	.06453	.00000	.01034	.00001	.74693	.00134	.00453	.09519
4200	.00901	.00296	.06453	.00026	.00001	.00052	.06378	.00000	.01153	.00001	.74554	.00184	.00551	.09451
4300	.00900	.00406	.06334	.00039	.00001	.00069	.06288	.00000	.01279	.00001	.74390	.00249	.00663	.09381
4400	.00898	.00546	.06183	.00059	.00001	.00091	.06182	.00000	.01411	.00001	.74196	.00332	.00790	.09310
4500	.00896	.00718	.05997	.00086	.00001	.00118	.06056	.00000	.01549	.00001	.73970	.00438	.00932	.09237
4600	.00894	.00925	.05772	.00123	.00001	.00151	.05910	.00000	.01693	.00001	.73707	.00570	.01089	.09164
4700	.00891	.01168	.05509	.00174	.00001	.00189	.05740	.00000	.01841	.00001	.73405	.00734	.01259	.09088
4800	.00888	.01443	.05209	.00241	.00001	.00234	.05546	.00000	.01994	.00001	.73059	.00934	.01443	.09006
4900	.00884	.01748	.04877	.00328	.00001	.00285	.05326	.00000	.02150	.00001	.72670	.01177	.01637	.08916
5000	.00880	.02075	.04518	.00440	.00002	.00342	.05080	.00000	.02308	.00001	.72235	.01467	.01840	.08813
5100	.00875	.02416	.04141	.00581	.00002	.00404	.04808	.00000	.02466	.00001	.71755	.01812	.02046	.08693
5200	.00870	.02761	.03755	.00755	.00002	.00470	.04512	.00001	.02622	.00001	.71231	.02216	.02253	.08550
5300	.00864	.03102	.03371	.00968	.00002	.00538	.04193	.00001	.02775	.00001	.70665	.02684	.02454	.08382
5400	.00858	.03430	.02995	.01222	.00002	.00607	.03855	.00001	.02923	.00001	.70060	.03220	.02643	.08183

TABLE 8.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.033814; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00001	.00000	.75450	.00000	.00000	.10120
1700	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00001	.00000	.75449	.00000	.00000	.10120
1800	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00002	.00000	.75449	.00000	.00000	.10119
1900	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00004	.00000	.75448	.00000	.00000	.10118
2000	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00007	.00000	.75446	.00000	.00000	.10117
2100	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00011	.00000	.75444	.00000	.00000	.10114
2200	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00017	.00001	.75441	.00000	.00000	.10111
2300	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00025	.00001	.75437	.00000	.00000	.10107
2400	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00036	.00001	.75432	.00000	.00001	.10101
2500	.00905	.00000	.06778	.00000	.00000	.00000	.06746	.00050	.00001	.75424	.00000	.00001	.10094
2600	.00905	.00000	.06778	.00000	.00000	.00000	.06746	.00068	.00001	.75415	.00000	.00002	.10085
2700	.00905	.00000	.06778	.00000	.00000	.00000	.06745	.00090	.00001	.75404	.00000	.00003	.10074
2800	.00905	.00000	.06778	.00000	.00000	.00000	.06744	.00116	.00001	.75391	.00000	.00005	.10060
2900	.00905	.00000	.06778	.00000	.00000	.00000	.06743	.00148	.00001	.75374	.00000	.00008	.10043
3000	.00905	.00000	.06777	.00000	.00000	.00000	.06741	.00185	.00001	.75355	.00000	.00011	.10024
3100	.00905	.00001	.06777	.00000	.00000	.00000	.06738	.00228	.00001	.75332	.00001	.00017	.10001
3200	.00905	.00001	.06776	.00000	.00000	.00000	.06734	.00277	.00002	.75306	.00001	.00024	.09974
3300	.00905	.00002	.06775	.00000	.00000	.00000	.06729	.00333	.00002	.75275	.00002	.00033	.09943
3400	.00905	.00003	.06774	.00000	.00000	.00001	.06723	.00396	.00002	.75241	.00003	.00045	.09909
3500	.00905	.00006	.06771	.00000	.00000	.00001	.06714	.00466	.00002	.75201	.00004	.00060	.09870
3600	.00905	.00009	.06767	.00000	.00000	.00002	.06703	.00543	.00002	.75156	.00007	.00079	.09826
3700	.00905	.00014	.06761	.00000	.00001	.00003	.06689	.00627	.00002	.75106	.00010	.00103	.09778
3800	.00904	.00022	.06753	.00001	.00001	.00004	.06672	.00719	.00002	.75050	.00015	.00132	.09726
3900	.00904	.00032	.06741	.00001	.00001	.00006	.06651	.00818	.00002	.74986	.00021	.00167	.09669
4000	.00904	.00047	.06724	.00002	.00001	.00009	.06626	.00923	.00002	.74915	.00030	.00209	.09607
4100	.00904	.00068	.06701	.00003	.00001	.00012	.06595	.01036	.00002	.74835	.00042	.00257	.09542
4200	.00903	.00097	.06670	.00005	.00001	.00017	.06559	.01156	.00002	.74745	.00058	.00314	.09472
4300	.00903	.00134	.06629	.00007	.00001	.00023	.06516	.01283	.00002	.74644	.00079	.00380	.09400
4400	.00902	.00183	.06576	.00011	.00002	.00030	.06465	.01415	.00003	.74530	.00105	.00455	.09324
4500	.00902	.00246	.06507	.00016	.00002	.00040	.06405	.01554	.00003	.74402	.00138	.00539	.09246
4600	.00901	.00325	.06422	.00023	.00002	.00051	.06336	.01699	.00003	.74258	.00180	.00634	.09166
4700	.00900	.00423	.06316	.00032	.00002	.00065	.06256	.01850	.00003	.74095	.00232	.00739	.09085
4800	.00899	.00542	.06188	.00045	.00003	.00082	.06165	.02005	.00003	.73913	.00295	.00855	.09004
4900	.00897	.00684	.06035	.00062	.00003	.00103	.06062	.02166	.00003	.73709	.00372	.00982	.08921
5000	.00895	.00849	.05857	.00085	.00003	.00126	.05945	.02331	.00003	.73482	.00465	.01120	.08839
5100	.00893	.01039	.05652	.00113	.00003	.00154	.05814	.02500	.00003	.73230	.00575	.01268	.08755
5200	.00891	.01252	.05422	.00150	.00004	.00185	.05668	.02672	.00003	.72952	.00706	.01425	.08670
5300	.00888	.01486	.05168	.00196	.00004	.00221	.05507	.02847	.00003	.72647	.00859	.01591	.08581
5400	.00885	.01739	.04893	.00253	.00004	.00260	.05331	.03024	.00003	.72316	.01037	.01764	.08488

TABLE 8.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.033814; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 73 797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00001	.00000	.75449	.00000	.00000	.00000	.10120
1700	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00001	.00000	.75449	.00000	.00000	.00000	.10119
1800	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00002	.00001	.75449	.00000	.00000	.00000	.10119
1900	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00004	.00001	.75448	.00000	.00000	.00000	.10118
2000	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00007	.00001	.75446	.00000	.00000	.00000	.10116
2100	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00011	.00001	.75444	.00000	.00000	.00000	.10114
2200	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00017	.00001	.75441	.00000	.00000	.00000	.10111
2300	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00025	.00001	.75437	.00000	.00000	.00000	.10106
2400	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00036	.00002	.75431	.00000	.00000	.00000	.10101
2500	.00905	.00000	.06778	.00000	.00000	.00000	.06747	.00050	.00002	.75424	.00000	.00000	.00001	.10093
2600	.00905	.00000	.06778	.00000	.00000	.00000	.06746	.00068	.00002	.75415	.00000	.00000	.00001	.10084
2700	.00905	.00000	.06778	.00000	.00000	.00000	.06746	.00090	.00002	.75404	.00000	.00000	.00002	.10073
2800	.00905	.00000	.06778	.00000	.00000	.00000	.06745	.00116	.00002	.75391	.00000	.00000	.00003	.10059
2900	.00905	.00000	.06778	.00000	.00000	.00000	.06744	.00148	.00003	.75375	.00000	.00000	.00005	.10043
3000	.00905	.00000	.06778	.00000	.00000	.00000	.06743	.00185	.00003	.75356	.00000	.00000	.00008	.10023
3100	.00905	.00000	.06777	.00000	.00000	.00000	.06741	.00228	.00003	.75333	.00000	.00000	.00011	.10000
3200	.00905	.00000	.06777	.00000	.00000	.00000	.06739	.00277	.00003	.75307	.00000	.00000	.00016	.09974
3300	.00905	.00001	.06777	.00000	.00000	.00000	.06735	.00333	.00004	.75278	.00000	.00001	.00022	.09944
3400	.00905	.00001	.06776	.00000	.00000	.00000	.06731	.00396	.00004	.75244	.00000	.00001	.00030	.09910
3500	.00905	.00002	.06775	.00000	.00001	.00001	.06725	.00466	.00004	.75207	.00000	.00002	.00040	.09872
3600	.00905	.00004	.06773	.00000	.00001	.00001	.06718	.00543	.00004	.75165	.00000	.00003	.00053	.09830
3700	.00905	.00006	.06770	.00000	.00001	.00001	.06709	.00627	.00004	.75118	.00000	.00004	.00069	.09784
3800	.00905	.00010	.06766	.00000	.00001	.00002	.06698	.00719	.00005	.75066	.00000	.00007	.00089	.09733
3900	.00905	.00014	.06761	.00000	.00001	.00003	.06685	.00818	.00005	.75009	.00000	.00010	.00112	.09678
4000	.00904	.00021	.06753	.00001	.00001	.00004	.06669	.00924	.00005	.74946	.00000	.00014	.00140	.09618
4100	.00904	.00031	.06742	.00001	.00002	.00006	.06649	.01037	.00005	.74877	.00000	.00019	.00173	.09554
4200	.00904	.00044	.06728	.00001	.00002	.00008	.06626	.01157	.00005	.74801	.00000	.00026	.00211	.09486
4300	.00904	.00061	.06709	.00002	.00002	.00010	.06599	.01284	.00006	.74718	.00000	.00035	.00256	.09414
4400	.00904	.00083	.06685	.00003	.00002	.00014	.06567	.01417	.00006	.74627	.00000	.00047	.00307	.09338
4500	.00903	.00113	.06653	.00005	.00003	.00018	.06531	.01557	.00006	.74527	.00001	.00062	.00364	.09259
4600	.00903	.00150	.06612	.00007	.00003	.00023	.06488	.01702	.00006	.74418	.00001	.00081	.00429	.09178
4700	.00902	.00197	.06561	.00010	.00004	.00030	.06440	.01853	.00006	.74298	.00001	.00104	.00502	.09094
4800	.00902	.00255	.06499	.00014	.00004	.00038	.06384	.02009	.00006	.74167	.00001	.00132	.00582	.09008
4900	.00901	.00325	.06422	.00019	.00004	.00048	.06322	.02170	.00006	.74023	.00001	.00166	.00671	.08920
5000	.00900	.00411	.06330	.00026	.00005	.00059	.06251	.02336	.00007	.73866	.00001	.00208	.00768	.08832
5100	.00899	.00512	.06221	.00035	.00005	.00073	.06173	.02506	.00007	.73694	.00001	.00257	.00873	.08744
5200	.00898	.00630	.06094	.00047	.00006	.00089	.06085	.02680	.00007	.73507	.00001	.00315	.00987	.08655
5300	.00896	.00766	.05948	.00061	.00006	.00108	.05988	.02858	.00007	.73303	.00001	.00384	.01109	.08567
5400	.00895	.00920	.05782	.00080	.00007	.00129	.05880	.03038	.00007	.73081	.00001	.00464	.01239	.08478

TABLE 8C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.033814; EQUIV.RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00905	.06778	.06732	.00000	.00015	.75450	.10120
400	.00905	.06778	.06424	.00000	.00323	.75450	.10120
440	.00905	.06778	.02586	.00000	.04161	.75450	.10120
		PRESSURE = 0.10 ATM					
360	.00905	.06778	.06745	.00000	.00001	.75450	.10120
400	.00905	.06778	.06715	.00000	.00032	.75450	.10120
440	.00905	.06778	.06347	.00000	.00400	.75450	.10120
480	.00905	.06778	.03388	.00000	.03359	.75450	.10120
520	.00905	.06778	.00000	.00000	.06747	.75450	.10120
		PRESSURE = 1.00 ATM					
360	.00905	.06778	.06747	.00000	.00000	.75450	.10120
400	.00905	.06778	.06744	.00000	.00003	.75450	.10120
440	.00905	.06778	.06707	.00000	.00040	.75450	.10120
480	.00905	.06778	.06422	.00000	.00325	.75450	.10120
520	.00905	.06778	.00000	.05079	.01668	.75450	.10120
537	.00905	.06778	.00000	.03752	.02995	.75450	.10120
560	.00905	.06778	.00000	.00274	.06473	.75450	.10120
600	.00905	.06778	.00000	.00000	.06747	.75450	.10120
		PRESSURE = 10.00 ATM					
360	.00905	.06778	.06747	.00000	.00000	.75450	.10120
400	.00905	.06778	.06747	.00000	.00000	.75450	.10120
440	.00905	.06778	.06743	.00000	.00004	.75450	.10120
480	.00905	.06778	.06715	.00000	.00032	.75450	.10120
520	.00905	.06778	.00000	.06583	.00164	.75450	.10120
537	.00905	.06778	.00000	.06456	.00291	.75450	.10120
560	.00905	.06778	.00000	.06138	.00609	.75450	.10120
600	.00905	.06778	.00000	.04876	.01871	.75450	.10120
640	.00905	.06778	.00000	.01753	.04994	.75450	.10120
680	.00905	.06778	.00000	.00000	.06747	.75450	.10120
		PRESSURE = 50.00 ATM					
360	.00905	.06778	.06747	.00000	.00000	.75450	.10120
400	.00905	.06778	.06747	.00000	.00000	.75450	.10120
440	.00905	.06778	.06746	.00000	.00001	.75450	.10120
480	.00905	.06778	.06740	.00000	.00006	.75450	.10120
520	.00905	.06778	.00000	.06714	.00033	.75450	.10120
537	.00905	.06778	.00000	.06689	.00058	.75450	.10120
560	.00905	.06778	.00000	.06626	.00121	.75450	.10120
600	.00905	.06778	.00000	.06379	.00368	.75450	.10120
640	.00905	.06778	.00000	.05789	.00958	.75450	.10120
680	.00905	.06778	.00000	.04545	.02202	.75450	.10120
720	.00905	.06778	.00000	.02149	.04598	.75450	.10120
760	.00905	.06778	.00000	.00000	.06747	.75450	.10120

TABLE 9.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.050721; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00890	.00000	.09983	.00000	.00000	.09953	.00000	.00000	.74198	.00000	.00000	.04976
1700	.00890	.00000	.09983	.00000	.00000	.09953	.00000	.00001	.74198	.00000	.00000	.04976
1800	.00890	.00000	.09983	.00000	.00000	.09953	.00000	.00002	.74197	.00000	.00000	.04975
1900	.00890	.00000	.09983	.00000	.00000	.09953	.00000	.00003	.74197	.00000	.00000	.04975
2000	.00890	.00000	.09983	.00000	.00000	.09952	.00000	.00005	.74196	.00000	.00000	.04974
2100	.00890	.00000	.09983	.00000	.00000	.09952	.00000	.00008	.74194	.00000	.00000	.04972
2200	.00890	.00000	.09983	.00000	.00000	.09952	.00000	.00012	.74192	.00000	.00001	.04970
2300	.00890	.00000	.09983	.00000	.00000	.09952	.00000	.00018	.74189	.00000	.00002	.04967
2400	.00890	.00000	.09983	.00000	.00000	.09951	.00000	.00025	.74185	.00000	.00003	.04963
2500	.00890	.00000	.09982	.00000	.00000	.09949	.00000	.00035	.74179	.00000	.00006	.04957
2600	.00890	.00001	.09982	.00000	.00000	.09947	.00000	.00047	.74172	.00000	.00011	.04950
2700	.00890	.00002	.09980	.00000	.00001	.09942	.00000	.00062	.74162	.00001	.00018	.04941
2800	.00890	.00005	.09977	.00000	.00002	.09936	.00000	.00081	.74150	.00002	.00028	.04931
2900	.00890	.00010	.09971	.00000	.00003	.09926	.00000	.00103	.74132	.00004	.00043	.04918
3000	.00890	.00021	.09959	.00001	.00006	.09910	.00000	.00128	.74109	.00007	.00065	.04904
3100	.00889	.00039	.09938	.00002	.00011	.09888	.00000	.00158	.74077	.00012	.00094	.04890
3200	.00889	.00072	.09901	.00004	.00019	.09855	.00000	.00192	.74033	.00022	.00134	.04878
3300	.00889	.00127	.09841	.00008	.00032	.09808	.00000	.00231	.73971	.00036	.00187	.04870
3400	.00888	.00215	.09744	.00017	.00052	.09741	.00000	.00275	.73883	.00060	.00254	.04871
3500	.00887	.00351	.09594	.00031	.00081	.09648	.00000	.00325	.73760	.00095	.00341	.04887
3600	.00885	.00552	.09375	.00057	.00123	.09521	.00000	.00380	.73589	.00148	.00448	.04924
3700	.00882	.00833	.09067	.00099	.00181	.09349	.00000	.00443	.73355	.00225	.00580	.04987
3800	.00879	.01207	.08655	.00168	.00257	.09121	.00000	.00513	.73043	.00336	.00739	.05081
3900	.00875	.01680	.08133	.00276	.00355	.08826	.00000	.00590	.72639	.00494	.00927	.05204
4000	.00869	.02246	.07505	.00438	.00476	.08453	.00000	.00676	.72130	.00715	.01145	.05349
4100	.00862	.02885	.06787	.00674	.00619	.07992	.00000	.00769	.71504	.01016	.01389	.05502
4200	.00854	.03569	.06009	.01008	.00781	.07437	.00000	.00868	.70756	.01420	.01654	.05644
4300	.00844	.04263	.05205	.01465	.00955	.06787	.00000	.00971	.69882	.01948	.01928	.05753
4400	.00833	.04929	.04411	.02070	.01130	.06048	.00000	.01074	.68881	.02623	.02196	.05805
4500	.00820	.05537	.03659	.02841	.01292	.05236	.00000	.01173	.67760	.03463	.02437	.05781
4600	.00806	.06063	.02974	.03786	.01422	.04380	.00000	.01264	.66532	.04481	.02628	.05664
4700	.00790	.06494	.02371	.04891	.01501	.03520	.00001	.01343	.65223	.05678	.02744	.05443
4800	.00774	.06829	.01858	.06120	.01515	.02703	.00001	.01405	.63868	.07041	.02766	.05118
4900	.00758	.07076	.01433	.07413	.01458	.01975	.00002	.01447	.62516	.08540	.02686	.04696
5000	.00743	.07246	.01089	.08694	.01338	.01370	.00002	.01466	.61218	.10126	.02510	.04197
5100	.00729	.07357	.00817	.09890	.01172	.00903	.00003	.01461	.60024	.11738	.02258	.03648
5200	.00716	.07424	.00606	.10941	.00987	.00569	.00005	.01433	.58968	.13307	.01960	.03084
5300	.00705	.07460	.00446	.11821	.00803	.00344	.00007	.01385	.58070	.14770	.01649	.02539
5400	.00696	.07477	.00326	.12528	.00637	.00202	.00010	.01320	.57331	.16080	.01353	.02040

TABLE 9.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.050721; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00000	.74198	.00000	.00000	.04976
1700	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00001	.74198	.00000	.00000	.04976
1800	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00002	.74197	.00000	.00000	.04975
1900	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00003	.74197	.00000	.00000	.04975
2000	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00005	.74196	.00000	.00000	.04974
2100	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00000	.00008	.74194	.00000	.00000	.04972
2200	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00000	.00012	.74192	.00000	.00001	.04970
2300	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00000	.00018	.74189	.00000	.00001	.04967
2400	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00000	.00025	.74185	.00000	.00002	.04963
2500	.00890	.00000	.09983	.00000	.00000	.00000	.09951	.00000	.00035	.74180	.00000	.00003	.04958
2600	.00890	.00000	.09982	.00000	.00000	.00000	.09949	.00000	.00047	.74173	.00000	.00006	.04951
2700	.00890	.00001	.09982	.00000	.00000	.00000	.09947	.00000	.00062	.74165	.00000	.00010	.04943
2800	.00890	.00002	.09981	.00000	.00000	.00001	.09944	.00000	.00081	.74154	.00001	.00016	.04932
2900	.00890	.00003	.09979	.00000	.00000	.00001	.09938	.00000	.00103	.74140	.00001	.00024	.04920
3000	.00890	.00007	.09975	.00000	.00000	.00002	.09931	.00000	.00128	.74123	.00002	.00036	.04905
3100	.00890	.00012	.09968	.00000	.00000	.00004	.09920	.00000	.00158	.74102	.00004	.00053	.04889
3200	.00890	.00023	.09956	.00001	.00000	.00006	.09905	.00000	.00192	.74074	.00007	.00076	.04871
3300	.00889	.00041	.09936	.00002	.00000	.00010	.09883	.00000	.00231	.74039	.00011	.00105	.04852
3400	.00889	.00070	.09904	.00003	.00000	.00017	.09854	.00000	.00274	.73994	.00019	.00144	.04833
3500	.00889	.00115	.09854	.00006	.00000	.00026	.09814	.00000	.00323	.73935	.00030	.00192	.04817
3600	.00888	.00184	.09778	.00010	.00000	.00040	.09760	.00000	.00376	.73857	.00046	.00254	.04806
3700	.00887	.00286	.09667	.00018	.00000	.00060	.09688	.00000	.00436	.73755	.00070	.00329	.04804
3800	.00886	.00431	.09508	.00031	.00000	.00088	.09595	.00000	.00501	.73622	.00104	.00421	.04814
3900	.00884	.00629	.09291	.00052	.00000	.00125	.09474	.00000	.00572	.73449	.00151	.00531	.04841
4000	.00882	.00891	.09005	.00084	.00000	.00174	.09320	.00000	.00651	.73228	.00216	.00661	.04887
4100	.00879	.01224	.08641	.00131	.00000	.00236	.09127	.00000	.00737	.72951	.00305	.00813	.04955
4200	.00876	.01629	.08197	.00202	.00000	.00312	.08888	.00000	.00831	.72610	.00424	.00988	.05043
4300	.00872	.02101	.07675	.00302	.00000	.00404	.08598	.00000	.00933	.72198	.00583	.01187	.05147
4400	.00866	.02632	.07087	.00441	.00000	.00513	.08252	.00000	.01043	.71711	.00789	.01407	.05258
4500	.00860	.03202	.06448	.00630	.00000	.00636	.07847	.00000	.01158	.71148	.01055	.01647	.05368
4600	.00853	.03793	.05779	.00882	.00000	.00772	.07380	.00000	.01278	.70506	.01392	.01901	.05464
4700	.00845	.04382	.05102	.01209	.00001	.00917	.06853	.00000	.01401	.69787	.01810	.02161	.05533
4800	.00837	.04947	.04438	.01623	.00001	.01066	.06270	.00000	.01523	.68993	.02321	.02419	.05563
4900	.00827	.05470	.03806	.02137	.00001	.01211	.05638	.00001	.01642	.68127	.02935	.02660	.05545
5000	.00816	.05937	.03221	.02756	.00001	.01344	.04972	.00001	.01754	.67196	.03656	.02873	.05472
5100	.00805	.06340	.02693	.03484	.00001	.01455	.04288	.00001	.01856	.66209	.04490	.03042	.05337
5200	.00793	.06675	.02226	.04313	.00001	.01533	.03607	.00002	.01945	.65179	.05433	.03154	.05140
5300	.00781	.06942	.01821	.05228	.00001	.01570	.02952	.00002	.02018	.64123	.06478	.03199	.04883
5400	.00769	.07149	.01476	.06205	.00001	.01563	.02347	.00003	.02072	.63063	.07611	.03171	.04571

TABLE 9.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.050721; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00000	.00000	.74198	.00000	.00000	.04976
1700	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00001	.00000	.74198	.00000	.00000	.04976
1800	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00002	.00000	.74197	.00000	.00000	.04975
1900	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00003	.00000	.74197	.00000	.00000	.04975
2000	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00005	.00000	.74196	.00000	.00000	.04974
2100	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00008	.00000	.74194	.00000	.00000	.04972
2200	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00000	.00012	.00000	.74192	.00000	.00000	.04970
2300	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00000	.00018	.00000	.74189	.00000	.00001	.04967
2400	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00000	.00025	.00000	.74185	.00000	.00001	.04963
2500	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00000	.00035	.00000	.74180	.00000	.00002	.04958
2600	.00890	.00000	.09983	.00000	.00000	.00000	.09951	.00000	.00047	.00000	.74174	.00000	.00003	.04952
2700	.00890	.00000	.09983	.00000	.00000	.00000	.09950	.00000	.00062	.00000	.74166	.00000	.00006	.04944
2800	.00890	.00000	.09982	.00000	.00000	.00000	.09948	.00000	.00081	.00000	.74156	.00000	.00009	.04934
2900	.00890	.00001	.09981	.00000	.00000	.00000	.09945	.00000	.00103	.00000	.74144	.00000	.00014	.04922
3000	.00890	.00002	.09980	.00000	.00000	.00001	.09941	.00000	.00128	.00000	.74129	.00001	.00020	.04907
3100	.00890	.00004	.09978	.00000	.00000	.00001	.09935	.00000	.00158	.00000	.74111	.00001	.00030	.04891
3200	.00890	.00007	.09974	.00000	.00000	.00002	.09928	.00000	.00192	.00000	.74090	.00002	.00043	.04872
3300	.00890	.00013	.09968	.00000	.00000	.00003	.09917	.00000	.00231	.00000	.74064	.00004	.00059	.04851
3400	.00890	.00022	.09957	.00001	.00000	.00005	.09903	.00000	.00274	.00000	.74033	.00006	.00081	.04828
3500	.00889	.00037	.09941	.00001	.00000	.00008	.09884	.00000	.00322	.00000	.73996	.00009	.00109	.04803
3600	.00889	.00059	.09916	.00002	.00000	.00013	.09859	.00000	.00376	.00000	.73951	.00015	.00143	.04778
3700	.00889	.00093	.09878	.00003	.00000	.00019	.09827	.00000	.00434	.00000	.73895	.00022	.00186	.04753
3800	.00888	.00142	.09824	.00006	.00000	.00029	.09786	.00000	.00497	.00000	.73827	.00032	.00238	.04730
3900	.00888	.00212	.09748	.00009	.00000	.00041	.09733	.00000	.00566	.00000	.73743	.00047	.00300	.04711
4000	.00887	.00308	.09643	.00015	.00000	.00058	.09667	.00000	.00640	.00000	.73640	.00067	.00375	.04699
4100	.00886	.00437	.09502	.00024	.00000	.00080	.09585	.00000	.00721	.00000	.73512	.00094	.00462	.04696
4200	.00885	.00606	.09318	.00038	.00000	.00109	.09484	.00000	.00807	.00000	.73356	.00130	.00564	.04704
4300	.00883	.00821	.09084	.00057	.00001	.00145	.09360	.00000	.00900	.00000	.73166	.00177	.00682	.04725
4400	.00881	.01085	.08795	.00085	.00001	.00190	.09210	.00000	.01000	.00000	.72938	.00238	.00816	.04761
4500	.00878	.01402	.08450	.00124	.00001	.00244	.09032	.00000	.01108	.00000	.72668	.00316	.00967	.04810
4600	.00875	.01769	.08048	.00176	.00001	.00309	.08822	.00000	.01223	.00000	.72353	.00416	.01136	.04872
4700	.00871	.02182	.07594	.00247	.00001	.00384	.08578	.00000	.01345	.00000	.71990	.00541	.01322	.04943
4800	.00867	.02634	.07096	.00341	.00001	.00470	.08297	.00000	.01473	.00000	.71579	.00697	.01525	.05019
4900	.00863	.03113	.06564	.00462	.00001	.00566	.07979	.00000	.01607	.00001	.71120	.00889	.01742	.05093
5000	.00857	.03608	.06010	.00616	.00001	.00671	.07623	.00000	.01746	.00001	.70613	.01123	.01971	.05159
5100	.00852	.04105	.05448	.00809	.00001	.00785	.07230	.00000	.01886	.00001	.70060	.01403	.02208	.05211
5200	.00845	.04592	.04890	.01048	.00002	.00905	.06800	.00001	.02028	.00001	.69464	.01735	.02448	.05242
5300	.00838	.05058	.04348	.01338	.00002	.01028	.06338	.00001	.02167	.00001	.68826	.02124	.02684	.05248
5400	.00831	.05492	.03832	.01684	.00002	.01151	.05847	.00001	.02303	.00001	.68150	.02573	.02910	.05223

TABLE 9.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.050721; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00000	.74198	.00000	.00000	.04976
1700	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00001	.00000	.74198	.00000	.00000	.04976
1800	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00002	.00000	.74197	.00000	.00000	.04975
1900	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00003	.00000	.74197	.00000	.00000	.04975
2000	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00005	.00000	.74196	.00000	.00000	.04974
2100	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00008	.00000	.74194	.00000	.00000	.04972
2200	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00012	.00000	.74192	.00000	.00000	.04970
2300	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00018	.00000	.74189	.00000	.00000	.04967
2400	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00025	.00000	.74186	.00000	.00001	.04963
2500	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00035	.00000	.74181	.00000	.00001	.04958
2600	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00047	.00000	.74174	.00000	.00002	.04952
2700	.00890	.00000	.09983	.00000	.00000	.00000	.09951	.00062	.00000	.74166	.00000	.00003	.04944
2800	.00890	.00000	.09983	.00000	.00000	.00000	.09950	.00081	.00001	.74157	.00000	.00005	.04934
2900	.00890	.00000	.09982	.00000	.00000	.00000	.09948	.00103	.00001	.74145	.00000	.00008	.04922
3000	.00890	.00001	.09982	.00000	.00000	.00000	.09946	.00128	.00001	.74132	.00000	.00012	.04909
3100	.00890	.00001	.09981	.00000	.00000	.00000	.09943	.00158	.00001	.74115	.00000	.00017	.04893
3200	.00890	.00002	.09980	.00000	.00000	.00001	.09939	.00192	.00001	.74096	.00001	.00024	.04874
3300	.00890	.00004	.09978	.00000	.00000	.00001	.09934	.00231	.00001	.74074	.00001	.00033	.04853
3400	.00890	.00007	.09974	.00000	.00000	.00002	.09926	.00274	.00001	.74049	.00002	.00046	.04829
3500	.00890	.00012	.09969	.00000	.00000	.00003	.09917	.00322	.00001	.74019	.00003	.00061	.04803
3600	.00890	.00019	.09961	.00000	.00000	.00004	.09905	.00376	.00001	.73985	.00005	.00081	.04775
3700	.00889	.00030	.09949	.00001	.00000	.00006	.09889	.00434	.00001	.73946	.00007	.00105	.04744
3800	.00889	.00045	.09931	.00001	.00000	.00009	.09869	.00496	.00001	.73900	.00010	.00134	.04712
3900	.00889	.00068	.09906	.00002	.00001	.00013	.09844	.00564	.00001	.73848	.00015	.00170	.04679
4000	.00889	.00100	.09870	.00003	.00001	.00019	.09814	.00637	.00001	.73787	.00021	.00212	.04647
4100	.00888	.00144	.09822	.00004	.00001	.00026	.09776	.00715	.00001	.73716	.00029	.00261	.04615
4200	.00888	.00203	.09757	.00007	.00001	.00036	.09731	.00798	.00001	.73632	.00040	.00319	.04585
4300	.00887	.00281	.09672	.00010	.00001	.00048	.09676	.00887	.00001	.73535	.00055	.00386	.04560
4400	.00886	.00382	.09562	.00016	.00001	.00064	.09610	.00980	.00001	.73421	.00073	.00463	.04539
4500	.00885	.00510	.09423	.00023	.00001	.00084	.09532	.01079	.00001	.73288	.00097	.00550	.04526
4600	.00884	.00668	.09252	.00033	.00001	.00108	.09439	.01184	.00001	.73133	.00127	.00648	.04521
4700	.00883	.00859	.09044	.00047	.00002	.00138	.09331	.01295	.00001	.72953	.00164	.00758	.04525
4800	.00881	.01086	.08797	.00065	.00002	.00173	.09206	.01412	.00001	.72747	.00210	.00881	.04538
4900	.00879	.01349	.08511	.00090	.00002	.00215	.09061	.01536	.00001	.72513	.00266	.01016	.04561
5000	.00877	.01647	.08186	.00122	.00002	.00263	.08897	.01666	.00002	.72249	.00335	.01163	.04592
5100	.00874	.01978	.07825	.00163	.00003	.00317	.08711	.01802	.00002	.71955	.00418	.01323	.04630
5200	.00871	.02337	.07431	.00214	.00003	.00379	.08503	.01944	.00002	.71630	.00518	.01495	.04672
5300	.00867	.02720	.07011	.00279	.00003	.00448	.08273	.02091	.00002	.71275	.00637	.01679	.04716
5400	.00864	.03119	.06570	.00359	.00003	.00523	.08019	.02242	.00002	.70891	.00777	.01872	.04759

TABLE 9.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.050721; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00000	.00000	.74198	.00000	.00000	.00000	.04976
1700	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00001	.00000	.74198	.00000	.00000	.00000	.04976
1800	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00002	.00000	.74197	.00000	.00000	.00000	.04975
1900	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00003	.00000	.74197	.00000	.00000	.00000	.04974
2000	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00005	.00000	.74196	.00000	.00000	.00000	.04973
2100	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00008	.00001	.74194	.00000	.00000	.00000	.04972
2200	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00012	.00001	.74192	.00000	.00000	.00000	.04970
2300	.00890	.00000	.09983	.00000	.00000	.00000	.09953	.00018	.00001	.74189	.00000	.00000	.00000	.04967
2400	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00025	.00001	.74186	.00000	.00000	.00000	.04963
2500	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00035	.00001	.74181	.00000	.00000	.00001	.04958
2600	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00047	.00001	.74174	.00000	.00000	.00001	.04951
2700	.00890	.00000	.09983	.00000	.00000	.00000	.09952	.00062	.00001	.74167	.00000	.00000	.00002	.04943
2800	.00890	.00000	.09983	.00000	.00000	.00000	.09951	.00081	.00001	.74157	.00000	.00000	.00003	.04934
2900	.00890	.00000	.09983	.00000	.00000	.00000	.09950	.00103	.00001	.74146	.00000	.00000	.00005	.04922
3000	.00890	.00000	.09982	.00000	.00000	.00000	.09948	.00128	.00001	.74132	.00000	.00000	.00008	.04909
3100	.00890	.00001	.09982	.00000	.00000	.00000	.09947	.00158	.00002	.74117	.00000	.00000	.00011	.04893
3200	.00890	.00001	.09981	.00000	.00000	.00000	.09944	.00192	.00002	.74098	.00000	.00000	.00016	.04875
3300	.00890	.00002	.09980	.00000	.00000	.00000	.09940	.00231	.00002	.74077	.00000	.00001	.00022	.04854
3400	.00890	.00003	.09979	.00000	.00000	.00001	.09936	.00274	.00002	.74053	.00000	.00001	.00030	.04830
3500	.00890	.00005	.09976	.00000	.00000	.00001	.09929	.00323	.00002	.74026	.00000	.00001	.00041	.04804
3600	.00890	.00008	.09973	.00000	.00000	.00002	.09922	.00376	.00002	.73996	.00000	.00002	.00054	.04776
3700	.00890	.00013	.09967	.00000	.00001	.00003	.09912	.00434	.00002	.73961	.00000	.00003	.00070	.04745
3800	.00890	.00020	.09959	.00000	.00001	.00004	.09900	.00496	.00002	.73922	.00000	.00005	.00090	.04711
3900	.00889	.00031	.09947	.00001	.00001	.00006	.09884	.00564	.00002	.73879	.00000	.00007	.00114	.04675
4000	.00889	.00045	.09931	.00001	.00001	.00008	.09866	.00637	.00002	.73829	.00000	.00009	.00142	.04638
4100	.00889	.00065	.09909	.00001	.00001	.00012	.09843	.00714	.00003	.73774	.00000	.00013	.00175	.04600
4200	.00889	.00092	.09879	.00002	.00001	.00016	.09816	.00797	.00003	.73712	.00000	.00018	.00214	.04561
4300	.00889	.00129	.09839	.00003	.00002	.00022	.09784	.00884	.00003	.73642	.00000	.00024	.00259	.04522
4400	.00888	.00176	.09787	.00005	.00002	.00029	.09745	.00975	.00003	.73562	.00000	.00033	.00311	.04484
4500	.00888	.00237	.09720	.00007	.00002	.00039	.09699	.01071	.00003	.73472	.00000	.00043	.00370	.04449
4600	.00887	.00315	.09636	.00010	.00002	.00050	.09646	.01172	.00003	.73369	.00000	.00056	.00436	.04417
4700	.00886	.00411	.09531	.00014	.00002	.00064	.09584	.01278	.00003	.73253	.00000	.00072	.00510	.04389
4800	.00885	.00529	.09403	.00020	.00003	.00082	.09512	.01389	.00003	.73122	.00000	.00092	.00593	.04367
4900	.00884	.00671	.09249	.00028	.00003	.00102	.09429	.01505	.00003	.72973	.00001	.00116	.00685	.04351
5000	.00883	.00839	.09066	.00038	.00003	.00127	.09335	.01626	.00003	.72806	.00001	.00146	.00786	.04342
5100	.00881	.01034	.08855	.00051	.00004	.00155	.09228	.01753	.00003	.72619	.00001	.00181	.00896	.04339
5200	.00880	.01256	.08613	.00068	.00004	.00188	.09107	.01885	.00003	.72411	.00001	.00223	.01016	.04344
5300	.00878	.01506	.08342	.00089	.00005	.00226	.08972	.02022	.00003	.72181	.00001	.00274	.01146	.04356
5400	.00876	.01781	.08042	.00115	.00005	.00269	.08822	.02165	.00004	.71929	.00001	.00333	.01286	.04373

TABLE 9C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.050721; EQUIV.RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00890	.09983	.09938	.00000	.00014	.74198	.04976
400	.00890	.09983	.09641	.00000	.00312	.74198	.04976
440	.00890	.09983	.05934	.00000	.04018	.74198	.04976
		PRESSURE = 0.10 ATM					
360	.00890	.09983	.09951	.00000	.00001	.74198	.04976
400	.00890	.09983	.09922	.00000	.00031	.74198	.04976
440	.00890	.09983	.09566	.00000	.00386	.74198	.04976
480	.00890	.09983	.06709	.00000	.03243	.74198	.04976
520	.00890	.09983	.00000	.00000	.09953	.74198	.04976
		PRESSURE = 1.00 ATM					
360	.00890	.09983	.09952	.00000	.00000	.74198	.04976
400	.00890	.09983	.09949	.00000	.00003	.74198	.04976
440	.00890	.09983	.09914	.00000	.00038	.74198	.04976
480	.00890	.09983	.09638	.00000	.00314	.74198	.04976
520	.00890	.09983	.00000	.08342	.01610	.74198	.04976
537	.00890	.09983	.00000	.07060	.02892	.74198	.04976
560	.00890	.09983	.00000	.03702	.06251	.74198	.04976
600	.00890	.09983	.00000	.00000	.09953	.74198	.04976
		PRESSURE = 10.00 ATM					
360	.00890	.09983	.09953	.00000	.00000	.74198	.04976
400	.00890	.09983	.09952	.00000	.00000	.74198	.04976
440	.00890	.09983	.09949	.00000	.00004	.74198	.04976
480	.00890	.09983	.09921	.00000	.00031	.74198	.04976
520	.00890	.09983	.00000	.09794	.00158	.74198	.04976
537	.00890	.09983	.00000	.09672	.00281	.74198	.04976
560	.00890	.09983	.00000	.09364	.00588	.74198	.04976
600	.00890	.09983	.00000	.08146	.01807	.74198	.04976
640	.00890	.09983	.00000	.05130	.04823	.74198	.04976
680	.00890	.09983	.00000	.00000	.09953	.74198	.04976
		PRESSURE = 50.00 ATM					
360	.00890	.09983	.09953	.00000	.00000	.74198	.04976
400	.00890	.09983	.09953	.00000	.00000	.74198	.04976
440	.00890	.09983	.09952	.00000	.00001	.74198	.04976
480	.00890	.09983	.09946	.00000	.00006	.74198	.04976
520	.00890	.09983	.00000	.09921	.00032	.74198	.04976
537	.00890	.09983	.00000	.09897	.00056	.74198	.04976
560	.00890	.09983	.00000	.09836	.00117	.74198	.04976
600	.00890	.09983	.00000	.09597	.00356	.74198	.04976
640	.00890	.09983	.00000	.09028	.00925	.74198	.04976
680	.00890	.09983	.00000	.07827	.02126	.74198	.04976
720	.00890	.09983	.00000	.05512	.04440	.74198	.04976
760	.00890	.09983	.00000	.01316	.08636	.74198	.04976

TABLE 10.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.067628; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00875	.00000	.13083	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1700	.00875	.00000	.13083	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1800	.00875	.00000	.13083	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1900	.00875	.00000	.13083	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2000	.00875	.00000	.13083	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2100	.00875	.00000	.13083	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2200	.00875	.00001	.13082	.00000	.00001	.13053	.00000	.00000	.72987	.00000	.00000	.00001
2300	.00875	.00003	.13080	.00000	.00002	.13051	.00000	.00000	.72986	.00000	.00000	.00002
2400	.00875	.00006	.13077	.00000	.00003	.13049	.00000	.00001	.72984	.00000	.00001	.00004
2500	.00875	.00012	.13070	.00000	.00006	.13046	.00000	.00001	.72980	.00000	.00001	.00008
2600	.00875	.00022	.13059	.00000	.00010	.13040	.00000	.00002	.72974	.00000	.00003	.00014
2700	.00875	.00040	.13039	.00000	.00016	.13031	.00000	.00004	.72964	.00000	.00005	.00024
2800	.00875	.00069	.13008	.00001	.00025	.13017	.00000	.00007	.72948	.00000	.00010	.00041
2900	.00875	.00115	.12958	.00001	.00038	.12996	.00000	.00012	.72922	.00000	.00017	.00066
3000	.00874	.00183	.12884	.00003	.00056	.12965	.00000	.00018	.72884	.00001	.00028	.00103
3100	.00874	.00282	.12775	.00005	.00082	.12921	.00000	.00028	.72829	.00002	.00046	.00157
3200	.00873	.00423	.12622	.00010	.00116	.12858	.00000	.00041	.72750	.00005	.00071	.00231
3300	.00872	.00615	.12412	.00019	.00161	.12772	.00000	.00060	.72641	.00009	.00109	.00331
3400	.00870	.00871	.12131	.00034	.00219	.12656	.00000	.00084	.72493	.00018	.00161	.00462
3500	.00868	.01201	.11769	.00059	.00293	.12501	.00000	.00115	.72297	.00034	.00232	.00629
3600	.00865	.01615	.11313	.00100	.00386	.12299	.00000	.00155	.72043	.00061	.00327	.00836
3700	.00861	.02119	.10756	.00165	.00499	.12039	.00000	.00204	.71720	.00105	.00449	.01083
3800	.00857	.02711	.10096	.00264	.00636	.11708	.00000	.00263	.71316	.00175	.00603	.01370
3900	.00851	.03385	.09339	.00413	.00798	.11295	.00000	.00332	.70821	.00282	.00792	.01690
4000	.00845	.04125	.08500	.00629	.00986	.10788	.00000	.00411	.70226	.00441	.01015	.02033
4100	.00837	.04907	.07600	.00937	.01197	.10177	.00000	.00499	.69521	.00669	.01272	.02384
4200	.00828	.05699	.06669	.01363	.01428	.09453	.00000	.00595	.68699	.00987	.01554	.02725
4300	.00817	.06469	.05738	.01937	.01669	.08617	.00000	.00694	.67756	.01415	.01852	.03036
4400	.00805	.07184	.04842	.02687	.01905	.07676	.00000	.00796	.66689	.01976	.02147	.03294
4500	.00791	.07816	.04006	.03636	.02116	.06651	.00000	.00895	.65503	.02687	.02420	.03479
4600	.00776	.08346	.03253	.04792	.02279	.05576	.00000	.00987	.64212	.03560	.02643	.03576
4700	.00760	.08767	.02593	.06143	.02368	.04498	.00001	.01068	.62839	.04599	.02791	.03572
4800	.00743	.09080	.02032	.07649	.02367	.03473	.00001	.01134	.61423	.05791	.02843	.03462
4900	.00727	.09297	.01567	.09244	.02267	.02556	.00001	.01180	.60014	.07107	.02787	.03253
5000	.00711	.09434	.01190	.10840	.02079	.01788	.00002	.01205	.58666	.08501	.02627	.02957
5100	.00696	.09512	.00892	.12347	.01827	.01189	.00003	.01207	.57433	.09912	.02380	.02601
5200	.00683	.09547	.00661	.13691	.01545	.00755	.00005	.01187	.56351	.11280	.02079	.02216
5300	.00672	.09556	.00485	.14831	.01264	.00460	.00007	.01149	.55441	.12545	.01758	.01831
5400	.00663	.09550	.00354	.15758	.01008	.00272	.00010	.01096	.54700	.13669	.01446	.01474

TABLE 10.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.067628; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1700	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1800	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1900	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2000	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72987	.00000	.00000	.00000
2100	.00875	.00000	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2200	.00875	.00001	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2300	.00875	.00001	.13082	.00000	.00000	.00001	.13053	.00000	.00000	.72987	.00000	.00000	.00001
2400	.00875	.00003	.13080	.00000	.00000	.00001	.13052	.00000	.00000	.72986	.00000	.00000	.00002
2500	.00875	.00006	.13077	.00000	.00000	.00003	.13050	.00000	.00001	.72984	.00000	.00001	.00004
2600	.00875	.00011	.13072	.00000	.00000	.00004	.13047	.00000	.00002	.72981	.00000	.00001	.00006
2700	.00875	.00019	.13063	.00000	.00000	.00007	.13043	.00000	.00003	.72976	.00000	.00002	.00011
2800	.00875	.00033	.13048	.00000	.00000	.00012	.13037	.00000	.00005	.72968	.00000	.00004	.00019
2900	.00875	.00054	.13024	.00000	.00000	.00018	.13027	.00000	.00008	.72956	.00000	.00008	.00030
3000	.00875	.00086	.12989	.00001	.00000	.00027	.13012	.00000	.00012	.72937	.00000	.00013	.00047
3100	.00875	.00134	.12937	.00001	.00000	.00038	.12992	.00000	.00019	.72911	.00000	.00021	.00072
3200	.00874	.00201	.12864	.00002	.00000	.00055	.12963	.00000	.00028	.72873	.00001	.00033	.00106
3300	.00874	.00295	.12762	.00004	.00000	.00076	.12924	.00000	.00041	.72820	.00002	.00051	.00152
3400	.00873	.00421	.12625	.00007	.00000	.00103	.12871	.00000	.00057	.72748	.00004	.00075	.00215
3500	.00872	.00587	.12444	.00013	.00000	.00139	.12801	.00000	.00079	.72654	.00007	.00109	.00295
3600	.00871	.00800	.12211	.00022	.00000	.00183	.12710	.00000	.00107	.72530	.00013	.00155	.00398
3700	.00869	.01067	.11919	.00036	.00000	.00237	.12593	.00000	.00143	.72373	.00023	.00216	.00524
3800	.00867	.01395	.11559	.00058	.00000	.00304	.12445	.00000	.00186	.72175	.00039	.00293	.00678
3900	.00864	.01788	.11127	.00091	.00000	.00384	.12261	.00000	.00239	.71931	.00064	.00392	.00860
4000	.00861	.02248	.10620	.00139	.00000	.00479	.12033	.00000	.00301	.71635	.00101	.00513	.01069
4100	.00857	.02772	.10039	.00208	.00000	.00592	.11756	.00000	.00374	.71282	.00156	.00661	.01303
4200	.00853	.03355	.09389	.00306	.00000	.00721	.11422	.00000	.00457	.70865	.00236	.00835	.01559
4300	.00847	.03986	.08680	.00442	.00000	.00870	.11027	.00000	.00550	.70383	.00347	.01038	.01830
4400	.00841	.04650	.07926	.00627	.00000	.01036	.10564	.00000	.00651	.69830	.00500	.01267	.02107
4500	.00835	.05329	.07145	.00873	.00000	.01220	.10029	.00000	.00761	.69206	.00703	.01520	.02381
4600	.00827	.06003	.06356	.01195	.00000	.01417	.09421	.00000	.00876	.68508	.00967	.01791	.02639
4700	.00818	.06652	.05579	.01608	.00000	.01623	.08740	.00000	.00994	.67736	.01304	.02072	.02872
4800	.00809	.07257	.04834	.02127	.00000	.01830	.07993	.00000	.01114	.66892	.01724	.02353	.03068
4900	.00799	.07802	.04135	.02764	.00000	.02028	.07189	.00000	.01231	.65977	.02235	.02622	.03217
5000	.00788	.08277	.03495	.03530	.00000	.02204	.06344	.00001	.01342	.64998	.02845	.02863	.03313
5100	.00776	.08676	.02920	.04424	.00001	.02347	.05479	.00001	.01445	.63963	.03557	.03061	.03350
5200	.00763	.08997	.02413	.05443	.00001	.02441	.04621	.00002	.01537	.62885	.04370	.03202	.03326
5300	.00751	.09245	.01975	.06567	.00001	.02478	.03795	.00002	.01613	.61783	.05276	.03274	.03240
5400	.00738	.09426	.01601	.07771	.00000	.02451	.03030	.00003	.01673	.60678	.06263	.03269	.03096

TABLE 10.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.067628; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1700	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1800	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1900	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2000	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2100	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72987	.00000	.00000	.00000
2200	.00875	.00000	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2300	.00875	.00001	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2400	.00875	.00001	.13082	.00000	.00000	.00001	.13053	.00000	.00000	.72987	.00000	.00000	.00001
2500	.00875	.00003	.13081	.00000	.00000	.00001	.13052	.00000	.00001	.72986	.00000	.00000	.00002
2600	.00875	.00005	.13078	.00000	.00000	.00002	.13051	.00000	.00001	.72984	.00000	.00001	.00003
2700	.00875	.00009	.13074	.00000	.00000	.00003	.13049	.00000	.00002	.72982	.00000	.00001	.00005
2800	.00875	.00015	.13067	.00000	.00000	.00005	.13046	.00000	.00003	.72978	.00000	.00002	.00008
2900	.00875	.00026	.13055	.00000	.00000	.00008	.13041	.00000	.00005	.72972	.00000	.00004	.00013
3000	.00875	.00041	.13039	.00000	.00000	.00013	.13034	.00000	.00008	.72963	.00000	.00006	.00021
3100	.00875	.00064	.13014	.00000	.00000	.00018	.13025	.00000	.00013	.72950	.00000	.00010	.00032
3200	.00875	.00096	.12979	.00000	.00000	.00026	.13011	.00000	.00019	.72931	.00000	.00015	.00048
3300	.00875	.00141	.12930	.00001	.00000	.00036	.12993	.00000	.00027	.72905	.00000	.00023	.00069
3400	.00874	.00201	.12864	.00002	.00000	.00049	.12969	.00000	.00039	.72869	.00001	.00035	.00097
3500	.00874	.00282	.12776	.00003	.00000	.00066	.12936	.00000	.00054	.72823	.00002	.00051	.00134
3600	.00873	.00387	.12662	.00005	.00000	.00087	.12895	.00000	.00073	.72762	.00003	.00072	.00182
3700	.00872	.00521	.12516	.00008	.00000	.00112	.12841	.00000	.00097	.72683	.00005	.00101	.00243
3800	.00871	.00689	.12334	.00013	.00000	.00144	.12773	.00000	.00128	.72585	.00008	.00138	.00317
3900	.00870	.00894	.12110	.00020	.00000	.00183	.12689	.00000	.00165	.72462	.00014	.00186	.00407
4000	.00869	.01142	.11840	.00030	.00000	.00228	.12585	.00000	.00210	.72313	.00022	.00246	.00515
4100	.00867	.01435	.11519	.00046	.00000	.00283	.12459	.00000	.00264	.72133	.00035	.00320	.00641
4200	.00865	.01775	.11146	.00067	.00000	.00346	.12306	.00000	.00326	.71919	.00053	.00411	.00785
4300	.00862	.02163	.10719	.00097	.00000	.00420	.12125	.00000	.00399	.71668	.00079	.00519	.00947
4400	.00859	.02598	.10240	.00138	.00000	.00506	.11911	.00000	.00481	.71378	.00116	.00647	.01126
4500	.00856	.03076	.09710	.00194	.00000	.00602	.11661	.00000	.00574	.71047	.00165	.00795	.01319
4600	.00852	.03592	.09137	.00268	.00000	.00712	.11372	.00000	.00676	.70672	.00232	.00964	.01523
4700	.00847	.04137	.08527	.00365	.00000	.00834	.11041	.00000	.00787	.70253	.00320	.01154	.01734
4800	.00842	.04702	.07889	.00490	.00001	.00969	.10666	.00000	.00906	.69790	.00434	.01364	.01946
4900	.00837	.05276	.07236	.00649	.00001	.01117	.10246	.00000	.01032	.69282	.00578	.01592	.02155
5000	.00831	.05847	.06578	.00849	.00001	.01275	.09779	.00000	.01163	.68731	.00758	.01835	.02353
5100	.00825	.06403	.05928	.01097	.00001	.01443	.09267	.00000	.01298	.68137	.00979	.02088	.02536
5200	.00818	.06933	.05296	.01400	.00001	.01616	.08711	.00001	.01434	.67502	.01245	.02346	.02698
5300	.00811	.07427	.04693	.01766	.00001	.01792	.08115	.00001	.01569	.66827	.01561	.02603	.02834
5400	.00803	.07879	.04125	.02200	.00001	.01965	.07486	.00001	.01702	.66115	.01931	.02852	.02941

TABLE 10.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.067628; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1700	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1800	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1900	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2000	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2100	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2200	.00875	.00000	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2300	.00875	.00000	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2400	.00875	.00001	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2500	.00875	.00001	.13082	.00000	.00000	.00001	.13053	.00000	.00000	.72987	.00000	.00000	.00001
2600	.00875	.00002	.13081	.00000	.00000	.00001	.13052	.00001	.00000	.72986	.00000	.00000	.00001
2700	.00875	.00004	.13079	.00000	.00000	.00002	.13051	.00001	.00000	.72985	.00000	.00001	.00002
2800	.00875	.00007	.13075	.00000	.00000	.00003	.13050	.00002	.00000	.72983	.00000	.00001	.00004
2900	.00875	.00012	.13070	.00000	.00000	.00004	.13048	.00004	.00000	.72980	.00000	.00002	.00006
3000	.00875	.00020	.13062	.00000	.00000	.00006	.13044	.00006	.00000	.72975	.00000	.00003	.00009
3100	.00875	.00030	.13050	.00000	.00000	.00009	.13040	.00008	.00000	.72968	.00000	.00004	.00014
3200	.00875	.00046	.13034	.00000	.00000	.00012	.13034	.00013	.00000	.72959	.00000	.00007	.00021
3300	.00875	.00067	.13010	.00000	.00000	.00017	.13025	.00018	.00000	.72946	.00000	.00011	.00030
3400	.00875	.00096	.12978	.00000	.00000	.00023	.13014	.00026	.00000	.72928	.00000	.00016	.00043
3500	.00875	.00136	.12936	.00001	.00000	.00031	.12999	.00036	.00000	.72904	.00000	.00023	.00060
3600	.00874	.00187	.12881	.00001	.00000	.00041	.12979	.00049	.00000	.72873	.00001	.00033	.00081
3700	.00874	.00252	.12810	.00002	.00000	.00054	.12954	.00065	.00000	.72834	.00001	.00047	.00109
3800	.00873	.00335	.12720	.00003	.00000	.00069	.12923	.00086	.00000	.72784	.00002	.00064	.00143
3900	.00873	.00437	.12608	.00004	.00000	.00087	.12883	.00111	.00000	.72721	.00003	.00086	.00185
4000	.00872	.00563	.12472	.00007	.00000	.00109	.12835	.00142	.00000	.72645	.00005	.00115	.00235
4100	.00871	.00714	.12308	.00010	.00000	.00135	.12777	.00180	.00000	.72553	.00007	.00150	.00296
4200	.00870	.00893	.12113	.00015	.00000	.00166	.12706	.00224	.00000	.72442	.00011	.00194	.00366
4300	.00869	.01102	.11885	.00021	.00000	.00201	.12622	.00276	.00000	.72311	.00017	.00247	.00449
4400	.00867	.01344	.11621	.00030	.00000	.00242	.12522	.00336	.00000	.72158	.00025	.00311	.00542
4500	.00866	.01619	.11320	.00043	.00000	.00289	.12406	.00405	.00000	.71982	.00037	.00386	.00647
4600	.00864	.01928	.10982	.00059	.00000	.00343	.12271	.00482	.00000	.71780	.00052	.00474	.00764
4700	.00862	.02270	.10607	.00080	.00001	.00404	.12116	.00569	.00000	.71552	.00073	.00576	.00891
4800	.00859	.02644	.10196	.00108	.00001	.00472	.11938	.00666	.00000	.71296	.00100	.00692	.01028
4900	.00856	.03047	.09752	.00144	.00001	.00548	.11737	.00771	.00000	.71012	.00135	.00823	.01173
5000	.00853	.03475	.09278	.00189	.00001	.00633	.11511	.00885	.00000	.70700	.00180	.00970	.01325
5100	.00850	.03924	.08778	.00246	.00001	.00725	.11259	.01007	.00000	.70360	.00236	.01131	.01480
5200	.00846	.04389	.08259	.00317	.00001	.00827	.10980	.01137	.00001	.69992	.00307	.01307	.01637
5300	.00842	.04863	.07727	.00404	.00002	.00937	.10673	.01273	.00001	.69597	.00392	.01497	.01792
5400	.00838	.05340	.07187	.00510	.00002	.01056	.10337	.01415	.00001	.69176	.00496	.01699	.01943

TABLE 10.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.067628; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1700	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1800	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
1900	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2000	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2100	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2200	.00875	.00000	.13083	.00000	.00000	.00000	.13054	.00000	.00000	.72988	.00000	.00000	.00000
2300	.00875	.00000	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2400	.00875	.00000	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2500	.00875	.00001	.13083	.00000	.00000	.00000	.13053	.00000	.00000	.72987	.00000	.00000	.00000
2600	.00875	.00001	.13082	.00000	.00000	.00001	.13053	.00001	.00000	.72987	.00000	.00000	.00001
2700	.00875	.00003	.13081	.00000	.00000	.00001	.13052	.00001	.00000	.72986	.00000	.00000	.00001
2800	.00875	.00004	.13079	.00000	.00000	.00002	.13051	.00002	.00000	.72985	.00000	.00001	.00002
2900	.00875	.00007	.13075	.00000	.00000	.00002	.13050	.00003	.00000	.72983	.00000	.00001	.00003
3000	.00875	.00012	.13071	.00000	.00000	.00004	.13048	.00004	.00000	.72980	.00000	.00002	.00005
3100	.00875	.00018	.13064	.00000	.00000	.00005	.13045	.00006	.00000	.72975	.00000	.00003	.00008
3200	.00875	.00027	.13054	.00000	.00000	.00007	.13042	.00009	.00000	.72969	.00000	.00004	.00012
3300	.00875	.00040	.13040	.00000	.00000	.00010	.13037	.00014	.00000	.72961	.00000	.00006	.00017
3400	.00875	.00058	.13020	.00000	.00000	.00014	.13030	.00019	.00000	.72950	.00000	.00009	.00024
3500	.00875	.00081	.12995	.00000	.00000	.00019	.13021	.00027	.00000	.72935	.00000	.00014	.00033
3600	.00875	.00112	.12962	.00000	.00000	.00025	.13009	.00036	.00000	.72916	.00000	.00019	.00045
3700	.00875	.00152	.12919	.00001	.00000	.00032	.12995	.00049	.00000	.72891	.00000	.00027	.00061
3800	.00874	.00202	.12864	.00001	.00000	.00041	.12976	.00064	.00000	.72859	.00001	.00037	.00080
3900	.00874	.00265	.12796	.00001	.00000	.00052	.12953	.00084	.00000	.72820	.00001	.00050	.00104
4000	.00873	.00341	.12713	.00002	.00000	.00065	.12925	.00107	.00000	.72772	.00002	.00067	.00133
4100	.00873	.00434	.12612	.00003	.00000	.00081	.12890	.00135	.00000	.72713	.00003	.00088	.00168
4200	.00872	.00546	.12491	.00005	.00000	.00099	.12849	.00169	.00000	.72643	.00004	.00113	.00209
4300	.00871	.00677	.12348	.00007	.00000	.00121	.12799	.00209	.00000	.72560	.00006	.00145	.00257
4400	.00871	.00830	.12182	.00010	.00000	.00145	.12741	.00255	.00000	.72462	.00009	.00183	.00312
4500	.00870	.01007	.11990	.00015	.00000	.00174	.12672	.00309	.00000	.72348	.00012	.00228	.00376
4600	.00868	.01208	.11771	.00020	.00000	.00206	.12592	.00370	.00000	.72218	.00018	.00281	.00447
4700	.00867	.01435	.11524	.00028	.00001	.00242	.12501	.00439	.00000	.72069	.00025	.00343	.00527
4800	.00865	.01687	.11248	.00037	.00001	.00284	.12396	.00517	.00000	.71901	.00035	.00415	.00614
4900	.00864	.01966	.10943	.00050	.00001	.00330	.12276	.00603	.00001	.71714	.00047	.00497	.00710
5000	.00862	.02269	.10611	.00066	.00001	.00381	.12142	.00697	.00001	.71505	.00063	.00589	.00813
5100	.00860	.02597	.10251	.00085	.00001	.00438	.11991	.00800	.00001	.71276	.00083	.00694	.00922
5200	.00857	.02947	.09867	.00110	.00002	.00500	.11823	.00912	.00001	.71026	.00109	.00809	.01036
5300	.00855	.03316	.09459	.00141	.00002	.00569	.11638	.01031	.00001	.70755	.00141	.00937	.01155
5400	.00852	.03702	.09033	.00178	.00002	.00644	.11434	.01158	.00001	.70463	.00180	.01076	.01277

TABLE 10C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.067628; EQUIV.RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2
		PRESSURE = 0.01 ATM				
360	.00875	.13083	.13040	.00000	.00014	.72988
400	.00875	.13083	.12753	.00000	.00301	.72988
440	.00875	.13083	.09174	.00000	.03880	.72988
		PRESSURE = 0.10 ATM				
360	.00875	.13083	.13052	.00000	.00001	.72988
400	.00875	.13083	.13024	.00000	.00030	.72988
440	.00875	.13083	.12681	.00000	.00373	.72988
480	.00875	.13083	.09922	.00000	.03132	.72988
520	.00875	.13083	.00000	.00000	.13054	.72988
		PRESSURE = 1.00 ATM				
360	.00875	.13083	.13053	.00000	.00000	.72988
400	.00875	.13083	.13051	.00000	.00003	.72988
440	.00875	.13083	.13016	.00000	.00037	.72988
480	.00875	.13083	.12750	.00000	.00303	.72988
520	.00875	.13083	.00000	.11499	.01555	.72988
537	.00875	.13083	.00000	.10261	.02793	.72988
560	.00875	.13083	.00000	.07018	.06036	.72988
600	.00875	.13083	.00000	.00000	.13054	.72988
		PRESSURE = 10.00 ATM				
360	.00875	.13083	.13054	.00000	.00000	.72988
400	.00875	.13083	.13053	.00000	.00000	.72988
440	.00875	.13083	.13050	.00000	.00004	.72988
480	.00875	.13083	.13023	.00000	.00030	.72988
520	.00875	.13083	.00000	.12901	.00153	.72988
537	.00875	.13083	.00000	.12782	.00271	.72988
560	.00875	.13083	.00000	.12486	.00568	.72988
600	.00875	.13083	.00000	.11309	.01745	.72988
640	.00875	.13083	.00000	.08397	.04657	.72988
680	.00875	.13083	.00000	.01719	.11335	.72988
		PRESSURE = 50.00 ATM				
360	.00875	.13083	.13054	.00000	.00000	.72988
400	.00875	.13083	.13054	.00000	.00000	.72988
440	.00875	.13083	.13053	.00000	.00001	.72988
480	.00875	.13083	.13048	.00000	.00006	.72988
520	.00875	.13083	.00000	.13023	.00031	.72988
537	.00875	.13083	.00000	.12999	.00054	.72988
560	.00875	.13083	.00000	.12941	.00113	.72988
600	.00875	.13083	.00000	.12710	.00343	.72988
640	.00875	.13083	.00000	.12161	.00893	.72988
680	.00875	.13083	.00000	.11001	.02053	.72988
720	.00875	.13083	.00000	.08766	.04287	.72988
760	.00875	.13083	.00000	.04715	.08339	.72988

TABLE 11.1D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00861	.02408	.00000	.13676	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
380	.00861	.02408	.00000	.13676	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
400	.00861	.02408	.00000	.13676	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
420	.00861	.02408	.00000	.13676	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
440	.00861	.02408	.00000	.13676	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
460	.00861	.02408	.00000	.13676	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
480	.00861	.02408	.00000	.13676	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
500	.00861	.02408	.00000	.13676	.00000	.00001	.11238	.00000	.00000	.00000	.71815	.00000	.00000	.00000
520	.00861	.02408	.00000	.13676	.00000	.00001	.11238	.00000	.00000	.00000	.71815	.00000	.00000	.00000
537	.00861	.02408	.00000	.13677	.00000	.00002	.11237	.00000	.00000	.00000	.71815	.00000	.00000	.00000
540	.00861	.02408	.00000	.13677	.00000	.00003	.11237	.00000	.00000	.00000	.71815	.00000	.00000	.00000
560	.00861	.02407	.00000	.13677	.00000	.00005	.11236	.00000	.00000	.00000	.71814	.00000	.00000	.00000
580	.00861	.02406	.00000	.13678	.00000	.00008	.11234	.00000	.00000	.00000	.71813	.00000	.00000	.00000
600	.00861	.02405	.00000	.13679	.00000	.00013	.11231	.00000	.00000	.00000	.71811	.00000	.00000	.00000
620	.00861	.02402	.00000	.13680	.00000	.00022	.11226	.00000	.00000	.00000	.71808	.00000	.00000	.00000
640	.00861	.02399	.00000	.13682	.00000	.00034	.11219	.00000	.00000	.00000	.71803	.00000	.00000	.00000
660	.00861	.02394	.00000	.13686	.00000	.00053	.11209	.00000	.00000	.00000	.71797	.00000	.00000	.00000
680	.00861	.02387	.00000	.13691	.00000	.00079	.11194	.00000	.00000	.00000	.71787	.00000	.00000	.00000
700	.00861	.02378	.00000	.13697	.00000	.00116	.11174	.00000	.00000	.00000	.71774	.00000	.00000	.00000
720	.00861	.02364	.00000	.13706	.00000	.00167	.11145	.00000	.00000	.00000	.71756	.00000	.00000	.00000
740	.00860	.02346	.00000	.13719	.00000	.00235	.11108	.00000	.00000	.00000	.71731	.00000	.00000	.00000
760	.00860	.02323	.00000	.13735	.00000	.00325	.11058	.00000	.00000	.00000	.71699	.00000	.00000	.00000
780	.00859	.02292	.00001	.13756	.00000	.00441	.10993	.00000	.00000	.00000	.71657	.00000	.00000	.00000
800	.00859	.02253	.00002	.13782	.00000	.00590	.10911	.00000	.00001	.00000	.71603	.00000	.00000	.00000
820	.00858	.02204	.00003	.13815	.00000	.00776	.10808	.00000	.00001	.00000	.71536	.00000	.00000	.00000
840	.00857	.02144	.00005	.13855	.00000	.01004	.10682	.00000	.00001	.00000	.71453	.00000	.00000	.00000
860	.00856	.02070	.00008	.13903	.00000	.01281	.10529	.00000	.00001	.00000	.71353	.00000	.00000	.00000
880	.00854	.01983	.00013	.13958	.00000	.01609	.10348	.00000	.00001	.00000	.71233	.00000	.00000	.00000
900	.00853	.01880	.00020	.14022	.00000	.01993	.10138	.00000	.00001	.00000	.71093	.00000	.00000	.00000
920	.00851	.01762	.00031	.14093	.00000	.02433	.09898	.00000	.00001	.00000	.70931	.00000	.00000	.00000
940	.00849	.01629	.00047	.14170	.00000	.02927	.09631	.00000	.00001	.00000	.70748	.00000	.00000	.00000
960	.00846	.01480	.00070	.14250	.00000	.03471	.09338	.00000	.00001	.00000	.70544	.00000	.00000	.00000
980	.00843	.01318	.00102	.14330	.00000	.04056	.09027	.00000	.00001	.00000	.70322	.00000	.00000	.00000
1000	.00841	.01146	.00146	.14406	.00000	.04670	.08705	.00000	.00001	.00000	.70086	.00000	.00000	.00000
1020	.00838	.00967	.00203	.14472	.00000	.05296	.08383	.00000	.00001	.00000	.69841	.00000	.00000	.00000
1040	.00835	.00786	.00278	.14523	.00000	.05912	.08073	.00000	.00001	.00000	.69593	.00000	.00000	.00000
1060	.00832	.00610	.00369	.14553	.00000	.06492	.07791	.00000	.00001	.00000	.69352	.00000	.00000	.00000
1080	.00829	.00448	.00476	.14559	.00000	.07005	.07553	.00000	.00001	.00000	.69129	.00000	.00000	.00000
1100	.00827	.00308	.00594	.14538	.00000	.07422	.07374	.00000	.00001	.00000	.68937	.00000	.00000	.00000
1120	.00825	.00197	.00717	.14492	.00000	.07721	.07262	.00000	.00001	.00000	.68786	.00000	.00000	.00000
1140	.00824	.00118	.00838	.14426	.00000	.07901	.07216	.00000	.00000	.00000	.68678	.00000	.00000	.00000

TABLE 11.1D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00823	.00068	.00953	.14345	.00000	.07979	.07224	.00000	.00000	.00000	.68608	.00000	.00000	.00000
1180	.00822	.00037	.01063	.14256	.00000	.07983	.07270	.00000	.00000	.00000	.68567	.00000	.00000	.00000
1200	.00822	.00021	.01170	.14161	.00000	.07942	.07340	.00000	.00000	.00000	.68544	.00000	.00000	.00000
1220	.00822	.00011	.01275	.14063	.00000	.07873	.07425	.00000	.00000	.00000	.68531	.00000	.00000	.00000
1240	.00822	.00006	.01379	.13962	.00000	.07788	.07519	.00000	.00000	.00000	.68524	.00000	.00000	.00000
1260	.00822	.00003	.01483	.13860	.00000	.07694	.07617	.00000	.00000	.00000	.68520	.00000	.00000	.00000
1280	.00822	.00002	.01587	.13757	.00000	.07596	.07718	.00000	.00000	.00000	.68518	.00000	.00000	.00000
1300	.00822	.00001	.01691	.13653	.00000	.07495	.07821	.00000	.00000	.00000	.68517	.00000	.00000	.00000
1320	.00822	.00001	.01796	.13549	.00000	.07392	.07924	.00000	.00000	.00000	.68517	.00000	.00000	.00000
1340	.00822	.00000	.01901	.13444	.00000	.07288	.08029	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1360	.00822	.00000	.02006	.13339	.00000	.07184	.08133	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1380	.00822	.00000	.02110	.13235	.00000	.07080	.08237	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1400	.00822	.00000	.02214	.13131	.00000	.06976	.08341	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1420	.00822	.00000	.02317	.13028	.00000	.06873	.08444	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1440	.00822	.00000	.02419	.12926	.00000	.06771	.08546	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1460	.00822	.00000	.02521	.12825	.00000	.06670	.08647	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1480	.00822	.00000	.02621	.12725	.00000	.06570	.08748	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1500	.00822	.00000	.02720	.12626	.00000	.06471	.08846	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1520	.00822	.00000	.02817	.12528	.00000	.06373	.08944	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1540	.00822	.00000	.02913	.12432	.00000	.06277	.09040	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1560	.00822	.00000	.03008	.12337	.00000	.06182	.09135	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1580	.00822	.00000	.03101	.12244	.00000	.06089	.09228	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1600	.00822	.00000	.03192	.12153	.00000	.05998	.09319	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1620	.00822	.00000	.03282	.12063	.00000	.05908	.09409	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1640	.00822	.00000	.03371	.11975	.00000	.05820	.09497	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1660	.00822	.00000	.03457	.11888	.00000	.05733	.09584	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1680	.00822	.00000	.03542	.11803	.00000	.05648	.09669	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1700	.00822	.00000	.03625	.11720	.00000	.05565	.09752	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1720	.00822	.00000	.03706	.11639	.00000	.05484	.09833	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1740	.00822	.00000	.03786	.11559	.00000	.05404	.09913	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1760	.00822	.00000	.03864	.11481	.00000	.05326	.09991	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1780	.00822	.00000	.03940	.11405	.00000	.05250	.10067	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1800	.00822	.00000	.04015	.11330	.00000	.05175	.10142	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1900	.00822	.00000	.04364	.10981	.00000	.04826	.10491	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2000	.00822	.00000	.04675	.10670	.00000	.04515	.10802	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2100	.00822	.00000	.04952	.10393	.00000	.04239	.11079	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2200	.00822	.00000	.05198	.10148	.00000	.03993	.11325	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2300	.00822	.00000	.05416	.09929	.00000	.03774	.11543	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2400	.00822	.00000	.05611	.09734	.00000	.03579	.11738	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2500	.00822	.00000	.05785	.09560	.00001	.03405	.11912	.00000	.00000	.00000	.68515	.00000	.00000	.00000

TABLE 11.1D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00822	.00000	.05941	.09404	.00002	.03248	.12068	.00000	.00000	.00000	.68515	.00000	.00000	.00000
2700	.00822	.00000	.06081	.09264	.00003	.03108	.12207	.00000	.00000	.00000	.68515	.00000	.00000	.00000
2800	.00822	.00000	.06206	.09139	.00006	.02981	.12332	.00000	.00000	.00000	.68513	.00000	.00001	.00000
2900	.00822	.00000	.06319	.09025	.00010	.02867	.12443	.00000	.00000	.00000	.68511	.00000	.00002	.00000
3000	.00822	.00000	.06420	.08923	.00018	.02762	.12542	.00000	.00000	.00000	.68508	.00000	.00004	.00000
3100	.00822	.00000	.06512	.08830	.00029	.02667	.12629	.00000	.00000	.00001	.68502	.00000	.00008	.00000
3200	.00821	.00000	.06595	.08745	.00047	.02579	.12702	.00000	.00000	.00002	.68492	.00000	.00015	.00000
3300	.00821	.00000	.06671	.08666	.00074	.02498	.12760	.00000	.00000	.00004	.68476	.00001	.00028	.00001
3400	.00821	.00000	.06743	.08589	.00113	.02424	.12798	.00000	.00000	.00007	.68450	.00002	.00049	.00004
3500	.00821	.00000	.06816	.08507	.00168	.02358	.12810	.00000	.00000	.00014	.68407	.00004	.00084	.00010
3600	.00820	.00000	.06900	.08409	.00245	.02303	.12785	.00000	.00000	.00026	.68337	.00011	.00139	.00025
3700	.00819	.00000	.07012	.08273	.00352	.02265	.12704	.00000	.00000	.00046	.68223	.00024	.00223	.00059
3800	.00817	.00000	.07178	.08069	.00498	.02256	.12543	.00000	.00000	.00078	.68040	.00053	.00343	.00125
3900	.00813	.00000	.07428	.07762	.00699	.02288	.12270	.00000	.00000	.00123	.67759	.00107	.00508	.00242
4000	.00809	.00000	.07781	.07324	.00976	.02371	.11858	.00000	.00000	.00184	.67351	.00201	.00720	.00424
4100	.00803	.00000	.08233	.06757	.01356	.02507	.11290	.00000	.00000	.00259	.66797	.00354	.00975	.00669
4200	.00795	.00000	.08756	.06085	.01869	.02686	.10560	.00000	.00000	.00346	.66089	.00586	.01266	.00962
4300	.00785	.00000	.09309	.05350	.02550	.02892	.09675	.00000	.00000	.00441	.65228	.00917	.01579	.01274
4400	.00773	.00000	.09848	.04595	.03429	.03102	.08652	.00000	.00000	.00541	.64217	.01368	.01897	.01579
4500	.00760	.00000	.10337	.03859	.04530	.03286	.07522	.00000	.00000	.00639	.63067	.01957	.02196	.01846
4600	.00746	.00000	.10750	.03173	.05865	.03413	.06326	.00000	.00000	.00733	.61796	.02697	.02450	.02051
4700	.00730	.00000	.11071	.02556	.07419	.03455	.05121	.00001	.00000	.00817	.60433	.03590	.02631	.02176
4800	.00713	.00000	.11299	.02019	.09152	.03388	.03971	.00001	.00000	.00887	.59020	.04625	.02717	.02208
4900	.00697	.00000	.11441	.01566	.10992	.03206	.02936	.00001	.00000	.00939	.57608	.05774	.02693	.02147
5000	.00681	.00000	.11514	.01195	.12844	.02919	.02064	.00002	.00000	.00970	.56258	.06992	.02560	.02001
5100	.00666	.00000	.11536	.00897	.14608	.02558	.01381	.00003	.00000	.00980	.55022	.08223	.02336	.01790
5200	.00653	.00000	.11525	.00665	.16198	.02162	.00881	.00005	.00000	.00969	.53942	.09408	.02051	.01541
5300	.00642	.00000	.11496	.00489	.17560	.01772	.00540	.00007	.00000	.00940	.53036	.10496	.01741	.01282
5400	.00633	.00000	.11460	.00356	.18679	.01416	.00320	.00010	.00000	.00898	.52303	.11453	.01437	.01035

TABLE 11.2D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00861	.02408	.00000	.13676	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
380	.00861	.02408	.00000	.13676	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
400	.00861	.02408	.00000	.13676	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
420	.00861	.02408	.00000	.13676	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
440	.00861	.02408	.00000	.13676	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
460	.00861	.02408	.00000	.13676	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
480	.00861	.02408	.00000	.13676	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
500	.00861	.02408	.00000	.13676	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
520	.00861	.02408	.00000	.13676	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
537	.00861	.02408	.00000	.13676	.00000	.00001	.11238	.00000	.00000	.00000	.71815	.00000	.00000	.00000
540	.00861	.02408	.00000	.13676	.00000	.00001	.11238	.00000	.00000	.00000	.71815	.00000	.00000	.00000
560	.00861	.02408	.00000	.13676	.00000	.00001	.11238	.00000	.00000	.00000	.71815	.00000	.00000	.00000
580	.00861	.02408	.00000	.13677	.00000	.00003	.11237	.00000	.00000	.00000	.71815	.00000	.00000	.00000
600	.00861	.02407	.00000	.13677	.00000	.00004	.11236	.00000	.00000	.00000	.71814	.00000	.00000	.00000
620	.00861	.02406	.00000	.13677	.00000	.00007	.11234	.00000	.00000	.00000	.71813	.00000	.00000	.00000
640	.00861	.02405	.00000	.13678	.00000	.00011	.11232	.00000	.00000	.00000	.71812	.00000	.00000	.00000
660	.00861	.02404	.00000	.13679	.00000	.00017	.11229	.00000	.00000	.00000	.71810	.00000	.00000	.00000
680	.00861	.02401	.00000	.13681	.00000	.00025	.11224	.00000	.00000	.00000	.71807	.00000	.00000	.00000
700	.00861	.02398	.00000	.13683	.00000	.00037	.11218	.00000	.00001	.00000	.71802	.00000	.00000	.00000
720	.00861	.02394	.00000	.13686	.00000	.00053	.11209	.00000	.00001	.00000	.71797	.00000	.00000	.00000
740	.00861	.02388	.00000	.13690	.00000	.00075	.11196	.00000	.00001	.00000	.71789	.00000	.00000	.00000
760	.00861	.02381	.00000	.13695	.00000	.00104	.11180	.00000	.00001	.00000	.71778	.00000	.00000	.00000
780	.00861	.02371	.00000	.13702	.00000	.00142	.11159	.00000	.00001	.00000	.71764	.00000	.00000	.00000
800	.00861	.02358	.00001	.13711	.00000	.00191	.11132	.00000	.00001	.00000	.71747	.00000	.00000	.00000
820	.00860	.02341	.00001	.13722	.00000	.00253	.11098	.00000	.00001	.00000	.71724	.00000	.00000	.00000
840	.00860	.02321	.00002	.13735	.00000	.00330	.11055	.00000	.00001	.00000	.71696	.00000	.00000	.00000
860	.00859	.02295	.00002	.13752	.00000	.00426	.11002	.00000	.00001	.00000	.71662	.00000	.00000	.00000
880	.00859	.02264	.00004	.13772	.00000	.00543	.10937	.00000	.00001	.00000	.71619	.00000	.00000	.00000
900	.00858	.02227	.00006	.13796	.00000	.00683	.10860	.00000	.00002	.00000	.71568	.00000	.00000	.00000
920	.00858	.02182	.00010	.13823	.00000	.00851	.10769	.00000	.00002	.00000	.71506	.00000	.00000	.00000
940	.00857	.02129	.00015	.13855	.00000	.01047	.10661	.00000	.00002	.00000	.71434	.00000	.00000	.00000
960	.00856	.02067	.00022	.13890	.00000	.01276	.10538	.00000	.00002	.00000	.71349	.00000	.00000	.00000
980	.00855	.01996	.00033	.13930	.00000	.01538	.10396	.00000	.00002	.00000	.71251	.00000	.00000	.00000
1000	.00853	.01914	.00047	.13972	.00000	.01835	.10238	.00000	.00002	.00000	.71139	.00000	.00000	.00000
1020	.00852	.01822	.00067	.14016	.00000	.02167	.10062	.00000	.00002	.00000	.71013	.00000	.00000	.00000
1040	.00850	.01719	.00094	.14060	.00000	.02534	.09869	.00000	.00002	.00000	.70871	.00000	.00000	.00000
1060	.00848	.01604	.00130	.14103	.00000	.02934	.09663	.00000	.00002	.00000	.70715	.00000	.00000	.00000
1080	.00846	.01479	.00178	.14143	.00000	.03364	.09445	.00000	.00002	.00000	.70543	.00000	.00000	.00000
1100	.00844	.01344	.00238	.14175	.00000	.03818	.09219	.00000	.00002	.00000	.70358	.00000	.00000	.00000
1120	.00841	.01200	.00315	.14198	.00000	.04291	.08990	.00000	.00002	.00000	.70161	.00000	.00000	.00000
1140	.00839	.01050	.00410	.14208	.00000	.04772	.08765	.00000	.00002	.00000	.69954	.00000	.00000	.00000

TABLE 11.2D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00836	.00894	.00525	.14201	.00000	.05250	.08550	.00000	.00002	.00000	.69742	.00000	.00000	.00000
1180	.00834	.00739	.00658	.14175	.00000	.05710	.08353	.00000	.00002	.00000	.69528	.00000	.00000	.00000
1200	.00831	.00588	.00809	.14129	.00000	.06136	.08183	.00000	.00002	.00000	.69321	.00000	.00000	.00000
1220	.00829	.00447	.00972	.14063	.00000	.06509	.08048	.00000	.00002	.00000	.69129	.00000	.00000	.00000
1240	.00827	.00324	.01141	.13980	.00000	.06811	.07955	.00000	.00002	.00000	.68960	.00000	.00000	.00000
1260	.00825	.00223	.01307	.13884	.00000	.07031	.07907	.00000	.00001	.00000	.68821	.00000	.00000	.00000
1280	.00824	.00146	.01464	.13780	.00000	.07166	.07902	.00000	.00001	.00000	.68716	.00000	.00000	.00000
1300	.00823	.00092	.01610	.13672	.00000	.07226	.07933	.00000	.00001	.00000	.68643	.00000	.00000	.00000
1320	.00823	.00057	.01744	.13562	.00000	.07228	.07991	.00000	.00001	.00000	.68594	.00000	.00000	.00000
1340	.00822	.00035	.01868	.13454	.00000	.07190	.08068	.00000	.00001	.00000	.68563	.00000	.00000	.00000
1360	.00822	.00021	.01985	.13346	.00000	.07125	.08156	.00000	.00001	.00000	.68544	.00000	.00000	.00000
1380	.00822	.00013	.02097	.13240	.00000	.07044	.08251	.00000	.00001	.00000	.68533	.00000	.00000	.00000
1400	.00822	.00008	.02206	.13135	.00000	.06955	.08349	.00000	.00001	.00000	.68526	.00000	.00000	.00000
1420	.00822	.00005	.02312	.13030	.00000	.06860	.08449	.00000	.00001	.00000	.68522	.00000	.00000	.00000
1440	.00822	.00003	.02416	.12927	.00000	.06763	.08549	.00000	.00000	.00000	.68520	.00000	.00000	.00000
1460	.00822	.00002	.02518	.12826	.00000	.06665	.08649	.00000	.00000	.00000	.68518	.00000	.00000	.00000
1480	.00822	.00001	.02619	.12725	.00000	.06566	.08749	.00000	.00000	.00000	.68517	.00000	.00000	.00000
1500	.00822	.00001	.02719	.12626	.00000	.06469	.08847	.00000	.00000	.00000	.68517	.00000	.00000	.00000
1520	.00822	.00000	.02816	.12529	.00000	.06372	.08944	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1540	.00822	.00000	.02913	.12432	.00000	.06276	.09040	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1560	.00822	.00000	.03008	.12338	.00000	.06182	.09135	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1580	.00822	.00000	.03101	.12244	.00000	.06089	.09228	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1600	.00822	.00000	.03192	.12153	.00000	.05997	.09319	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1620	.00822	.00000	.03282	.12063	.00000	.05908	.09409	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1640	.00822	.00000	.03370	.11975	.00000	.05820	.09497	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1660	.00822	.00000	.03457	.11888	.00000	.05733	.09584	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1680	.00822	.00000	.03542	.11803	.00000	.05648	.09669	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1700	.00822	.00000	.03625	.11720	.00000	.05565	.09752	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1720	.00822	.00000	.03706	.11639	.00000	.05484	.09833	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1740	.00822	.00000	.03786	.11559	.00000	.05404	.09913	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1760	.00822	.00000	.03864	.11481	.00000	.05326	.09991	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1780	.00822	.00000	.03940	.11405	.00000	.05250	.10067	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1800	.00822	.00000	.04015	.11330	.00000	.05175	.10142	.00000	.00000	.00000	.68516	.00000	.00000	.00000
1900	.00822	.00000	.04364	.10981	.00000	.04826	.10491	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2000	.00822	.00000	.04675	.10670	.00000	.04515	.10802	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2100	.00822	.00000	.04952	.10393	.00000	.04239	.11079	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2200	.00822	.00000	.05198	.10148	.00000	.03993	.11325	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2300	.00822	.00000	.05416	.09929	.00000	.03774	.11543	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2400	.00822	.00000	.05611	.09734	.00000	.03579	.11738	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2500	.00822	.00000	.05786	.09560	.00000	.03405	.11912	.00000	.00000	.00000	.68516	.00000	.00000	.00000

TABLE 11.2D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00822	.00000	.05941	.09404	.00000	.03249	.12068	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2700	.00822	.00000	.06081	.09264	.00001	.03109	.12208	.00000	.00000	.00000	.68515	.00000	.00000	.00000
2800	.00822	.00000	.06207	.09138	.00002	.02982	.12334	.00000	.00000	.00000	.68515	.00000	.00000	.00000
2900	.00822	.00000	.06320	.09025	.00003	.02868	.12447	.00000	.00000	.00000	.68514	.00000	.00001	.00000
3000	.00822	.00000	.06423	.08922	.00006	.02765	.12548	.00000	.00000	.00000	.68513	.00000	.00001	.00000
3100	.00822	.00000	.06516	.08829	.00009	.02671	.12639	.00000	.00000	.00000	.68511	.00000	.00002	.00000
3200	.00822	.00000	.06600	.08744	.00015	.02585	.12721	.00000	.00000	.00001	.68508	.00000	.00005	.00000
3300	.00822	.00000	.06676	.08666	.00023	.02507	.12792	.00000	.00000	.00001	.68504	.00000	.00009	.00000
3400	.00822	.00000	.06746	.08595	.00036	.02435	.12853	.00000	.00000	.00002	.68496	.00000	.00016	.00000
3500	.00821	.00000	.06812	.08527	.00053	.02368	.12902	.00000	.00000	.00005	.68484	.00000	.00027	.00001
3600	.00821	.00000	.06874	.08460	.00078	.02308	.12938	.00000	.00000	.00008	.68464	.00001	.00044	.00003
3700	.00821	.00000	.06937	.08391	.00111	.02254	.12956	.00000	.00000	.00015	.68435	.00002	.00072	.00006
3800	.00820	.00000	.07006	.08314	.00156	.02207	.12950	.00000	.00000	.00026	.68388	.00006	.00113	.00014
3900	.00820	.00000	.07089	.08216	.00215	.02171	.12912	.00000	.00000	.00043	.68317	.00012	.00174	.00030
4000	.00818	.00000	.07200	.08085	.00294	.02151	.12830	.00000	.00000	.00070	.68210	.00024	.00258	.00060
4100	.00817	.00000	.07355	.07898	.00397	.02153	.12687	.00000	.00000	.00108	.68050	.00046	.00374	.00115
4200	.00814	.00000	.07570	.07637	.00533	.02185	.12467	.00000	.00000	.00161	.67821	.00085	.00524	.00203
4300	.00811	.00000	.07859	.07286	.00712	.02252	.12154	.00000	.00000	.00229	.67507	.00148	.00711	.00332
4400	.00807	.00000	.08219	.06844	.00945	.02358	.11738	.00000	.00000	.00312	.67098	.00244	.00933	.00503
4500	.00801	.00000	.08638	.06321	.01249	.02499	.11214	.00000	.00000	.00407	.66589	.00384	.01187	.00709
4600	.00794	.00000	.09094	.05741	.01640	.02670	.10585	.00000	.00000	.00512	.65982	.00577	.01466	.00938
4700	.00787	.00000	.09560	.05130	.02135	.02860	.09856	.00000	.00000	.00624	.65278	.00834	.01760	.01175
4800	.00778	.00000	.10012	.04513	.02749	.03057	.09037	.00000	.00000	.00740	.64483	.01166	.02058	.01405
4900	.00768	.00000	.10429	.03912	.03498	.03246	.08146	.00000	.00000	.00855	.63604	.01582	.02348	.01612
5000	.00757	.00000	.10795	.03345	.04390	.03410	.07202	.00001	.00000	.00967	.62648	.02088	.02613	.01785
5100	.00746	.00000	.11100	.02823	.05428	.03532	.06232	.00001	.00000	.01072	.61627	.02688	.02838	.01913
5200	.00733	.00000	.11340	.02354	.06605	.03596	.05266	.00002	.00000	.01167	.60556	.03382	.03007	.01992
5300	.00721	.00000	.11516	.01941	.07904	.03589	.04336	.00002	.00000	.01249	.59456	.04163	.03108	.02016
5400	.00708	.00000	.11633	.01583	.09294	.03506	.03472	.00003	.00000	.01314	.58350	.05017	.03132	.01987

TABLE 11.3D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
380	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11239	.00000	.00000	.00000	.71816	.00000	.00000	.00000
400	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
420	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
440	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
460	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
480	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
500	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
520	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
537	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
540	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
560	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.00000	.71816	.00000	.00000	.00000
580	.00861	.02408	.00000	.13676	.00000	.00000	.00001	.11238	.00000	.00000	.00000	.71815	.00000	.00000	.00000
600	.00861	.02408	.00000	.13677	.00000	.00000	.00001	.11237	.00000	.00000	.00000	.71815	.00000	.00000	.00000
620	.00861	.02407	.00000	.13677	.00000	.00000	.00002	.11237	.00000	.00001	.00000	.71815	.00000	.00000	.00000
640	.00861	.02407	.00000	.13677	.00000	.00000	.00003	.11236	.00000	.00001	.00000	.71814	.00000	.00000	.00000
660	.00861	.02407	.00000	.13677	.00000	.00000	.00005	.11235	.00000	.00001	.00000	.71814	.00000	.00000	.00000
680	.00861	.02406	.00000	.13678	.00000	.00000	.00008	.11233	.00000	.00001	.00000	.71813	.00000	.00000	.00000
700	.00861	.02405	.00000	.13679	.00000	.00000	.00012	.11231	.00000	.00001	.00000	.71811	.00000	.00000	.00000
720	.00861	.02403	.00000	.13680	.00000	.00000	.00017	.11228	.00000	.00001	.00000	.71809	.00000	.00000	.00000
740	.00861	.02402	.00000	.13681	.00000	.00000	.00024	.11224	.00000	.00001	.00000	.71807	.00000	.00000	.00000
760	.00861	.02399	.00000	.13683	.00000	.00000	.00033	.11219	.00000	.00001	.00000	.71803	.00000	.00000	.00000
780	.00861	.02396	.00000	.13685	.00000	.00000	.00045	.11212	.00000	.00002	.00000	.71799	.00000	.00000	.00000
800	.00861	.02392	.00000	.13688	.00000	.00000	.00061	.11203	.00000	.00002	.00000	.71793	.00000	.00000	.00000
820	.00861	.02386	.00000	.13691	.00000	.00000	.00081	.11192	.00000	.00002	.00000	.71786	.00000	.00000	.00000
840	.00861	.02380	.00000	.13696	.00000	.00000	.00106	.11178	.00000	.00002	.00000	.71777	.00000	.00000	.00000
860	.00861	.02371	.00001	.13701	.00000	.00000	.00137	.11161	.00000	.00002	.00000	.71766	.00000	.00000	.00000
880	.00861	.02361	.00001	.13708	.00000	.00000	.00175	.11140	.00000	.00003	.00000	.71752	.00000	.00000	.00000
900	.00860	.02349	.00002	.13716	.00000	.00000	.00222	.11114	.00000	.00003	.00000	.71735	.00000	.00000	.00000
920	.00860	.02333	.00003	.13725	.00000	.00000	.00278	.11083	.00000	.00003	.00000	.71714	.00000	.00000	.00000
940	.00860	.02315	.00005	.13736	.00000	.00000	.00345	.11046	.00000	.00003	.00000	.71689	.00000	.00000	.00000
960	.00859	.02294	.00007	.13749	.00000	.00000	.00424	.11003	.00000	.00004	.00000	.71660	.00000	.00000	.00000
980	.00859	.02269	.00010	.13763	.00000	.00000	.00517	.10953	.00000	.00004	.00000	.71625	.00000	.00000	.00000
1000	.00859	.02239	.00015	.13779	.00000	.00000	.00625	.10895	.00000	.00004	.00000	.71585	.00000	.00000	.00000
1020	.00858	.02205	.00021	.13796	.00000	.00000	.00749	.10829	.00000	.00004	.00000	.71538	.00000	.00000	.00000
1040	.00857	.02166	.00030	.13815	.00000	.00000	.00890	.10753	.00000	.00004	.00000	.71484	.00000	.00000	.00000
1060	.00857	.02120	.00041	.13835	.00000	.00000	.01050	.10669	.00000	.00005	.00000	.71422	.00000	.00000	.00000
1080	.00856	.02069	.00057	.13855	.00000	.00000	.01230	.10576	.00000	.00005	.00000	.71352	.00000	.00000	.00000
1100	.00855	.02011	.00077	.13875	.00000	.00000	.01431	.10473	.00000	.00005	.00000	.71273	.00000	.00000	.00000
1120	.00854	.01946	.00103	.13894	.00000	.00000	.01653	.10361	.00000	.00005	.00000	.71184	.00000	.00000	.00000
1140	.00853	.01874	.00137	.13911	.00000	.00000	.01895	.10241	.00000	.00005	.00000	.71084	.00000	.00000	.00000

TABLE 11.3D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00851	.01794	.00179	.13924	.00000	.00000	.02159	.10113	.00000	.00006	.00000	.70975	.00000	.00000	.00000
1180	.00850	.01705	.00232	.13932	.00000	.00000	.02443	.09978	.00000	.00006	.00000	.70853	.00000	.00000	.00000
1200	.00848	.01609	.00297	.13934	.00000	.00000	.02746	.09839	.00000	.00006	.00000	.70721	.00000	.00000	.00000
1220	.00847	.01504	.00377	.13927	.00000	.00000	.03067	.09696	.00000	.00006	.00000	.70577	.00000	.00000	.00000
1240	.00845	.01391	.00472	.13910	.00000	.00000	.03402	.09552	.00000	.00006	.00000	.70423	.00000	.00000	.00000
1260	.00843	.01271	.00585	.13880	.00000	.00000	.03748	.09410	.00000	.00006	.00000	.70258	.00000	.00000	.00000
1280	.00841	.01144	.00717	.13836	.00000	.00000	.04101	.09272	.00000	.00006	.00000	.70084	.00000	.00000	.00000
1300	.00838	.01012	.00868	.13777	.00000	.00000	.04454	.09142	.00000	.00006	.00000	.69903	.00000	.00000	.00000
1320	.00836	.00877	.01036	.13702	.00000	.00000	.04800	.09024	.00000	.00006	.00000	.69718	.00000	.00000	.00000
1340	.00834	.00742	.01220	.13612	.00000	.00000	.05132	.08922	.00000	.00005	.00000	.69533	.00000	.00000	.00000
1360	.00832	.00610	.01415	.13508	.00000	.00000	.05439	.08838	.00000	.00005	.00000	.69353	.00000	.00000	.00000
1380	.00830	.00487	.01616	.13393	.00000	.00000	.05710	.08777	.00000	.00005	.00000	.69184	.00000	.00000	.00000
1400	.00828	.00375	.01817	.13269	.00000	.00000	.05936	.08740	.00000	.00005	.00000	.69031	.00000	.00000	.00000
1420	.00826	.00279	.02010	.13143	.00000	.00000	.06109	.08729	.00000	.00004	.00000	.68899	.00000	.00000	.00000
1440	.00825	.00201	.02190	.13016	.00000	.00000	.06228	.08744	.00000	.00004	.00000	.68792	.00000	.00000	.00000
1460	.00824	.00140	.02355	.12893	.00000	.00000	.06295	.08780	.00000	.00004	.00000	.68709	.00000	.00000	.00000
1480	.00823	.00096	.02504	.12775	.00000	.00000	.06316	.08835	.00000	.00003	.00000	.68648	.00000	.00000	.00000
1500	.00823	.00064	.02639	.12662	.00000	.00000	.06301	.08903	.00000	.00003	.00000	.68604	.00000	.00000	.00000
1520	.00822	.00043	.02762	.12554	.00000	.00000	.06261	.08980	.00000	.00003	.00000	.68575	.00000	.00000	.00000
1540	.00822	.00028	.02876	.12450	.00000	.00000	.06203	.09063	.00000	.00002	.00000	.68555	.00000	.00000	.00000
1560	.00822	.00019	.02982	.12350	.00000	.00000	.06133	.09149	.00000	.00002	.00000	.68542	.00000	.00000	.00000
1580	.00822	.00013	.03083	.12253	.00000	.00000	.06056	.09237	.00000	.00002	.00000	.68533	.00000	.00000	.00000
1600	.00822	.00008	.03180	.12159	.00000	.00000	.05976	.09325	.00000	.00002	.00000	.68528	.00000	.00000	.00000
1620	.00822	.00006	.03274	.12068	.00000	.00000	.05893	.09413	.00000	.00001	.00000	.68524	.00000	.00000	.00000
1640	.00822	.00004	.03365	.11978	.00000	.00000	.05809	.09500	.00000	.00001	.00000	.68521	.00000	.00000	.00000
1660	.00822	.00003	.03453	.11891	.00000	.00000	.05726	.09585	.00000	.00001	.00000	.68520	.00000	.00000	.00000
1680	.00822	.00002	.03539	.11805	.00000	.00000	.05643	.09670	.00000	.00001	.00000	.68518	.00000	.00000	.00000
1700	.00822	.00001	.03623	.11722	.00000	.00000	.05562	.09752	.00000	.00001	.00000	.68518	.00000	.00000	.00000
1720	.00822	.00001	.03705	.11640	.00000	.00000	.05481	.09834	.00000	.00001	.00000	.68517	.00000	.00000	.00000
1740	.00822	.00001	.03785	.11560	.00000	.00000	.05402	.09913	.00000	.00001	.00000	.68517	.00000	.00000	.00000
1760	.00822	.00000	.03863	.11482	.00000	.00000	.05325	.09991	.00000	.00001	.00000	.68516	.00000	.00000	.00000
1780	.00822	.00000	.03940	.11405	.00000	.00000	.05249	.10067	.00000	.00001	.00000	.68516	.00000	.00000	.00000
1800	.00822	.00000	.04015	.11331	.00000	.00000	.05174	.10142	.00000	.00001	.00000	.68516	.00000	.00000	.00000
1900	.00822	.00000	.04364	.10981	.00000	.00000	.04826	.10491	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2000	.00822	.00000	.04675	.10670	.00000	.00000	.04515	.10802	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2100	.00822	.00000	.04952	.10394	.00000	.00000	.04238	.11079	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2200	.00822	.00000	.05198	.10148	.00000	.00000	.03993	.11325	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2300	.00822	.00000	.05416	.09929	.00000	.00000	.03774	.11543	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2400	.00822	.00000	.05611	.09734	.00000	.00000	.03579	.11738	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2500	.00822	.00000	.05786	.09560	.00000	.00000	.03405	.11912	.00000	.00000	.00000	.68516	.00000	.00000	.00000

TABLE 11.3D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00822	.00000	.05941	.09404	.00000	.00000	.03249	.12068	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2700	.00822	.00000	.06081	.09264	.00000	.00000	.03109	.12208	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2800	.00822	.00000	.06207	.09138	.00001	.00000	.02983	.12334	.00000	.00000	.00000	.68516	.00000	.00000	.00000
2900	.00822	.00000	.06321	.09024	.00001	.00000	.02869	.12448	.00000	.00000	.00000	.68515	.00000	.00000	.00000
3000	.00822	.00000	.06424	.08922	.00002	.00000	.02766	.12550	.00000	.00000	.00000	.68515	.00000	.00000	.00000
3100	.00822	.00000	.06517	.08828	.00003	.00000	.02672	.12643	.00000	.00000	.00000	.68514	.00000	.00001	.00000
3200	.00822	.00000	.06601	.08743	.00005	.00000	.02587	.12726	.00000	.00000	.00000	.68513	.00000	.00001	.00000
3300	.00822	.00000	.06678	.08666	.00007	.00000	.02510	.12802	.00000	.00000	.00000	.68512	.00000	.00003	.00000
3400	.00822	.00000	.06749	.08595	.00011	.00000	.02438	.12869	.00000	.00000	.00001	.68510	.00000	.00005	.00000
3500	.00822	.00000	.06814	.08530	.00017	.00000	.02373	.12930	.00000	.00000	.00001	.68506	.00000	.00008	.00000
3600	.00822	.00000	.06873	.08469	.00025	.00000	.02313	.12982	.00000	.00000	.00003	.68500	.00000	.00014	.00000
3700	.00821	.00000	.06930	.08411	.00035	.00000	.02258	.13025	.00000	.00000	.00005	.68491	.00000	.00023	.00001
3800	.00821	.00000	.06983	.08354	.00049	.00000	.02208	.13060	.00000	.00000	.00008	.68478	.00001	.00036	.00001
3900	.00821	.00000	.07037	.08297	.00068	.00000	.02162	.13082	.00000	.00000	.00014	.68459	.00001	.00056	.00003
4000	.00821	.00000	.07092	.08236	.00092	.00000	.02122	.13090	.00000	.00000	.00023	.68430	.00002	.00084	.00006
4100	.00820	.00000	.07155	.08166	.00124	.00000	.02088	.13081	.00000	.00000	.00036	.68388	.00005	.00124	.00013
4200	.00820	.00000	.07229	.08081	.00164	.00000	.02063	.13047	.00000	.00000	.00057	.68327	.00009	.00178	.00025
4300	.00819	.00000	.07323	.07970	.00215	.00000	.02049	.12983	.00000	.00000	.00086	.68241	.00017	.00252	.00046
4400	.00818	.00000	.07446	.07824	.00279	.00000	.02050	.12880	.00000	.00000	.00125	.68120	.00031	.00347	.00080
4500	.00816	.00000	.07609	.07631	.00360	.00000	.02070	.12728	.00000	.00000	.00178	.67955	.00053	.00468	.00133
4600	.00814	.00000	.07819	.07380	.00461	.00000	.02112	.12519	.00000	.00000	.00245	.67737	.00086	.00616	.00210
4700	.00811	.00000	.08079	.07066	.00589	.00000	.02181	.12246	.00000	.00000	.00327	.67460	.00136	.00792	.00312
4800	.00808	.00000	.08388	.06692	.00750	.00000	.02275	.11905	.00000	.00000	.00422	.67119	.00206	.00994	.00440
4900	.00803	.00000	.08735	.06266	.00950	.00000	.02395	.11494	.00000	.00000	.00530	.66715	.00303	.01220	.00589
5000	.00798	.00000	.09109	.05801	.01197	.00000	.02537	.11014	.00000	.00000	.00646	.66248	.00429	.01465	.00754
5100	.00793	.00000	.09495	.05311	.01500	.00000	.02698	.10469	.00000	.00000	.00770	.65723	.00591	.01725	.00925
5200	.00787	.00000	.09878	.04812	.01866	.00001	.02870	.09863	.00001	.00000	.00898	.65141	.00794	.01994	.01097
5300	.00780	.00000	.10246	.04317	.02303	.00001	.03047	.09205	.00001	.00000	.01028	.64507	.01041	.02264	.01260
5400	.00772	.00000	.10587	.03838	.02818	.00001	.03223	.08502	.00001	.00000	.01158	.63826	.01337	.02529	.01410

TABLE 11.4D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11239	.00000	.00000	.71816	.00000	.00000	.00000
380	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
400	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
420	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
440	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
460	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
480	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
500	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
520	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
537	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
540	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
560	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00001	.00000	.71816	.00000	.00000	.00000
580	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00001	.00000	.71815	.00000	.00000	.00000
600	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00001	.00000	.71815	.00000	.00000	.00000
620	.00861	.02408	.00000	.13677	.00000	.00000	.00001	.11238	.00001	.00000	.71815	.00000	.00000	.00000
640	.00861	.02408	.00000	.13677	.00000	.00000	.00001	.11237	.00001	.00000	.71815	.00000	.00000	.00000
660	.00861	.02407	.00000	.13677	.00000	.00000	.00002	.11237	.00001	.00000	.71815	.00000	.00000	.00000
680	.00861	.02407	.00000	.13677	.00000	.00000	.00003	.11236	.00002	.00000	.71814	.00000	.00000	.00000
700	.00861	.02407	.00000	.13678	.00000	.00000	.00004	.11235	.00002	.00000	.71814	.00000	.00000	.00000
720	.00861	.02406	.00000	.13678	.00000	.00000	.00005	.11234	.00002	.00000	.71813	.00000	.00000	.00000
740	.00861	.02405	.00000	.13678	.00000	.00000	.00008	.11233	.00002	.00000	.71812	.00000	.00000	.00000
760	.00861	.02405	.00000	.13679	.00000	.00000	.00010	.11231	.00003	.00000	.71811	.00000	.00000	.00000
780	.00861	.02403	.00000	.13680	.00000	.00000	.00014	.11229	.00003	.00000	.71810	.00000	.00000	.00000
800	.00861	.02402	.00000	.13681	.00000	.00000	.00019	.11226	.00003	.00000	.71808	.00000	.00000	.00000
820	.00861	.02400	.00000	.13682	.00000	.00000	.00026	.11222	.00004	.00000	.71805	.00000	.00000	.00000
840	.00861	.02398	.00000	.13684	.00000	.00000	.00034	.11217	.00004	.00000	.71802	.00000	.00000	.00000
860	.00861	.02395	.00000	.13686	.00000	.00000	.00044	.11211	.00004	.00000	.71799	.00000	.00000	.00000
880	.00861	.02392	.00000	.13688	.00000	.00000	.00056	.11204	.00005	.00000	.71794	.00000	.00000	.00000
900	.00861	.02388	.00001	.13691	.00000	.00000	.00071	.11196	.00005	.00000	.71789	.00000	.00000	.00000
920	.00861	.02383	.00001	.13694	.00000	.00000	.00089	.11186	.00006	.00000	.71782	.00000	.00000	.00000
940	.00861	.02377	.00001	.13697	.00000	.00000	.00111	.11173	.00006	.00000	.71774	.00000	.00000	.00000
960	.00861	.02370	.00002	.13702	.00000	.00000	.00136	.11159	.00006	.00000	.71764	.00000	.00000	.00000
980	.00861	.02361	.00003	.13707	.00000	.00000	.00167	.11142	.00007	.00000	.71753	.00000	.00000	.00000
1000	.00860	.02351	.00005	.13712	.00000	.00000	.00202	.11123	.00007	.00000	.71739	.00000	.00000	.00000
1020	.00860	.02340	.00007	.13718	.00000	.00000	.00244	.11100	.00008	.00000	.71723	.00000	.00000	.00000
1040	.00860	.02326	.00009	.13725	.00000	.00000	.00291	.11075	.00008	.00000	.71705	.00000	.00000	.00000
1060	.00860	.02311	.00013	.13732	.00000	.00000	.00346	.11046	.00009	.00000	.71684	.00000	.00000	.00000
1080	.00860	.02293	.00018	.13739	.00000	.00000	.00408	.11013	.00009	.00000	.71660	.00000	.00000	.00000
1100	.00859	.02273	.00024	.13747	.00000	.00000	.00479	.10976	.00010	.00000	.71632	.00000	.00000	.00000
1120	.00859	.02250	.00033	.13755	.00000	.00000	.00558	.10935	.00010	.00000	.71600	.00000	.00000	.00000
1140	.00858	.02223	.00043	.13763	.00000	.00000	.00647	.10890	.00011	.00000	.71565	.00000	.00000	.00000

TABLE 11.4D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00858	.02194	.00057	.13769	.00000	.00000	.00746	.10841	.00011	.00000	.71524	.00000	.00000	.00000
1180	.00857	.02161	.00074	.13775	.00000	.00000	.00855	.10788	.00012	.00000	.71479	.00000	.00000	.00000
1200	.00857	.02123	.00096	.13780	.00000	.00000	.00975	.10730	.00012	.00000	.71428	.00000	.00000	.00000
1220	.00856	.02082	.00122	.13782	.00000	.00000	.01106	.10668	.00013	.00000	.71371	.00000	.00000	.00000
1240	.00855	.02035	.00155	.13782	.00000	.00000	.01250	.10603	.00013	.00000	.71307	.00000	.00000	.00000
1260	.00854	.01984	.00194	.13777	.00000	.00000	.01405	.10534	.00013	.00000	.71237	.00000	.00000	.00000
1280	.00854	.01928	.00242	.13769	.00000	.00000	.01571	.10462	.00014	.00000	.71160	.00000	.00000	.00000
1300	.00853	.01866	.00300	.13755	.00000	.00000	.01750	.10388	.00014	.00000	.71075	.00000	.00000	.00000
1320	.00851	.01798	.00367	.13734	.00000	.00000	.01941	.10312	.00014	.00000	.70982	.00000	.00000	.00000
1340	.00850	.01724	.00447	.13705	.00000	.00000	.02143	.10235	.00015	.00000	.70881	.00000	.00000	.00000
1360	.00849	.01644	.00539	.13668	.00000	.00000	.02355	.10157	.00015	.00000	.70772	.00000	.00000	.00000
1380	.00847	.01558	.00646	.13622	.00000	.00000	.02577	.10081	.00015	.00000	.70654	.00000	.00000	.00000
1400	.00846	.01466	.00767	.13564	.00000	.00000	.02808	.10006	.00015	.00000	.70527	.00000	.00000	.00000
1420	.00844	.01368	.00904	.13496	.00000	.00000	.03046	.09935	.00015	.00000	.70393	.00000	.00000	.00000
1440	.00843	.01264	.01056	.13415	.00000	.00000	.03289	.09867	.00015	.00000	.70251	.00000	.00000	.00000
1460	.00841	.01156	.01224	.13323	.00000	.00000	.03534	.09805	.00015	.00000	.70102	.00000	.00000	.00000
1480	.00839	.01044	.01405	.13219	.00000	.00000	.03780	.09749	.00015	.00000	.69949	.00000	.00000	.00000
1500	.00837	.00930	.01599	.13104	.00000	.00000	.04021	.09701	.00015	.00000	.69793	.00000	.00000	.00000
1520	.00835	.00816	.01803	.12979	.00000	.00000	.04254	.09662	.00014	.00000	.69636	.00000	.00000	.00000
1540	.00833	.00703	.02014	.12847	.00000	.00000	.04474	.09633	.00014	.00000	.69481	.00000	.00000	.00000
1560	.00832	.00594	.02227	.12709	.00000	.00000	.04677	.09616	.00014	.00000	.69332	.00000	.00000	.00000
1580	.00830	.00492	.02438	.12568	.00000	.00000	.04857	.09610	.00013	.00000	.69192	.00000	.00000	.00000
1600	.00828	.00398	.02643	.12428	.00000	.00000	.05010	.09616	.00013	.00000	.69064	.00000	.00000	.00000
1620	.00827	.00315	.02837	.12291	.00000	.00000	.05133	.09635	.00012	.00000	.68950	.00000	.00000	.00000
1640	.00826	.00244	.03018	.12159	.00000	.00000	.05223	.09665	.00011	.00000	.68853	.00000	.00000	.00000
1660	.00825	.00186	.03184	.12034	.00000	.00000	.05283	.09706	.00010	.00000	.68772	.00000	.00000	.00000
1680	.00824	.00139	.03334	.11917	.00000	.00000	.05313	.09756	.00010	.00000	.68708	.00000	.00000	.00000
1700	.00824	.00102	.03468	.11807	.00000	.00000	.05319	.09813	.00009	.00000	.68658	.00000	.00000	.00000
1720	.00823	.00075	.03589	.11705	.00000	.00000	.05304	.09876	.00008	.00000	.68620	.00000	.00000	.00000
1740	.00823	.00054	.03699	.11609	.00000	.00000	.05273	.09942	.00007	.00000	.68592	.00000	.00000	.00000
1760	.00822	.00039	.03800	.11519	.00000	.00000	.05231	.10011	.00007	.00000	.68571	.00000	.00000	.00000
1780	.00822	.00028	.03893	.11434	.00000	.00000	.05180	.10081	.00006	.00000	.68556	.00000	.00000	.00000
1800	.00822	.00021	.03980	.11352	.00000	.00000	.05124	.10151	.00006	.00000	.68545	.00000	.00000	.00000
1900	.00822	.00004	.04355	.10988	.00000	.00000	.04813	.10492	.00004	.00000	.68522	.00000	.00000	.00000
2000	.00822	.00001	.04672	.10673	.00000	.00000	.04511	.10801	.00002	.00000	.68518	.00000	.00000	.00000
2100	.00822	.00000	.04950	.10395	.00000	.00000	.04237	.11078	.00002	.00000	.68516	.00000	.00000	.00000
2200	.00822	.00000	.05197	.10149	.00000	.00000	.03992	.11324	.00001	.00000	.68516	.00000	.00000	.00000
2300	.00822	.00000	.05416	.09929	.00000	.00000	.03773	.11543	.00001	.00000	.68516	.00000	.00000	.00000
2400	.00822	.00000	.05611	.09734	.00000	.00000	.03578	.11738	.00001	.00000	.68516	.00000	.00000	.00000
2500	.00822	.00000	.05785	.09560	.00000	.00000	.03404	.11912	.00000	.00000	.68516	.00000	.00000	.00000

TABLE 11.4D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00822	.00000	.05941	.09404	.00000	.00000	.03249	.12068	.00000	.00000	.68516	.00000	.00000	.00000
2700	.00822	.00000	.06081	.09264	.00000	.00000	.03109	.12208	.00000	.00000	.68516	.00000	.00000	.00000
2800	.00822	.00000	.06207	.09138	.00000	.00000	.02983	.12334	.00000	.00000	.68516	.00000	.00000	.00000
2900	.00822	.00000	.06321	.09024	.00000	.00000	.02869	.12448	.00000	.00000	.68516	.00000	.00000	.00000
3000	.00822	.00000	.06424	.08921	.00001	.00000	.02766	.12551	.00000	.00000	.68516	.00000	.00000	.00000
3100	.00822	.00000	.06517	.08828	.00001	.00000	.02673	.12644	.00000	.00000	.68515	.00000	.00000	.00000
3200	.00822	.00000	.06602	.08743	.00001	.00000	.02588	.12728	.00000	.00000	.68515	.00000	.00000	.00000
3300	.00822	.00000	.06679	.08666	.00002	.00000	.02510	.12805	.00000	.00000	.68515	.00000	.00001	.00000
3400	.00822	.00000	.06750	.08595	.00004	.00000	.02440	.12875	.00000	.00000	.68514	.00000	.00002	.00000
3500	.00822	.00000	.06814	.08530	.00005	.00000	.02375	.12938	.00000	.00000	.68513	.00000	.00003	.00000
3600	.00822	.00000	.06874	.08470	.00008	.00000	.02315	.12995	.00000	.00001	.68511	.00000	.00004	.00000
3700	.00822	.00000	.06929	.08415	.00011	.00000	.02260	.13046	.00000	.00002	.68508	.00000	.00007	.00000
3800	.00822	.00000	.06980	.08363	.00016	.00000	.02210	.13092	.00000	.00003	.68504	.00000	.00011	.00000
3900	.00822	.00000	.07028	.08314	.00022	.00000	.02163	.13131	.00000	.00004	.68498	.00000	.00018	.00000
4000	.00821	.00000	.07074	.08266	.00029	.00000	.02121	.13164	.00000	.00007	.68490	.00000	.00027	.00001
4100	.00821	.00000	.07119	.08219	.00039	.00000	.02082	.13189	.00000	.00012	.68478	.00000	.00040	.00001
4200	.00821	.00000	.07164	.08171	.00052	.00000	.02047	.13205	.00000	.00018	.68461	.00001	.00057	.00003
4300	.00821	.00000	.07212	.08119	.00067	.00000	.02016	.13212	.00000	.00028	.68437	.00002	.00082	.00005
4400	.00821	.00000	.07264	.08060	.00087	.00000	.01991	.13206	.00000	.00042	.68403	.00003	.00114	.00009
4500	.00820	.00000	.07325	.07992	.00111	.00000	.01971	.13184	.00000	.00062	.68357	.00006	.00157	.00016
4600	.00820	.00000	.07397	.07909	.00140	.00000	.01958	.13144	.00000	.00088	.68295	.00010	.00213	.00027
4700	.00819	.00000	.07486	.07805	.00176	.00000	.01954	.13080	.00000	.00124	.68212	.00016	.00283	.00044
4800	.00818	.00000	.07598	.07674	.00220	.00000	.01961	.12988	.00000	.00170	.68104	.00026	.00369	.00071
4900	.00817	.00000	.07737	.07510	.00273	.00000	.01981	.12864	.00000	.00229	.67965	.00041	.00475	.00108
5000	.00815	.00000	.07908	.07309	.00338	.00000	.02016	.12704	.00000	.00300	.67790	.00062	.00599	.00159
5100	.00813	.00000	.08112	.07066	.00415	.00000	.02069	.12502	.00000	.00385	.67578	.00092	.00744	.00224
5200	.00810	.00000	.08349	.06784	.00509	.00000	.02138	.12258	.00000	.00482	.67324	.00132	.00908	.00305
5300	.00807	.00000	.08615	.06464	.00622	.00001	.02225	.11970	.00000	.00590	.67031	.00185	.01090	.00400
5400	.00804	.00000	.08904	.06113	.00758	.00001	.02329	.11638	.00000	.00709	.66697	.00253	.01288	.00506

TABLE 11.5D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11239	.00000	.00000	.71816	.00000	.00000	.00000
380	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
400	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
420	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
440	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
460	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
480	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
500	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
520	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00000	.00000	.71816	.00000	.00000	.00000
537	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00001	.00000	.71816	.00000	.00000	.00000
540	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00001	.00000	.71816	.00000	.00000	.00000
560	.00861	.02408	.00000	.13676	.00000	.00000	.00000	.11238	.00001	.00000	.71816	.00000	.00000	.00000
580	.00861	.02408	.00000	.13677	.00000	.00000	.00000	.11238	.00001	.00000	.71815	.00000	.00000	.00000
600	.00861	.02408	.00000	.13677	.00000	.00000	.00000	.11238	.00001	.00000	.71815	.00000	.00000	.00000
620	.00861	.02408	.00000	.13677	.00000	.00000	.00000	.11237	.00001	.00000	.71815	.00000	.00000	.00000
640	.00861	.02408	.00000	.13677	.00000	.00000	.00000	.11237	.00002	.00000	.71815	.00000	.00000	.00000
660	.00861	.02407	.00000	.13677	.00000	.00000	.00001	.11237	.00002	.00000	.71815	.00000	.00000	.00000
680	.00861	.02407	.00000	.13677	.00000	.00000	.00001	.11236	.00002	.00000	.71815	.00000	.00000	.00000
700	.00861	.02407	.00000	.13677	.00000	.00000	.00002	.11236	.00003	.00000	.71814	.00000	.00000	.00000
720	.00861	.02407	.00000	.13678	.00000	.00000	.00002	.11235	.00003	.00000	.71814	.00000	.00000	.00000
740	.00861	.02406	.00000	.13678	.00000	.00000	.00003	.11234	.00003	.00000	.71814	.00000	.00000	.00000
760	.00861	.02406	.00000	.13679	.00000	.00000	.00005	.11233	.00004	.00000	.71813	.00000	.00000	.00000
780	.00861	.02405	.00000	.13679	.00000	.00000	.00006	.11232	.00004	.00000	.71812	.00000	.00000	.00000
800	.00861	.02404	.00000	.13680	.00000	.00000	.00009	.11230	.00005	.00000	.71811	.00000	.00000	.00000
820	.00861	.02403	.00000	.13680	.00000	.00000	.00011	.11228	.00005	.00000	.71810	.00000	.00000	.00000
840	.00861	.02402	.00000	.13681	.00000	.00000	.00015	.11226	.00006	.00000	.71809	.00000	.00000	.00000
860	.00861	.02401	.00000	.13682	.00000	.00000	.00019	.11223	.00006	.00000	.71807	.00000	.00000	.00000
880	.00861	.02399	.00000	.13683	.00000	.00000	.00025	.11220	.00007	.00000	.71805	.00000	.00000	.00000
900	.00861	.02397	.00000	.13685	.00000	.00000	.00032	.11215	.00008	.00000	.71802	.00000	.00000	.00000
920	.00861	.02395	.00000	.13686	.00000	.00000	.00040	.11211	.00008	.00000	.71799	.00000	.00000	.00000
940	.00861	.02392	.00001	.13688	.00000	.00000	.00050	.11205	.00009	.00000	.71795	.00000	.00000	.00000
960	.00861	.02388	.00001	.13690	.00000	.00000	.00061	.11198	.00010	.00000	.71790	.00000	.00000	.00000
980	.00861	.02384	.00001	.13693	.00000	.00000	.00075	.11190	.00010	.00000	.71785	.00000	.00000	.00000
1000	.00861	.02380	.00002	.13695	.00000	.00000	.00091	.11181	.00011	.00000	.71779	.00000	.00000	.00000
1020	.00861	.02374	.00003	.13698	.00000	.00000	.00110	.11170	.00012	.00000	.71772	.00000	.00000	.00000
1040	.00861	.02368	.00004	.13702	.00000	.00000	.00131	.11158	.00013	.00000	.71763	.00000	.00000	.00000
1060	.00861	.02361	.00006	.13705	.00000	.00000	.00156	.11145	.00013	.00000	.71753	.00000	.00000	.00000
1080	.00861	.02353	.00008	.13709	.00000	.00000	.00185	.11129	.00014	.00000	.71742	.00000	.00000	.00000
1100	.00860	.02343	.00011	.13713	.00000	.00000	.00217	.11112	.00015	.00000	.71729	.00000	.00000	.00000
1120	.00860	.02332	.00015	.13717	.00000	.00000	.00254	.11092	.00016	.00000	.71714	.00000	.00000	.00000
1140	.00860	.02320	.00019	.13721	.00000	.00000	.00295	.11071	.00017	.00000	.71698	.00000	.00000	.00000

TABLE 11.5D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00860	.02306	.00025	.13724	.00000	.00000	.00341	.11048	.00017	.00000	.71679	.00000	.00000	.00000
1180	.00860	.02290	.00033	.13728	.00000	.00000	.00392	.11022	.00018	.00000	.71657	.00000	.00000	.00000
1200	.00859	.02272	.00043	.13730	.00000	.00000	.00449	.10994	.00019	.00000	.71633	.00000	.00000	.00000
1220	.00859	.02252	.00055	.13732	.00000	.00000	.00512	.10964	.00020	.00000	.71606	.00000	.00000	.00000
1240	.00859	.02230	.00070	.13733	.00000	.00000	.00581	.10931	.00021	.00000	.71576	.00000	.00000	.00000
1260	.00858	.02205	.00088	.13732	.00000	.00000	.00656	.10897	.00021	.00000	.71542	.00000	.00000	.00000
1280	.00858	.02178	.00109	.13730	.00000	.00000	.00739	.10860	.00022	.00000	.71504	.00000	.00000	.00000
1300	.00857	.02147	.00136	.13725	.00000	.00000	.00828	.10822	.00023	.00000	.71462	.00000	.00000	.00000
1320	.00857	.02114	.00167	.13717	.00000	.00000	.00924	.10782	.00024	.00000	.71416	.00000	.00000	.00000
1340	.00856	.02076	.00204	.13706	.00000	.00000	.01028	.10740	.00024	.00000	.71365	.00000	.00000	.00000
1360	.00855	.02035	.00248	.13690	.00000	.00000	.01140	.10697	.00025	.00000	.71309	.00000	.00000	.00000
1380	.00855	.01991	.00300	.13670	.00000	.00000	.01259	.10653	.00026	.00000	.71248	.00000	.00000	.00000
1400	.00854	.01942	.00359	.13645	.00000	.00000	.01385	.10609	.00026	.00000	.71181	.00000	.00000	.00000
1420	.00853	.01888	.00428	.13613	.00000	.00000	.01519	.10564	.00027	.00000	.71108	.00000	.00000	.00000
1440	.00852	.01830	.00506	.13575	.00000	.00000	.01661	.10520	.00027	.00000	.71029	.00000	.00000	.00000
1460	.00851	.01768	.00596	.13529	.00000	.00000	.01810	.10476	.00028	.00000	.70943	.00000	.00000	.00000
1480	.00850	.01700	.00696	.13475	.00000	.00000	.01966	.10434	.00028	.00000	.70851	.00000	.00000	.00000
1500	.00849	.01628	.00809	.13412	.00000	.00000	.02128	.10393	.00029	.00000	.70752	.00000	.00000	.00000
1520	.00847	.01551	.00934	.13341	.00000	.00000	.02297	.10355	.00029	.00000	.70646	.00000	.00000	.00000
1540	.00846	.01469	.01071	.13260	.00000	.00000	.02471	.10319	.00029	.00000	.70535	.00000	.00000	.00000
1560	.00845	.01383	.01222	.13169	.00000	.00000	.02649	.10286	.00029	.00000	.70417	.00000	.00000	.00000
1580	.00843	.01293	.01384	.13070	.00000	.00000	.02830	.10257	.00029	.00000	.70293	.00000	.00000	.00000
1600	.00842	.01200	.01558	.12961	.00000	.00000	.03013	.10233	.00029	.00000	.70165	.00000	.00000	.00000
1620	.00840	.01103	.01742	.12843	.00000	.00000	.03197	.10213	.00029	.00000	.70033	.00000	.00000	.00000
1640	.00839	.01005	.01935	.12718	.00000	.00000	.03378	.10197	.00029	.00000	.69898	.00000	.00000	.00000
1660	.00837	.00906	.02136	.12586	.00000	.00000	.03556	.10187	.00029	.00000	.69763	.00000	.00000	.00000
1680	.00835	.00807	.02341	.12449	.00000	.00000	.03728	.10183	.00028	.00000	.69627	.00000	.00000	.00000
1700	.00834	.00710	.02549	.12309	.00000	.00000	.03891	.10185	.00028	.00000	.69494	.00000	.00000	.00000
1720	.00832	.00617	.02756	.12166	.00000	.00000	.04043	.10193	.00027	.00000	.69366	.00000	.00000	.00000
1740	.00831	.00528	.02959	.12025	.00000	.00000	.04180	.10207	.00026	.00000	.69244	.00000	.00000	.00000
1760	.00829	.00445	.03156	.11885	.00000	.00000	.04301	.10228	.00026	.00000	.69130	.00000	.00000	.00000
1780	.00828	.00369	.03343	.11750	.00000	.00000	.04404	.10255	.00024	.00000	.69026	.00000	.00000	.00000
1800	.00827	.00302	.03519	.11621	.00000	.00000	.04486	.10288	.00023	.00000	.68934	.00000	.00000	.00000
1900	.00823	.00092	.04200	.11084	.00000	.00000	.04616	.10523	.00017	.00000	.68645	.00000	.00000	.00000
2000	.00822	.00024	.04626	.10704	.00000	.00000	.04455	.10805	.00012	.00000	.68551	.00000	.00000	.00000
2100	.00822	.00007	.04935	.10407	.00000	.00000	.04218	.11077	.00008	.00000	.68526	.00000	.00000	.00000
2200	.00822	.00002	.05191	.10154	.00000	.00000	.03984	.11322	.00006	.00000	.68520	.00000	.00000	.00000
2300	.00822	.00001	.05413	.09933	.00000	.00000	.03769	.11541	.00004	.00000	.68517	.00000	.00000	.00000
2400	.00822	.00000	.05609	.09736	.00000	.00000	.03576	.11737	.00003	.00000	.68517	.00000	.00000	.00000
2500	.00822	.00000	.05784	.09562	.00000	.00000	.03403	.11911	.00002	.00000	.68516	.00000	.00000	.00000

TABLE 11.5D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00822	.00000	.05940	.09405	.00000	.00000	.03247	.12067	.00002	.00000	.68516	.00000	.00000	.00000
2700	.00822	.00000	.06081	.09265	.00000	.00000	.03108	.12208	.00001	.00000	.68516	.00000	.00000	.00000
2800	.00822	.00000	.06207	.09139	.00000	.00000	.02982	.12334	.00001	.00000	.68516	.00000	.00000	.00000
2900	.00822	.00000	.06320	.09025	.00000	.00000	.02869	.12447	.00001	.00000	.68516	.00000	.00000	.00000
3000	.00822	.00000	.06423	.08922	.00000	.00000	.02766	.12550	.00001	.00000	.68516	.00000	.00000	.00000
3100	.00822	.00000	.06517	.08829	.00000	.00000	.02673	.12644	.00001	.00000	.68516	.00000	.00000	.00000
3200	.00822	.00000	.06602	.08744	.00001	.00000	.02588	.12728	.00001	.00000	.68516	.00000	.00000	.00000
3300	.00822	.00000	.06679	.08666	.00001	.00000	.02510	.12805	.00000	.00000	.68515	.00000	.00000	.00000
3400	.00822	.00000	.06750	.08596	.00002	.00000	.02440	.12876	.00000	.00000	.68515	.00000	.00001	.00000
3500	.00822	.00000	.06814	.08531	.00002	.00000	.02375	.12940	.00000	.00000	.68514	.00000	.00001	.00000
3600	.00822	.00000	.06874	.08471	.00003	.00000	.02315	.12998	.00000	.00000	.68514	.00000	.00002	.00000
3700	.00822	.00000	.06929	.08416	.00005	.00000	.02261	.13051	.00000	.00001	.68512	.00000	.00003	.00000
3800	.00822	.00000	.06979	.08365	.00007	.00000	.02210	.13100	.00000	.00001	.68511	.00000	.00005	.00000
3900	.00822	.00000	.07027	.08317	.00010	.00000	.02164	.13143	.00000	.00002	.68508	.00000	.00008	.00000
4000	.00822	.00000	.07071	.08272	.00013	.00000	.02121	.13181	.00000	.00003	.68504	.00000	.00012	.00000
4100	.00822	.00000	.07113	.08229	.00017	.00000	.02081	.13215	.00000	.00005	.68499	.00000	.00018	.00000
4200	.00822	.00000	.07153	.08188	.00023	.00000	.02045	.13243	.00000	.00008	.68492	.00000	.00026	.00001
4300	.00821	.00000	.07193	.08146	.00030	.00000	.02012	.13265	.00000	.00013	.68481	.00000	.00037	.00001
4400	.00821	.00000	.07232	.08104	.00039	.00000	.01982	.13281	.00000	.00019	.68467	.00001	.00052	.00002
4500	.00821	.00000	.07274	.08060	.00049	.00000	.01956	.13289	.00000	.00028	.68448	.00001	.00071	.00003
4600	.00821	.00000	.07318	.08011	.00062	.00000	.01933	.13288	.00000	.00040	.68422	.00002	.00097	.00006
4700	.00821	.00000	.07368	.07955	.00078	.00000	.01915	.13276	.00000	.00058	.68387	.00003	.00130	.00010
4800	.00820	.00000	.07425	.07890	.00097	.00000	.01902	.13252	.00000	.00080	.68342	.00006	.00171	.00016
4900	.00820	.00000	.07493	.07813	.00119	.00000	.01894	.13212	.00000	.00110	.68283	.00009	.00223	.00025
5000	.00819	.00000	.07574	.07718	.00146	.00000	.01894	.13154	.00000	.00148	.68207	.00014	.00286	.00039
5100	.00818	.00000	.07673	.07603	.00178	.00000	.01902	.13076	.00000	.00196	.68111	.00021	.00363	.00058
5200	.00817	.00000	.07793	.07464	.00216	.00000	.01920	.12974	.00000	.00255	.67992	.00031	.00453	.00085
5300	.00816	.00000	.07935	.07297	.00260	.00000	.01949	.12846	.00000	.00325	.67847	.00045	.00559	.00120
5400	.00814	.00000	.08101	.07101	.00313	.00001	.01989	.12689	.00000	.00408	.67675	.00065	.00679	.00165

TABLE 11.1E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00822	.04595	.00000	.00000	.10750	.00000	.15304	.00013	.00000	.68516
400	.00822	.04595	.00000	.00000	.10750	.00000	.15040	.00277	.00000	.68516
440	.00822	.04591	.00002	.00000	.10753	.00000	.11739	.03574	.00000	.68519
480	.00823	.04442	.00080	.00000	.10848	.00000	.00000	.15181	.00000	.68626
520	.00824	.04338	.00135	.00000	.10914	.00001	.00000	.15088	.00000	.68700
537	.00824	.04284	.00163	.00000	.10948	.00001	.00000	.15040	.00000	.68739
560	.00825	.04199	.00207	.00000	.11003	.00003	.00000	.14964	.00000	.68799
600	.00827	.04028	.00295	.00000	.11113	.00009	.00000	.14808	.00000	.68920
640	.00828	.03826	.00396	.00000	.11244	.00026	.00000	.14620	.00000	.69059
680	.00830	.03599	.00506	.00000	.11396	.00063	.00000	.14398	.00000	.69209
720	.00832	.03347	.00618	.00000	.11570	.00138	.00000	.14133	.00000	.69362
760	.00834	.03074	.00724	.00000	.11769	.00278	.00000	.13812	.00000	.69508
800	.00835	.02779	.00816	.00001	.12000	.00518	.00000	.13417	.00000	.69634
840	.00836	.02460	.00882	.00003	.12271	.00901	.00000	.12922	.00001	.69724
880	.00837	.02117	.00912	.00009	.12588	.01467	.00000	.12305	.00001	.69765
920	.00837	.01745	.00898	.00023	.12955	.02248	.00000	.11547	.00001	.69747
960	.00836	.01340	.00841	.00054	.13369	.03247	.00000	.10646	.00001	.69668
1000	.00834	.00895	.00746	.00120	.13814	.04435	.00000	.09618	.00001	.69537
1040	.00832	.00397	.00627	.00252	.14262	.05750	.00000	.08504	.00001	.69375
1080	.00829	.00000	.00448	.00476	.14559	.07005	.00000	.07553	.00001	.69129
1120	.00825	.00000	.00197	.00717	.14492	.07721	.00000	.07262	.00001	.68786
1160	.00823	.00000	.00068	.00953	.14345	.07979	.00000	.07224	.00000	.68608
1200	.00822	.00000	.00021	.01170	.14161	.07942	.00000	.07340	.00000	.68544
1240	.00822	.00000	.00006	.01379	.13962	.07788	.00000	.07519	.00000	.68524
1280	.00822	.00000	.00002	.01587	.13757	.07596	.00000	.07718	.00000	.68518
1320	.00822	.00000	.00001	.01796	.13549	.07392	.00000	.07924	.00000	.68517
1360	.00822	.00000	.00000	.02006	.13339	.07184	.00000	.08133	.00000	.68516
1400	.00822	.00000	.00000	.02214	.13131	.06976	.00000	.08341	.00000	.68516

TABLE 11.2E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00822	.04595	.00000	.00000	.10750	.00000	.15316	.00001	.00000	.68516
400	.00822	.04595	.00000	.00000	.10750	.00000	.15290	.00028	.00000	.68516
440	.00822	.04595	.00000	.00000	.10750	.00000	.14974	.00344	.00000	.68516
480	.00822	.04590	.00003	.00000	.10754	.00000	.12427	.02885	.00000	.68520
520	.00824	.04338	.00135	.00000	.10914	.00000	.00000	.15089	.00000	.68700
537	.00824	.04285	.00163	.00000	.10948	.00000	.00000	.15041	.00000	.68739
560	.00825	.04200	.00207	.00000	.11002	.00001	.00000	.14966	.00000	.68799
600	.00827	.04030	.00295	.00000	.11110	.00003	.00000	.14814	.00000	.68920
640	.00828	.03833	.00397	.00000	.11237	.00008	.00000	.14636	.00000	.69060
680	.00830	.03614	.00509	.00000	.11379	.00020	.00000	.14435	.00000	.69213
720	.00832	.03377	.00627	.00000	.11534	.00044	.00000	.14212	.00000	.69374
760	.00834	.03129	.00745	.00000	.11700	.00089	.00000	.13966	.00001	.69536
800	.00836	.02872	.00859	.00000	.11878	.00168	.00000	.13694	.00001	.69693
840	.00838	.02609	.00963	.00001	.12069	.00297	.00000	.13388	.00001	.69835
880	.00839	.02340	.01050	.00003	.12274	.00497	.00000	.13040	.00001	.69955
920	.00840	.02067	.01115	.00007	.12498	.00791	.00000	.12636	.00001	.70044
960	.00841	.01789	.01152	.00017	.12742	.01199	.00000	.12165	.00002	.70094
1000	.00841	.01501	.01155	.00037	.13007	.01740	.00000	.11618	.00002	.70099
1040	.00840	.01200	.01124	.00077	.13291	.02424	.00000	.10988	.00002	.70056
1080	.00839	.00875	.01059	.00151	.13585	.03246	.00000	.10276	.00002	.69967
1120	.00838	.00515	.00966	.00285	.13877	.04188	.00000	.09491	.00002	.69839
1160	.00836	.00098	.00853	.00514	.14142	.05221	.00000	.08648	.00002	.69686
1200	.00831	.00000	.00588	.00809	.14129	.06136	.00000	.08183	.00002	.69321
1240	.00827	.00000	.00324	.01141	.13980	.06811	.00000	.07955	.00002	.68960
1280	.00824	.00000	.00146	.01464	.13780	.07166	.00000	.07902	.00001	.68716
1320	.00823	.00000	.00057	.01744	.13562	.07228	.00000	.07991	.00001	.68594
1360	.00822	.00000	.00021	.01985	.13346	.07125	.00000	.08156	.00001	.68544
1400	.00822	.00000	.00008	.02206	.13135	.06955	.00000	.08349	.00001	.68526

TABLE 11.3E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00822	.04595	.00000	.00000	.10750	.00000	.15317	.00000	.00000	.00000	.68516
400	.00822	.04595	.00000	.00000	.10750	.00000	.15315	.00000	.00003	.00000	.68516
440	.00822	.04595	.00000	.00000	.10750	.00000	.15283	.00000	.00034	.00000	.68516
480	.00822	.04595	.00000	.00000	.10750	.00000	.15038	.00000	.00279	.00000	.68516
520	.00822	.04593	.00001	.00000	.10752	.00000	.00000	.13883	.01432	.00000	.68517
537	.00822	.04586	.00005	.00000	.10756	.00000	.00000	.12736	.02573	.00000	.68522
560	.00822	.04539	.00029	.00000	.10786	.00000	.00000	.09701	.05567	.00000	.68556
600	.00827	.04031	.00295	.00000	.11110	.00001	.00000	.00000	.14816	.00000	.68920
640	.00828	.03835	.00398	.00000	.11235	.00003	.00000	.00000	.14641	.00000	.69061
680	.00830	.03618	.00510	.00000	.11374	.00006	.00000	.00000	.14446	.00001	.69215
720	.00832	.03387	.00629	.00000	.11522	.00014	.00000	.00000	.14236	.00001	.69378
760	.00834	.03146	.00751	.00000	.11678	.00028	.00000	.00000	.14015	.00001	.69546
800	.00836	.02902	.00873	.00000	.11839	.00054	.00000	.00000	.13783	.00002	.69712
840	.00838	.02657	.00990	.00000	.12002	.00095	.00000	.00000	.13542	.00002	.69873
880	.00840	.02413	.01100	.00001	.12169	.00161	.00000	.00000	.13290	.00002	.70024
920	.00841	.02173	.01200	.00002	.12339	.00259	.00000	.00000	.13022	.00003	.70160
960	.00843	.01937	.01285	.00005	.12512	.00400	.00000	.00000	.12735	.00003	.70278
1000	.00844	.01706	.01354	.00011	.12690	.00595	.00000	.00000	.12424	.00004	.70372
1040	.00845	.01477	.01402	.00024	.12873	.00855	.00000	.00000	.12081	.00004	.70438
1080	.00845	.01249	.01428	.00047	.13061	.01190	.00000	.00000	.11703	.00005	.70474
1120	.00845	.01017	.01429	.00088	.13251	.01607	.00000	.00000	.11283	.00005	.70475
1160	.00845	.00775	.01405	.00158	.13439	.02112	.00000	.00000	.10818	.00005	.70442
1200	.00844	.00514	.01357	.00273	.13619	.02703	.00000	.00000	.10308	.00006	.70377
1240	.00843	.00220	.01287	.00455	.13780	.03376	.00000	.00000	.09753	.00006	.70281
1280	.00841	.00000	.01144	.00717	.13836	.04101	.00000	.00000	.09272	.00006	.70084
1320	.00836	.00000	.00877	.01036	.13702	.04800	.00000	.00000	.09024	.00006	.69718
1360	.00832	.00000	.00610	.01415	.13508	.05439	.00000	.00000	.08838	.00005	.69353
1400	.00828	.00000	.00375	.01817	.13269	.05936	.00000	.00000	.08740	.00005	.69031

TABLE 11.4E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00822	.04595	.00000	.00000	.10750	.00000	.15317	.00000	.00000	.00000	.68516
400	.00822	.04595	.00000	.00000	.10750	.00000	.15317	.00000	.00000	.00000	.68516
440	.00822	.04595	.00000	.00000	.10750	.00000	.15314	.00000	.00003	.00000	.68516
480	.00822	.04595	.00000	.00000	.10750	.00000	.15289	.00000	.00028	.00000	.68516
520	.00822	.04595	.00000	.00000	.10750	.00000	.00000	.15176	.00141	.00000	.68516
537	.00822	.04595	.00000	.00000	.10750	.00000	.00000	.15067	.00250	.00000	.68516
560	.00822	.04595	.00000	.00000	.10750	.00000	.00000	.14794	.00523	.00000	.68516
600	.00822	.04588	.00004	.00000	.10754	.00000	.00000	.13704	.01607	.00000	.68521
640	.00822	.04527	.00036	.00000	.10794	.00000	.00000	.10960	.04296	.00000	.68565
680	.00826	.04059	.00280	.00000	.11092	.00001	.00000	.04268	.10573	.00001	.68900
720	.00832	.03389	.00630	.00000	.11519	.00004	.00000	.00000	.14243	.00002	.69380
760	.00834	.03152	.00753	.00000	.11672	.00009	.00000	.00000	.14029	.00002	.69549
800	.00836	.02911	.00877	.00000	.11827	.00017	.00000	.00000	.13811	.00003	.69718
840	.00838	.02671	.00999	.00000	.11982	.00030	.00000	.00000	.13591	.00003	.69885
880	.00840	.02436	.01117	.00000	.12136	.00051	.00000	.00000	.13369	.00004	.70047
920	.00842	.02207	.01228	.00001	.12288	.00083	.00000	.00000	.13148	.00005	.70200
960	.00844	.01984	.01332	.00002	.12437	.00129	.00000	.00000	.12925	.00006	.70342
1000	.00845	.01770	.01427	.00004	.12584	.00193	.00000	.00000	.12699	.00007	.70472
1040	.00847	.01563	.01511	.00007	.12729	.00281	.00000	.00000	.12468	.00008	.70587
1080	.00848	.01364	.01582	.00015	.12871	.00396	.00000	.00000	.12229	.00009	.70686
1120	.00849	.01171	.01641	.00028	.13011	.00544	.00000	.00000	.11980	.00010	.70766
1160	.00850	.00982	.01685	.00049	.13148	.00730	.00000	.00000	.11718	.00011	.70827
1200	.00850	.00794	.01714	.00085	.13280	.00959	.00000	.00000	.11439	.00012	.70867
1240	.00850	.00604	.01727	.00142	.13405	.01234	.00000	.00000	.11142	.00013	.70884
1280	.00850	.00405	.01723	.00228	.13520	.01558	.00000	.00000	.10823	.00014	.70880
1320	.00850	.00190	.01704	.00357	.13620	.01933	.00000	.00000	.10480	.00014	.70853
1360	.00849	.00000	.01644	.00539	.13668	.02355	.00000	.00000	.10157	.00015	.70772
1400	.00846	.00000	.01466	.00767	.13564	.02808	.00000	.00000	.10006	.00015	.70527

TABLE 11.5E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.084535; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00822	.04595	.00000	.00000	.10750	.00000	.15317	.00000	.00000	.00000	.68516
400	.00822	.04595	.00000	.00000	.10750	.00000	.15317	.00000	.00000	.00000	.68516
440	.00822	.04595	.00000	.00000	.10750	.00000	.15317	.00000	.00001	.00000	.68516
480	.00822	.04595	.00000	.00000	.10750	.00000	.15312	.00000	.00006	.00000	.68516
520	.00822	.04595	.00000	.00000	.10750	.00000	.00000	.15289	.00028	.00000	.68516
537	.00822	.04595	.00000	.00000	.10750	.00000	.00000	.15267	.00050	.00000	.68516
560	.00822	.04595	.00000	.00000	.10750	.00000	.00000	.15213	.00104	.00000	.68516
600	.00822	.04595	.00000	.00000	.10750	.00000	.00000	.15001	.00316	.00000	.68516
640	.00822	.04593	.00001	.00000	.10752	.00000	.00000	.14492	.00823	.00000	.68518
680	.00822	.04577	.00009	.00000	.10761	.00000	.00000	.13410	.01892	.00000	.68528
720	.00823	.04496	.00052	.00000	.10814	.00001	.00000	.11270	.03958	.00000	.68587
760	.00826	.04128	.00244	.00000	.11049	.00002	.00000	.07134	.07766	.00001	.68850
800	.00836	.02913	.00878	.00000	.11824	.00008	.00000	.00000	.13817	.00004	.69720
840	.00838	.02675	.01001	.00000	.11977	.00014	.00000	.00000	.13602	.00005	.69888
880	.00840	.02441	.01120	.00000	.12128	.00023	.00000	.00000	.13388	.00006	.70052
920	.00842	.02215	.01235	.00000	.12276	.00037	.00000	.00000	.13178	.00008	.70209
960	.00844	.01996	.01344	.00001	.12419	.00058	.00000	.00000	.12972	.00009	.70359
1000	.00846	.01786	.01445	.00002	.12558	.00087	.00000	.00000	.12768	.00010	.70498
1040	.00847	.01585	.01539	.00003	.12692	.00127	.00000	.00000	.12568	.00012	.70627
1080	.00849	.01393	.01625	.00007	.12822	.00179	.00000	.00000	.12368	.00014	.70745
1120	.00850	.01208	.01701	.00012	.12948	.00248	.00000	.00000	.12168	.00015	.70850
1160	.00851	.01032	.01768	.00022	.13069	.00334	.00000	.00000	.11966	.00017	.70941
1200	.00852	.00861	.01824	.00038	.13185	.00442	.00000	.00000	.11760	.00019	.71019
1240	.00853	.00693	.01870	.00063	.13296	.00574	.00000	.00000	.11548	.00020	.71082
1280	.00853	.00528	.01905	.00101	.13399	.00732	.00000	.00000	.11329	.00022	.71131
1320	.00854	.00359	.01929	.00159	.13494	.00919	.00000	.00000	.11100	.00023	.71163
1360	.00854	.00185	.01941	.00242	.13577	.01136	.00000	.00000	.10860	.00025	.71180
1400	.00854	.00000	.01942	.00359	.13645	.01385	.00000	.00000	.10609	.00026	.71181

TABLE 12.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016749; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00920	.00000	.03405	.00000	.00000	.03542	.00000	.00001	.76701	.00000	.00000	.15432
1700	.00920	.00000	.03405	.00000	.00000	.03542	.00000	.00002	.76700	.00000	.00000	.15432
1800	.00920	.00000	.03405	.00000	.00000	.03542	.00000	.00003	.76700	.00000	.00000	.15431
1900	.00920	.00000	.03405	.00000	.00000	.03542	.00000	.00005	.76699	.00000	.00000	.15430
2000	.00920	.00000	.03405	.00000	.00000	.03542	.00000	.00009	.76697	.00000	.00000	.15428
2100	.00920	.00000	.03405	.00000	.00000	.03542	.00000	.00014	.76694	.00000	.00000	.15425
2200	.00920	.00000	.03405	.00000	.00000	.03542	.00000	.00022	.76690	.00000	.00001	.15421
2300	.00920	.00000	.03405	.00000	.00000	.03541	.00000	.00032	.76685	.00000	.00001	.15416
2400	.00920	.00000	.03405	.00000	.00000	.03540	.00000	.00045	.76678	.00000	.00003	.15409
2500	.00920	.00000	.03404	.00000	.00000	.03539	.00000	.00063	.76669	.00000	.00005	.15400
2600	.00920	.00000	.03404	.00000	.00000	.03537	.00000	.00085	.76657	.00001	.00008	.15387
2700	.00920	.00000	.03404	.00000	.00000	.03535	.00000	.00112	.76642	.00002	.00014	.15372
2800	.00920	.00001	.03403	.00000	.00000	.03530	.00000	.00145	.76623	.00003	.00022	.15352
2900	.00920	.00002	.03402	.00000	.00001	.03524	.00000	.00184	.76599	.00006	.00034	.15328
3000	.00920	.00004	.03400	.00000	.00001	.03514	.00000	.00230	.76569	.00012	.00051	.15298
3100	.00920	.00008	.03396	.00001	.00002	.03501	.00000	.00284	.76532	.00022	.00075	.15261
3200	.00919	.00014	.03389	.00002	.00004	.03482	.00000	.00345	.76486	.00038	.00106	.15215
3300	.00919	.00025	.03377	.00004	.00006	.03457	.00000	.00415	.76427	.00064	.00147	.15159
3400	.00919	.00042	.03358	.00007	.00010	.03423	.00000	.00492	.76352	.00105	.00200	.15091
3500	.00918	.00070	.03328	.00014	.00016	.03378	.00000	.00579	.76256	.00166	.00267	.15008
3600	.00917	.00111	.03283	.00025	.00025	.03319	.00000	.00673	.76133	.00257	.00349	.14908
3700	.00916	.00172	.03218	.00045	.00036	.03243	.00000	.00776	.75973	.00387	.00448	.14786
3800	.00914	.00257	.03126	.00076	.00052	.03146	.00000	.00886	.75769	.00571	.00566	.14637
3900	.00912	.00372	.03002	.00125	.00073	.03024	.00000	.01003	.75507	.00824	.00701	.14458
4000	.00908	.00521	.02841	.00200	.00099	.02872	.00000	.01126	.75175	.01166	.00852	.14239
4100	.00904	.00705	.02642	.00310	.00131	.02687	.00000	.01253	.74760	.01619	.01017	.13972
4200	.00899	.00919	.02407	.00466	.00167	.02467	.00000	.01383	.74251	.02207	.01188	.13646
4300	.00892	.01157	.02145	.00679	.00205	.02213	.00000	.01512	.73638	.02956	.01356	.13246
4400	.00884	.01407	.01866	.00960	.00243	.01927	.00000	.01638	.72917	.03888	.01510	.12760
4500	.00875	.01653	.01585	.01312	.00276	.01621	.00000	.01756	.72088	.05026	.01634	.12174
4600	.00865	.01884	.01316	.01733	.00298	.01307	.00000	.01862	.71161	.06380	.01713	.11480
4700	.00853	.02089	.01068	.02209	.00306	.01006	.00001	.01951	.70153	.07952	.01736	.10676
4800	.00841	.02262	.00850	.02714	.00298	.00735	.00001	.02019	.69092	.09726	.01695	.09767
4900	.00828	.02400	.00664	.03217	.00275	.00508	.00002	.02063	.68011	.11669	.01593	.08769
5000	.00815	.02507	.00511	.03687	.00241	.00334	.00002	.02078	.66945	.13726	.01443	.07711
5100	.00803	.02585	.00387	.04100	.00202	.00209	.00004	.02064	.65927	.15825	.01262	.06631
5200	.00792	.02640	.00290	.04447	.00163	.00126	.00005	.02022	.64988	.17886	.01071	.05571
5300	.00781	.02676	.00215	.04726	.00128	.00074	.00008	.01954	.64149	.19829	.00885	.04575
5400	.00772	.02699	.00158	.04944	.00099	.00042	.00011	.01864	.63425	.21590	.00717	.03678

TABLE 12.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016749; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00001	.76701	.00000	.00000	.15432
1700	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00002	.76700	.00000	.00000	.15432
1800	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00003	.76700	.00000	.00000	.15431
1900	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00005	.76699	.00000	.00000	.15430
2000	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00009	.76697	.00000	.00000	.15428
2100	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00014	.76694	.00000	.00000	.15425
2200	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00022	.76690	.00000	.00000	.15422
2300	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00000	.00032	.76685	.00000	.00001	.15416
2400	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00000	.00045	.76678	.00000	.00002	.15409
2500	.00920	.00000	.03405	.00000	.00000	.00000	.03540	.00000	.00063	.76669	.00000	.00003	.15400
2600	.00920	.00000	.03404	.00000	.00000	.00000	.03539	.00000	.00085	.76658	.00000	.00005	.15389
2700	.00920	.00000	.03404	.00000	.00000	.00000	.03538	.00000	.00112	.76644	.00000	.00008	.15374
2800	.00920	.00000	.03404	.00000	.00000	.00000	.03535	.00000	.00145	.76626	.00001	.00012	.15356
2900	.00920	.00001	.03404	.00000	.00000	.00000	.03532	.00000	.00184	.76604	.00002	.00019	.15334
3000	.00920	.00001	.03403	.00000	.00000	.00000	.03527	.00000	.00230	.76578	.00004	.00029	.15307
3100	.00920	.00002	.03402	.00000	.00000	.00001	.03520	.00000	.00284	.76547	.00007	.00042	.15275
3200	.00920	.00004	.03399	.00000	.00000	.00001	.03510	.00000	.00346	.76510	.00012	.00060	.15238
3300	.00920	.00008	.03395	.00001	.00000	.00002	.03497	.00000	.00415	.76466	.00020	.00083	.15193
3400	.00919	.00013	.03389	.00001	.00000	.00003	.03479	.00000	.00493	.76413	.00033	.00114	.15141
3500	.00919	.00022	.03380	.00003	.00000	.00005	.03457	.00000	.00580	.76350	.00053	.00152	.15080
3600	.00919	.00036	.03365	.00005	.00000	.00008	.03428	.00000	.00676	.76274	.00081	.00200	.15009
3700	.00918	.00056	.03343	.00008	.00000	.00012	.03391	.00000	.00780	.76183	.00123	.00258	.14926
3800	.00918	.00085	.03311	.00014	.00000	.00017	.03345	.00000	.00894	.76074	.00182	.00329	.14831
3900	.00917	.00127	.03267	.00023	.00000	.00025	.03287	.00000	.01015	.75942	.00263	.00413	.14721
4000	.00916	.00184	.03206	.00037	.00000	.00035	.03217	.00000	.01145	.75783	.00373	.00510	.14594
4100	.00914	.00259	.03125	.00059	.00000	.00047	.03132	.00000	.01282	.75590	.00521	.00622	.14448
4200	.00912	.00357	.03020	.00091	.00000	.00063	.03030	.00000	.01425	.75358	.00714	.00749	.14281
4300	.00910	.00478	.02889	.00136	.00000	.00083	.02908	.00000	.01575	.75080	.00964	.00888	.14087
4400	.00907	.00625	.02732	.00200	.00000	.00106	.02766	.00000	.01728	.74751	.01282	.01038	.13864
4500	.00903	.00795	.02548	.00288	.00000	.00132	.02603	.00000	.01885	.74364	.01680	.01197	.13605
4600	.00899	.00985	.02341	.00404	.00001	.00162	.02417	.00000	.02042	.73914	.02172	.01359	.13304
4700	.00894	.01189	.02118	.00555	.00001	.00193	.02210	.00000	.02198	.73399	.02770	.01518	.12955
4800	.00887	.01399	.01885	.00745	.00001	.00225	.01985	.00000	.02350	.72818	.03487	.01668	.12550
4900	.00881	.01608	.01651	.00979	.00001	.00254	.01747	.00001	.02494	.72170	.04332	.01799	.12084
5000	.00873	.01806	.01424	.01256	.00001	.00279	.01501	.00001	.02628	.71462	.05313	.01903	.11553
5100	.00864	.01989	.01210	.01576	.00001	.00298	.01257	.00001	.02747	.70698	.06432	.01971	.10955
5200	.00855	.02151	.01015	.01930	.00001	.00307	.01022	.00002	.02850	.69891	.07688	.01997	.10292
5300	.00846	.02290	.00841	.02309	.00001	.00306	.00806	.00003	.02931	.69052	.09068	.01978	.09569
5400	.00836	.02405	.00689	.02699	.00000	.00296	.00616	.00004	.02990	.68199	.10557	.01913	.08796

TABLE 12.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016749; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00001	.00000	.76701	.00000	.00000	.15432
1700	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00002	.00000	.76700	.00000	.00000	.15432
1800	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00003	.00000	.76700	.00000	.00000	.15431
1900	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00005	.00000	.76699	.00000	.00000	.15430
2000	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00009	.00000	.76697	.00000	.00000	.15428
2100	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00014	.00000	.76694	.00000	.00000	.15425
2200	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00022	.00000	.76690	.00000	.00000	.15421
2300	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00000	.00032	.00000	.76685	.00000	.00000	.15416
2400	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00000	.00045	.00000	.76678	.00000	.00001	.15409
2500	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00000	.00063	.00000	.76670	.00000	.00002	.15400
2600	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00000	.00085	.00000	.76658	.00000	.00003	.15389
2700	.00920	.00000	.03404	.00000	.00000	.00000	.03540	.00000	.00112	.00000	.76644	.00000	.00004	.15375
2800	.00920	.00000	.03404	.00000	.00000	.00000	.03538	.00000	.00145	.00001	.76627	.00000	.00007	.15357
2900	.00920	.00000	.03404	.00000	.00000	.00000	.03536	.00000	.00184	.00001	.76607	.00001	.00011	.15336
3000	.00920	.00000	.03404	.00000	.00000	.00000	.03533	.00000	.00230	.00001	.76582	.00001	.00016	.15312
3100	.00920	.00001	.03404	.00000	.00000	.00000	.03530	.00000	.00284	.00001	.76553	.00002	.00024	.15282
3200	.00920	.00001	.03403	.00000	.00000	.00000	.03524	.00000	.00346	.00001	.76520	.00004	.00034	.15248
3300	.00920	.00002	.03402	.00000	.00000	.00001	.03517	.00000	.00415	.00001	.76481	.00006	.00047	.15208
3400	.00920	.00004	.03399	.00000	.00000	.00001	.03508	.00000	.00494	.00001	.76436	.00010	.00064	.15162
3500	.00920	.00007	.03396	.00000	.00000	.00002	.03496	.00000	.00581	.00001	.76384	.00017	.00086	.15110
3600	.00919	.00011	.03391	.00001	.00000	.00003	.03480	.00000	.00677	.00001	.76325	.00026	.00113	.15051
3700	.00919	.00018	.03384	.00001	.00000	.00004	.03461	.00000	.00782	.00001	.76258	.00039	.00147	.14985
3800	.00919	.00027	.03374	.00002	.00000	.00006	.03438	.00000	.00897	.00001	.76181	.00058	.00188	.14910
3900	.00919	.00041	.03359	.00004	.00000	.00008	.03409	.00000	.01020	.00001	.76093	.00083	.00237	.14826
4000	.00918	.00060	.03338	.00007	.00001	.00011	.03373	.00000	.01152	.00001	.75992	.00119	.00295	.14733
4100	.00918	.00086	.03310	.00011	.00001	.00016	.03331	.00000	.01292	.00001	.75877	.00166	.00362	.14629
4200	.00917	.00121	.03273	.00017	.00001	.00021	.03281	.00000	.01441	.00001	.75745	.00228	.00440	.14515
4300	.00916	.00167	.03224	.00025	.00001	.00029	.03222	.00000	.01597	.00001	.75594	.00308	.00528	.14388
4400	.00915	.00226	.03161	.00038	.00001	.00038	.03153	.00000	.01760	.00001	.75421	.00411	.00628	.14249
4500	.00914	.00299	.03083	.00055	.00001	.00049	.03073	.00000	.01930	.00001	.75223	.00541	.00738	.14095
4600	.00912	.00388	.02987	.00079	.00001	.00062	.02981	.00000	.02105	.00001	.74997	.00703	.00858	.13926
4700	.00910	.00495	.02873	.00111	.00001	.00077	.02877	.00000	.02284	.00001	.74740	.00902	.00989	.13739
4800	.00908	.00619	.02740	.00153	.00001	.00095	.02759	.00000	.02467	.00001	.74450	.01145	.01127	.13533
4900	.00905	.00760	.02589	.00208	.00001	.00115	.02628	.00000	.02652	.00001	.74124	.01437	.01271	.13305
5000	.00902	.00914	.02423	.00279	.00002	.00138	.02484	.00000	.02838	.00001	.73761	.01786	.01419	.13053
5100	.00898	.01080	.02244	.00367	.00002	.00161	.02328	.00000	.03022	.00001	.73360	.02196	.01568	.12773
5200	.00894	.01252	.02056	.00476	.00002	.00186	.02160	.00001	.03203	.00001	.72920	.02675	.01713	.12462
5300	.00889	.01427	.01864	.00607	.00002	.00212	.01982	.00001	.03379	.00001	.72441	.03227	.01850	.12118
5400	.00884	.01599	.01673	.00763	.00002	.00236	.01797	.00001	.03547	.00001	.71927	.03857	.01975	.11739

TABLE 12.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016749; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00001	.00000	.76701	.00000	.00000	.00000	.15432
1700	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00002	.00000	.76700	.00000	.00000	.00000	.15431
1800	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00003	.00000	.76700	.00000	.00000	.00000	.15431
1900	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00005	.00001	.76698	.00000	.00000	.00000	.15429
2000	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00009	.00001	.76697	.00000	.00000	.00000	.15427
2100	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00014	.00001	.76694	.00000	.00000	.00000	.15425
2200	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00022	.00001	.76690	.00000	.00000	.00000	.15421
2300	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00032	.00001	.76685	.00000	.00000	.00000	.15416
2400	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00045	.00001	.76678	.00000	.00000	.00000	.15409
2500	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00063	.00001	.76670	.00000	.00000	.00001	.15400
2600	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00085	.00001	.76658	.00000	.00000	.00002	.15388
2700	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00112	.00002	.76645	.00000	.00000	.00002	.15374
2800	.00920	.00000	.03405	.00000	.00000	.00000	.03540	.00145	.00002	.76628	.00000	.00000	.00004	.15357
2900	.00920	.00000	.03404	.00000	.00000	.00000	.03539	.00184	.00002	.76608	.00000	.00000	.00006	.15337
3000	.00920	.00000	.03404	.00000	.00000	.00000	.03537	.00230	.00002	.76584	.00000	.00000	.00009	.15313
3100	.00920	.00000	.03404	.00000	.00000	.00000	.03535	.00284	.00002	.76556	.00000	.00001	.00013	.15284
3200	.00920	.00000	.03404	.00000	.00000	.00000	.03532	.00346	.00002	.76524	.00000	.00001	.00019	.15251
3300	.00920	.00001	.03404	.00000	.00000	.00000	.03528	.00416	.00002	.76487	.00000	.00002	.00026	.15214
3400	.00920	.00001	.03403	.00000	.00000	.00000	.03523	.00494	.00003	.76445	.00000	.00003	.00036	.15171
3500	.00920	.00002	.03402	.00000	.00000	.00001	.03516	.00581	.00003	.76398	.00000	.00005	.00048	.15123
3600	.00920	.00004	.03400	.00000	.00000	.00001	.03508	.00678	.00003	.76345	.00000	.00008	.00064	.15069
3700	.00920	.00006	.03398	.00000	.00001	.00001	.03498	.00783	.00003	.76286	.00000	.00012	.00083	.15009
3800	.00920	.00009	.03394	.00000	.00001	.00002	.03485	.00898	.00003	.76220	.00000	.00018	.00106	.14943
3900	.00919	.00013	.03390	.00001	.00001	.00003	.03469	.01022	.00003	.76148	.00000	.00026	.00134	.14871
4000	.00919	.00019	.03383	.00001	.00001	.00004	.03451	.01155	.00003	.76067	.00000	.00038	.00168	.14791
4100	.00919	.00028	.03374	.00002	.00001	.00005	.03429	.01296	.00004	.75979	.00000	.00053	.00207	.14704
4200	.00919	.00039	.03361	.00003	.00001	.00007	.03402	.01447	.00004	.75882	.00000	.00072	.00252	.14610
4300	.00918	.00055	.03345	.00005	.00001	.00009	.03372	.01605	.00004	.75775	.00000	.00098	.00305	.14508
4400	.00918	.00075	.03323	.00007	.00002	.00013	.03336	.01772	.00004	.75658	.00000	.00131	.00364	.14399
4500	.00918	.00100	.03295	.00010	.00002	.00016	.03295	.01946	.00004	.75528	.00000	.00172	.00431	.14281
4600	.00917	.00133	.03261	.00015	.00002	.00021	.03248	.02128	.00004	.75387	.00000	.00224	.00506	.14155
4700	.00916	.00174	.03217	.00021	.00002	.00027	.03195	.02315	.00004	.75231	.00000	.00288	.00589	.14020
4800	.00915	.00223	.03164	.00029	.00003	.00034	.03135	.02509	.00004	.75060	.00000	.00367	.00680	.13877
4900	.00914	.00283	.03100	.00040	.00003	.00042	.03068	.02707	.00004	.74873	.00000	.00462	.00778	.13724
5000	.00913	.00354	.03025	.00054	.00003	.00051	.02993	.02910	.00005	.74669	.00000	.00576	.00884	.13562
5100	.00912	.00437	.02937	.00072	.00003	.00062	.02911	.03117	.00005	.74446	.00000	.00711	.00998	.13390
5200	.00910	.00531	.02837	.00095	.00004	.00075	.02821	.03326	.00005	.74203	.00001	.00871	.01117	.13206
5300	.00908	.00636	.02724	.00124	.00004	.00089	.02723	.03537	.00005	.73939	.00001	.01057	.01241	.13011
5400	.00906	.00753	.02600	.00160	.00004	.00104	.02617	.03748	.00005	.73655	.00001	.01274	.01370	.12804

TABLE 12.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016749; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00001	.00001	.76701	.00000	.00000	.00000	.15432
1700	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00002	.00001	.76700	.00000	.00000	.00000	.15431
1800	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00003	.00001	.76700	.00000	.00000	.00000	.15430
1900	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00005	.00001	.76698	.00000	.00000	.00000	.15429
2000	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00009	.00001	.76697	.00000	.00000	.00000	.15427
2100	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00014	.00002	.76694	.00000	.00000	.00000	.15424
2200	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00022	.00002	.76690	.00000	.00000	.00000	.15420
2300	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00032	.00002	.76685	.00000	.00000	.00000	.15415
2400	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00045	.00003	.76678	.00000	.00000	.00000	.15407
2500	.00920	.00000	.03405	.00000	.00000	.00000	.03542	.00063	.00003	.76669	.00000	.00000	.00001	.15398
2600	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00085	.00003	.76658	.00000	.00000	.00001	.15387
2700	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00112	.00003	.76645	.00000	.00000	.00002	.15373
2800	.00920	.00000	.03405	.00000	.00000	.00000	.03541	.00145	.00004	.76628	.00000	.00000	.00003	.15356
2900	.00920	.00000	.03405	.00000	.00000	.00000	.03540	.00184	.00004	.76608	.00000	.00000	.00004	.15335
3000	.00920	.00000	.03405	.00000	.00000	.00000	.03539	.00230	.00004	.76584	.00000	.00000	.00006	.15311
3100	.00920	.00000	.03404	.00000	.00000	.00000	.03537	.00284	.00005	.76557	.00000	.00000	.00009	.15283
3200	.00920	.00000	.03404	.00000	.00000	.00000	.03535	.00346	.00005	.76525	.00000	.00001	.00013	.15251
3300	.00920	.00000	.03404	.00000	.00000	.00000	.03533	.00416	.00006	.76489	.00000	.00001	.00018	.15214
3400	.00920	.00001	.03404	.00000	.00000	.00000	.03529	.00494	.00006	.76448	.00000	.00001	.00024	.15172
3500	.00920	.00001	.03403	.00000	.00001	.00000	.03525	.00581	.00006	.76402	.00000	.00002	.00032	.15125
3600	.00920	.00002	.03403	.00000	.00001	.00000	.03519	.00678	.00007	.76351	.00000	.00004	.00043	.15073
3700	.00920	.00003	.03402	.00000	.00001	.00001	.03513	.00783	.00007	.76295	.00000	.00006	.00056	.15016
3800	.00920	.00004	.03400	.00000	.00001	.00001	.03504	.00898	.00007	.76233	.00000	.00008	.00071	.14953
3900	.00920	.00006	.03398	.00000	.00001	.00001	.03494	.01022	.00008	.76165	.00000	.00012	.00090	.14884
4000	.00920	.00009	.03395	.00000	.00001	.00002	.03482	.01155	.00008	.76090	.00000	.00017	.00113	.14809
4100	.00919	.00012	.03390	.00001	.00002	.00002	.03467	.01298	.00008	.76010	.00000	.00024	.00139	.14727
4200	.00919	.00018	.03385	.00001	.00002	.00003	.03450	.01449	.00008	.75922	.00001	.00032	.00170	.14640
4300	.00919	.00025	.03377	.00001	.00002	.00004	.03430	.01608	.00009	.75828	.00001	.00044	.00206	.14546
4400	.00919	.00034	.03367	.00002	.00002	.00006	.03407	.01776	.00009	.75726	.00001	.00059	.00246	.14446
4500	.00919	.00046	.03354	.00003	.00003	.00007	.03381	.01951	.00009	.75617	.00001	.00077	.00292	.14340
4600	.00918	.00061	.03338	.00004	.00003	.00010	.03350	.02135	.00009	.75499	.00001	.00100	.00344	.14227
4700	.00918	.00080	.03318	.00006	.00004	.00012	.03316	.02325	.00010	.75372	.00001	.00129	.00402	.14108
4800	.00918	.00104	.03292	.00009	.00004	.00016	.03278	.02521	.00010	.75236	.00001	.00165	.00466	.13982
4900	.00917	.00133	.03261	.00012	.00004	.00020	.03235	.02724	.00010	.75091	.00001	.00207	.00536	.13850
5000	.00916	.00168	.03224	.00017	.00005	.00024	.03187	.02932	.00010	.74935	.00001	.00259	.00612	.13711
5100	.00916	.00210	.03179	.00022	.00005	.00030	.03135	.03144	.00010	.74767	.00001	.00320	.00695	.13566
5200	.00915	.00260	.03126	.00030	.00006	.00036	.03077	.03361	.00011	.74589	.00001	.00392	.00783	.13414
5300	.00914	.00317	.03065	.00039	.00006	.00044	.03014	.03581	.00011	.74398	.00001	.00477	.00877	.13256
5400	.00913	.00383	.02995	.00051	.00007	.00052	.02945	.03804	.00011	.74194	.00001	.00576	.00977	.13091

TABLE 12C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016749; EQUIV.RATIO = 0.250; CHEM. EQUIV. RATIO = 0.2511;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00920	.03405	.03526	.00000	.00015	.76701	.15432
400	.00920	.03405	.03208	.00000	.00334	.76701	.15432
440	.00920	.03405	.00000	.00000	.03542	.76701	.15432
		PRESSURE = 0.10 ATM					
360	.00920	.03405	.03540	.00000	.00002	.76701	.15432
400	.00920	.03405	.03509	.00000	.00033	.76701	.15432
440	.00920	.03405	.03128	.00000	.00414	.76701	.15432
480	.00920	.03405	.00068	.00000	.03474	.76701	.15432
520	.00920	.03405	.00000	.00000	.03542	.76701	.15432
		PRESSURE = 1.00 ATM					
360	.00920	.03405	.03542	.00000	.00000	.76701	.15432
400	.00920	.03405	.03539	.00000	.00003	.76701	.15432
440	.00920	.03405	.03501	.00000	.00041	.76701	.15432
480	.00920	.03405	.03205	.00000	.00337	.76701	.15432
520	.00920	.03405	.00000	.01817	.01725	.76701	.15432
537	.00920	.03405	.00000	.00444	.03098	.76701	.15432
560	.00920	.03405	.00000	.00000	.03542	.76701	.15432
600	.00920	.03405	.00000	.00000	.03542	.76701	.15432
		PRESSURE = 10.00 ATM					
360	.00920	.03405	.03542	.00000	.00000	.76701	.15432
400	.00920	.03405	.03542	.00000	.00000	.76701	.15432
440	.00920	.03405	.03538	.00000	.00004	.76701	.15432
480	.00920	.03405	.03508	.00000	.00034	.76701	.15432
520	.00920	.03405	.00000	.03372	.00170	.76701	.15432
537	.00920	.03405	.00000	.03241	.00301	.76701	.15432
560	.00920	.03405	.00000	.02912	.00630	.76701	.15432
600	.00920	.03405	.00000	.01606	.01936	.76701	.15432
640	.00920	.03405	.00000	.00000	.03542	.76701	.15432
680	.00920	.03405	.00000	.00000	.03542	.76701	.15432
		PRESSURE = 50.00 ATM					
360	.00920	.03405	.03542	.00000	.00000	.76701	.15432
400	.00920	.03405	.03542	.00000	.00000	.76701	.15432
440	.00920	.03405	.03541	.00000	.00001	.76701	.15432
480	.00920	.03405	.03535	.00000	.00007	.76701	.15432
520	.00920	.03405	.00000	.03508	.00034	.76701	.15432
537	.00920	.03405	.00000	.03482	.00060	.76701	.15432
560	.00920	.03405	.00000	.03416	.00125	.76701	.15432
600	.00920	.03405	.00000	.03161	.00381	.76701	.15432
640	.00920	.03405	.00000	.02551	.00991	.76701	.15432
680	.00920	.03405	.00000	.01264	.02277	.76701	.15432
720	.00920	.03405	.00000	.00000	.03542	.76701	.15432
760	.00920	.03405	.00000	.00000	.03542	.76701	.15432

TABLE 13.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.033499; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00904	.00000	.06660	.00000	.00000	.06960	.00000	.00001	.75366	.00000	.00000	.10109
1700	.00904	.00000	.06660	.00000	.00000	.06960	.00000	.00001	.75366	.00000	.00000	.10109
1800	.00904	.00000	.06660	.00000	.00000	.06960	.00000	.00002	.75365	.00000	.00000	.10108
1900	.00904	.00000	.06660	.00000	.00000	.06960	.00000	.00004	.75364	.00000	.00000	.10107
2000	.00904	.00000	.06660	.00000	.00000	.06960	.00000	.00007	.75363	.00000	.00000	.10106
2100	.00904	.00000	.06660	.00000	.00000	.06960	.00000	.00011	.75361	.00000	.00000	.10104
2200	.00904	.00000	.06660	.00000	.00000	.06960	.00000	.00017	.75358	.00000	.00001	.10100
2300	.00904	.00000	.06660	.00000	.00000	.06960	.00000	.00025	.75353	.00000	.00002	.10096
2400	.00904	.00000	.06660	.00000	.00000	.06959	.00000	.00036	.75348	.00000	.00003	.10090
2500	.00904	.00000	.06660	.00000	.00000	.06957	.00000	.00050	.75340	.00000	.00006	.10082
2600	.00904	.00000	.06659	.00000	.00000	.06955	.00000	.00068	.75330	.00001	.00011	.10072
2700	.00904	.00001	.06658	.00000	.00000	.06951	.00000	.00090	.75317	.00001	.00018	.10060
2800	.00904	.00002	.06657	.00000	.00001	.06945	.00000	.00116	.75301	.00003	.00028	.10043
2900	.00904	.00005	.06654	.00000	.00002	.06936	.00000	.00148	.75280	.00005	.00043	.10024
3000	.00904	.00010	.06648	.00001	.00003	.06923	.00000	.00185	.75253	.00010	.00065	.10000
3100	.00903	.00018	.06638	.00001	.00005	.06904	.00000	.00227	.75219	.00018	.00094	.09971
3200	.00903	.00034	.06621	.00003	.00009	.06878	.00000	.00277	.75173	.00031	.00134	.09937
3300	.00903	.00060	.06592	.00006	.00016	.06841	.00000	.00332	.75114	.00052	.00186	.09898
3400	.00902	.00102	.06546	.00012	.00025	.06790	.00000	.00394	.75035	.00085	.00253	.09855
3500	.00901	.00167	.06474	.00022	.00040	.06722	.00000	.00464	.74930	.00134	.00338	.09807
3600	.00900	.00266	.06367	.00040	.00061	.06629	.00000	.00540	.74789	.00208	.00444	.09757
3700	.00898	.00409	.06211	.00070	.00090	.06508	.00000	.00623	.74602	.00314	.00572	.09704
3800	.00896	.00607	.05995	.00120	.00130	.06348	.00000	.00713	.74354	.00464	.00724	.09650
3900	.00893	.00869	.05709	.00197	.00182	.06143	.00000	.00809	.74032	.00671	.00901	.09593
4000	.00888	.01199	.05347	.00316	.00248	.05883	.00000	.00912	.73619	.00954	.01103	.09530
4100	.00883	.01593	.04912	.00491	.00329	.05561	.00000	.01019	.73103	.01332	.01326	.09450
4200	.00876	.02038	.04416	.00741	.00422	.05171	.00000	.01131	.72472	.01827	.01564	.09343
4300	.00868	.02513	.03879	.01086	.00524	.04711	.00000	.01243	.71718	.02462	.01806	.09190
4400	.00858	.02992	.03328	.01544	.00629	.04185	.00000	.01354	.70840	.03261	.02037	.08973
4500	.00846	.03446	.02789	.02130	.00727	.03606	.00000	.01459	.69840	.04242	.02239	.08675
4600	.00834	.03856	.02287	.02847	.00805	.02996	.00000	.01554	.68732	.05418	.02390	.08282
4700	.00820	.04204	.01836	.03682	.00851	.02386	.00001	.01635	.67538	.06791	.02470	.07786
4800	.00805	.04486	.01447	.04601	.00856	.01811	.00001	.01697	.66294	.08346	.02465	.07190
4900	.00791	.04703	.01121	.05556	.00819	.01306	.00002	.01737	.65041	.10051	.02369	.06505
5000	.00776	.04862	.00855	.06486	.00744	.00893	.00002	.01752	.63829	.11855	.02192	.05752
5100	.00762	.04973	.00644	.07337	.00645	.00580	.00004	.01742	.62699	.13694	.01954	.04965
5200	.00750	.05047	.00480	.08073	.00537	.00360	.00005	.01706	.61686	.15492	.01684	.04179
5300	.00739	.05092	.00354	.08679	.00433	.00216	.00007	.01648	.60809	.17179	.01409	.03434
5400	.00730	.05119	.00260	.09159	.00341	.00126	.00011	.01572	.60073	.18701	.01150	.02760

TABLE 13.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.033499; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00001	.75366	.00000	.00000	.10109
1700	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00001	.75366	.00000	.00000	.10109
1800	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00002	.75365	.00000	.00000	.10108
1900	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00004	.75364	.00000	.00000	.10107
2000	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00007	.75363	.00000	.00000	.10106
2100	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00011	.75361	.00000	.00000	.10104
2200	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00017	.75358	.00000	.00001	.10100
2300	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00025	.75354	.00000	.00001	.10096
2400	.00904	.00000	.06660	.00000	.00000	.00000	.06959	.00000	.00036	.75348	.00000	.00002	.10091
2500	.00904	.00000	.06660	.00000	.00000	.00000	.06959	.00000	.00050	.75341	.00000	.00003	.10083
2600	.00904	.00000	.06660	.00000	.00000	.00000	.06957	.00000	.00068	.75331	.00000	.00006	.10074
2700	.00904	.00000	.06659	.00000	.00000	.00000	.06955	.00000	.00090	.75319	.00000	.00010	.10062
2800	.00904	.00001	.06659	.00000	.00000	.00000	.06952	.00000	.00116	.75305	.00001	.00016	.10047
2900	.00904	.00002	.06658	.00000	.00000	.00001	.06947	.00000	.00148	.75287	.00002	.00024	.10029
3000	.00904	.00003	.06656	.00000	.00000	.00001	.06940	.00000	.00185	.75265	.00003	.00036	.10007
3100	.00904	.00006	.06653	.00000	.00000	.00002	.06931	.00000	.00228	.75238	.00006	.00053	.09981
3200	.00904	.00011	.06647	.00001	.00000	.00003	.06917	.00000	.00277	.75205	.00010	.00075	.09951
3300	.00903	.00019	.06638	.00001	.00000	.00005	.06899	.00000	.00333	.75165	.00016	.00105	.09916
3400	.00903	.00033	.06623	.00002	.00000	.00008	.06875	.00000	.00395	.75115	.00027	.00143	.09876
3500	.00903	.00054	.06599	.00004	.00000	.00013	.06842	.00000	.00465	.75055	.00043	.00192	.09831
3600	.00903	.00087	.06563	.00007	.00000	.00020	.06800	.00000	.00541	.74979	.00066	.00253	.09782
3700	.00902	.00135	.06510	.00013	.00000	.00030	.06745	.00000	.00625	.74886	.00099	.00327	.09728
3800	.00901	.00206	.06433	.00022	.00000	.00043	.06675	.00000	.00715	.74769	.00147	.00418	.09671
3900	.00900	.00304	.06326	.00036	.00000	.00062	.06587	.00000	.00813	.74623	.00213	.00525	.09612
4000	.00898	.00438	.06181	.00059	.00000	.00086	.06476	.00000	.00918	.74440	.00302	.00651	.09550
4100	.00896	.00613	.05990	.00093	.00000	.00118	.06338	.00000	.01029	.74215	.00422	.00797	.09487
4200	.00894	.00836	.05749	.00144	.00000	.00159	.06170	.00000	.01147	.73937	.00580	.00963	.09423
4300	.00890	.01107	.05453	.00216	.00000	.00208	.05966	.00000	.01270	.73601	.00785	.01148	.09354
4400	.00886	.01427	.05103	.00318	.00000	.00268	.05723	.00000	.01399	.73199	.01048	.01351	.09277
4500	.00881	.01787	.04707	.00459	.00001	.00337	.05437	.00000	.01532	.72725	.01380	.01568	.09186
4600	.00876	.02177	.04274	.00646	.00001	.00414	.05108	.00000	.01667	.72177	.01793	.01795	.09071
4700	.00869	.02583	.03819	.00891	.00001	.00499	.04734	.00000	.01801	.71553	.02299	.02025	.08925
4800	.00861	.02988	.03359	.01204	.00001	.00586	.04321	.00000	.01934	.70852	.02909	.02248	.08737
4900	.00853	.03376	.02908	.01592	.00001	.00672	.03873	.00001	.02061	.70079	.03633	.02453	.08499
5000	.00843	.03734	.02481	.02060	.00001	.00751	.03400	.00001	.02180	.69239	.04477	.02629	.08204
5100	.00833	.04053	.02088	.02609	.00001	.00816	.02916	.00001	.02287	.68341	.05445	.02762	.07849
5200	.00823	.04326	.01735	.03232	.00001	.00861	.02436	.00002	.02378	.67397	.06534	.02843	.07434
5300	.00811	.04552	.01426	.03916	.00001	.00881	.01978	.00002	.02452	.66424	.07734	.02861	.06961
5400	.00800	.04734	.01160	.04640	.00001	.00874	.01558	.00004	.02505	.65441	.09032	.02814	.06437

TABLE 13.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.033499; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00001	.00000	.75366	.00000	.00000	.10109
1700	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00001	.00000	.75366	.00000	.00000	.10109
1800	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00002	.00000	.75365	.00000	.00000	.10108
1900	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00004	.00000	.75364	.00000	.00000	.10107
2000	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00007	.00000	.75363	.00000	.00000	.10106
2100	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00011	.00000	.75361	.00000	.00000	.10103
2200	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00017	.00000	.75358	.00000	.00000	.10100
2300	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00025	.00000	.75354	.00000	.00001	.10096
2400	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00000	.00036	.00000	.75348	.00000	.00001	.10091
2500	.00904	.00000	.06660	.00000	.00000	.00000	.06959	.00000	.00050	.00000	.75341	.00000	.00002	.10083
2600	.00904	.00000	.06660	.00000	.00000	.00000	.06959	.00000	.00068	.00000	.75332	.00000	.00003	.10074
2700	.00904	.00000	.06660	.00000	.00000	.00000	.06958	.00000	.00090	.00000	.75321	.00000	.00006	.10063
2800	.00904	.00000	.06659	.00000	.00000	.00000	.06956	.00000	.00116	.00000	.75307	.00000	.00009	.10048
2900	.00904	.00000	.06659	.00000	.00000	.00000	.06953	.00000	.00148	.00000	.75290	.00001	.00014	.10031
3000	.00904	.00001	.06658	.00000	.00000	.00000	.06949	.00000	.00185	.00000	.75269	.00001	.00020	.10011
3100	.00904	.00002	.06657	.00000	.00000	.00001	.06944	.00000	.00228	.00000	.75245	.00002	.00030	.09987
3200	.00904	.00003	.06655	.00000	.00000	.00001	.06937	.00000	.00277	.00000	.75217	.00003	.00043	.09959
3300	.00904	.00006	.06652	.00000	.00000	.00002	.06928	.00000	.00333	.00001	.75184	.00005	.00059	.09927
3400	.00904	.00010	.06647	.00000	.00000	.00003	.06915	.00000	.00395	.00001	.75145	.00008	.00081	.09890
3500	.00904	.00017	.06640	.00001	.00000	.00004	.06899	.00000	.00465	.00001	.75100	.00013	.00108	.09848
3600	.00903	.00028	.06628	.00001	.00000	.00006	.06877	.00000	.00542	.00001	.75047	.00021	.00143	.09802
3700	.00903	.00043	.06610	.00002	.00000	.00009	.06851	.00000	.00626	.00001	.74985	.00031	.00186	.09751
3800	.00903	.00066	.06585	.00004	.00000	.00014	.06817	.00000	.00717	.00001	.74913	.00046	.00237	.09696
3900	.00902	.00099	.06549	.00007	.00000	.00020	.06775	.00000	.00815	.00001	.74828	.00067	.00300	.09636
4000	.00902	.00145	.06499	.00011	.00001	.00028	.06723	.00000	.00921	.00001	.74728	.00096	.00373	.09572
4100	.00901	.00208	.06431	.00017	.00001	.00039	.06661	.00000	.01033	.00001	.74610	.00134	.00460	.09506
4200	.00900	.00291	.06340	.00026	.00001	.00053	.06584	.00000	.01152	.00001	.74471	.00184	.00559	.09437
4300	.00899	.00399	.06223	.00040	.00001	.00072	.06493	.00000	.01277	.00001	.74307	.00249	.00674	.09366
4400	.00897	.00537	.06075	.00060	.00001	.00094	.06384	.00000	.01409	.00001	.74114	.00332	.00803	.09294
4500	.00895	.00706	.05892	.00087	.00001	.00122	.06256	.00000	.01547	.00001	.73888	.00437	.00947	.09220
4600	.00893	.00910	.05671	.00125	.00001	.00156	.06106	.00000	.01690	.00001	.73626	.00569	.01106	.09146
4700	.00890	.01148	.05412	.00177	.00001	.00196	.05932	.00000	.01838	.00001	.73324	.00733	.01280	.09068
4800	.00887	.01420	.05117	.00245	.00001	.00243	.05733	.00000	.01990	.00001	.72979	.00933	.01466	.08985
4900	.00883	.01719	.04790	.00334	.00002	.00296	.05508	.00000	.02146	.00001	.72589	.01175	.01664	.08893
5000	.00879	.02041	.04437	.00448	.00002	.00355	.05256	.00000	.02303	.00001	.72155	.01465	.01870	.08789
5100	.00874	.02376	.04067	.00591	.00002	.00419	.04977	.00000	.02461	.00001	.71675	.01809	.02081	.08667
5200	.00869	.02715	.03687	.00769	.00002	.00488	.04673	.00001	.02617	.00001	.71151	.02212	.02291	.08524
5300	.00863	.03050	.03309	.00986	.00002	.00559	.04346	.00001	.02769	.00001	.70584	.02679	.02496	.08354
5400	.00857	.03372	.02940	.01246	.00002	.00630	.03998	.00001	.02916	.00001	.69977	.03215	.02690	.08155

TABLE 13.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.033499; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00001	.00000	.75366	.00000	.00000	.10109
1700	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00001	.00000	.75366	.00000	.00000	.10108
1800	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00002	.00000	.75365	.00000	.00000	.10108
1900	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00004	.00000	.75364	.00000	.00000	.10107
2000	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00007	.00000	.75363	.00000	.00000	.10105
2100	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00011	.00000	.75361	.00000	.00000	.10103
2200	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00017	.00001	.75358	.00000	.00000	.10100
2300	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00025	.00001	.75354	.00000	.00000	.10096
2400	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00036	.00001	.75348	.00000	.00001	.10090
2500	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00050	.00001	.75341	.00000	.00001	.10083
2600	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00068	.00001	.75332	.00000	.00002	.10074
2700	.00904	.00000	.06660	.00000	.00000	.00000	.06959	.00090	.00001	.75321	.00000	.00003	.10063
2800	.00904	.00000	.06660	.00000	.00000	.00000	.06958	.00116	.00001	.75307	.00000	.00005	.10049
2900	.00904	.00000	.06660	.00000	.00000	.00000	.06956	.00148	.00001	.75291	.00000	.00008	.10032
3000	.00904	.00000	.06659	.00000	.00000	.00000	.06954	.00185	.00001	.75272	.00000	.00012	.10012
3100	.00904	.00001	.06659	.00000	.00000	.00000	.06952	.00228	.00001	.75249	.00001	.00017	.09989
3200	.00904	.00001	.06658	.00000	.00000	.00000	.06948	.00277	.00001	.75222	.00001	.00024	.09963
3300	.00904	.00002	.06657	.00000	.00000	.00001	.06943	.00333	.00002	.75192	.00002	.00033	.09932
3400	.00904	.00003	.06656	.00000	.00000	.00001	.06936	.00396	.00002	.75157	.00003	.00046	.09897
3500	.00904	.00005	.06653	.00000	.00000	.00001	.06927	.00465	.00002	.75118	.00004	.00061	.09858
3600	.00904	.00009	.06649	.00000	.00000	.00002	.06916	.00542	.00002	.75073	.00007	.00081	.09815
3700	.00904	.00014	.06643	.00000	.00001	.00003	.06902	.00627	.00002	.75023	.00010	.00105	.09767
3800	.00903	.00021	.06635	.00001	.00001	.00004	.06885	.00718	.00002	.74966	.00015	.00134	.09714
3900	.00903	.00032	.06623	.00001	.00001	.00006	.06863	.00817	.00002	.74903	.00021	.00170	.09657
4000	.00903	.00047	.06607	.00002	.00001	.00009	.06837	.00922	.00002	.74832	.00030	.00212	.09596
4100	.00903	.00067	.06584	.00003	.00001	.00013	.06806	.01035	.00002	.74752	.00042	.00261	.09530
4200	.00902	.00095	.06554	.00005	.00001	.00017	.06769	.01155	.00002	.74662	.00058	.00319	.09460
4300	.00902	.00132	.06513	.00007	.00001	.00023	.06725	.01281	.00002	.74561	.00079	.00386	.09387
4400	.00901	.00180	.06461	.00011	.00002	.00031	.06673	.01414	.00003	.74447	.00105	.00462	.09311
4500	.00901	.00242	.06394	.00016	.00002	.00041	.06612	.01552	.00003	.74319	.00138	.00548	.09232
4600	.00900	.00320	.06310	.00023	.00002	.00053	.06542	.01697	.00003	.74175	.00180	.00644	.09152
4700	.00899	.00416	.06206	.00033	.00002	.00067	.06460	.01847	.00003	.74013	.00232	.00751	.09070
4800	.00898	.00533	.06080	.00046	.00003	.00085	.06367	.02002	.00003	.73831	.00295	.00869	.08988
4900	.00896	.00672	.05929	.00063	.00003	.00106	.06262	.02163	.00003	.73628	.00372	.00998	.08905
5000	.00894	.00835	.05754	.00086	.00003	.00131	.06142	.02327	.00003	.73401	.00464	.01138	.08821
5100	.00892	.01022	.05553	.00115	.00003	.00159	.06008	.02496	.00003	.73149	.00574	.01288	.08736
5200	.00890	.01231	.05326	.00153	.00004	.00192	.05859	.02668	.00003	.72872	.00705	.01448	.08649
5300	.00887	.01462	.05076	.00200	.00004	.00229	.05695	.02842	.00003	.72568	.00858	.01617	.08560
5400	.00885	.01711	.04806	.00258	.00004	.00270	.05514	.03018	.00003	.72237	.01036	.01793	.08465

TABLE 13.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.033499; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00904	.00000	.06660	.00000	.00000	.00000	.06961	.00001	.00000	.75366	.00000	.00000	.00000	.10109
1700	.00904	.00000	.06660	.00000	.00000	.00000	.06961	.00001	.00000	.75366	.00000	.00000	.00000	.10108
1800	.00904	.00000	.06660	.00000	.00000	.00000	.06961	.00002	.00001	.75365	.00000	.00000	.00000	.10108
1900	.00904	.00000	.06660	.00000	.00000	.00000	.06961	.00004	.00001	.75364	.00000	.00000	.00000	.10106
2000	.00904	.00000	.06660	.00000	.00000	.00000	.06961	.00007	.00001	.75363	.00000	.00000	.00000	.10105
2100	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00011	.00001	.75361	.00000	.00000	.00000	.10103
2200	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00017	.00001	.75358	.00000	.00000	.00000	.10099
2300	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00025	.00001	.75354	.00000	.00000	.00000	.10095
2400	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00036	.00002	.75348	.00000	.00000	.00000	.10089
2500	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00050	.00002	.75341	.00000	.00000	.00001	.10082
2600	.00904	.00000	.06660	.00000	.00000	.00000	.06960	.00068	.00002	.75332	.00000	.00000	.00001	.10073
2700	.00904	.00000	.06660	.00000	.00000	.00000	.06959	.00090	.00002	.75321	.00000	.00000	.00002	.10062
2800	.00904	.00000	.06660	.00000	.00000	.00000	.06959	.00116	.00002	.75308	.00000	.00000	.00003	.10048
2900	.00904	.00000	.06660	.00000	.00000	.00000	.06958	.00148	.00003	.75291	.00000	.00000	.00005	.10031
3000	.00904	.00000	.06660	.00000	.00000	.00000	.06956	.00185	.00003	.75272	.00000	.00000	.00008	.10012
3100	.00904	.00000	.06659	.00000	.00000	.00000	.06955	.00228	.00003	.75250	.00000	.00000	.00011	.09989
3200	.00904	.00000	.06659	.00000	.00000	.00000	.06952	.00277	.00003	.75224	.00000	.00000	.00016	.09963
3300	.00904	.00001	.06659	.00000	.00000	.00000	.06949	.00333	.00004	.75195	.00000	.00001	.00022	.09933
3400	.00904	.00001	.06658	.00000	.00000	.00000	.06944	.00396	.00004	.75161	.00000	.00001	.00030	.09899
3500	.00904	.00002	.06657	.00000	.00001	.00001	.06938	.00466	.00004	.75124	.00000	.00002	.00041	.09861
3600	.00904	.00004	.06655	.00000	.00001	.00001	.06931	.00542	.00004	.75082	.00000	.00003	.00054	.09819
3700	.00904	.00006	.06652	.00000	.00001	.00001	.06922	.00627	.00004	.75035	.00000	.00004	.00070	.09773
3800	.00904	.00009	.06648	.00000	.00001	.00002	.06911	.00718	.00005	.74983	.00000	.00007	.00090	.09722
3900	.00904	.00014	.06643	.00000	.00001	.00003	.06897	.00817	.00005	.74926	.00000	.00010	.00114	.09666
4000	.00903	.00021	.06635	.00001	.00001	.00004	.06881	.00923	.00005	.74863	.00000	.00014	.00142	.09607
4100	.00903	.00030	.06625	.00001	.00002	.00006	.06861	.01036	.00005	.74794	.00000	.00019	.00176	.09542
4200	.00903	.00043	.06611	.00001	.00002	.00008	.06837	.01156	.00005	.74718	.00000	.00026	.00215	.09474
4300	.00903	.00060	.06592	.00002	.00002	.00011	.06810	.01283	.00006	.74635	.00000	.00035	.00260	.09402
4400	.00903	.00082	.06568	.00003	.00002	.00014	.06778	.01416	.00006	.74544	.00000	.00047	.00311	.09326
4500	.00902	.00111	.06537	.00005	.00003	.00019	.06740	.01555	.00006	.74444	.00001	.00062	.00370	.09247
4600	.00902	.00147	.06497	.00007	.00003	.00024	.06697	.01700	.00006	.74335	.00001	.00081	.00436	.09165
4700	.00901	.00193	.06447	.00010	.00004	.00031	.06647	.01851	.00006	.74215	.00001	.00104	.00510	.09080
4800	.00901	.00250	.06385	.00014	.00004	.00039	.06591	.02007	.00006	.74085	.00001	.00132	.00591	.08994
4900	.00900	.00320	.06310	.00019	.00004	.00049	.06527	.02167	.00006	.73941	.00001	.00166	.00681	.08906
5000	.00899	.00404	.06220	.00026	.00005	.00061	.06455	.02333	.00007	.73784	.00001	.00208	.00780	.08818
5100	.00898	.00503	.06113	.00036	.00005	.00076	.06375	.02502	.00007	.73613	.00001	.00257	.00887	.08728
5200	.00897	.00619	.05988	.00047	.00006	.00092	.06285	.02676	.00007	.73426	.00001	.00315	.01003	.08639
5300	.00895	.00753	.05844	.00062	.00006	.00111	.06186	.02853	.00007	.73222	.00001	.00383	.01126	.08549
5400	.00894	.00905	.05681	.00081	.00007	.00133	.06076	.03033	.00007	.73001	.00001	.00463	.01258	.08460

TABLE 13C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.033499; EQUIV.RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5008;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00904	.06660	.06946	.00000	.00015	.75366	.10109
400	.00904	.06660	.06639	.00000	.00322	.75366	.10109
440	.00904	.06660	.02809	.00000	.04152	.75366	.10109
		PRESSURE = 0.10 ATM					
360	.00904	.06660	.06959	.00000	.00001	.75366	.10109
400	.00904	.06660	.06928	.00000	.00032	.75366	.10109
440	.00904	.06660	.06561	.00000	.00399	.75366	.10109
480	.00904	.06660	.03610	.00000	.03351	.75366	.10109
520	.00904	.06660	.00000	.00000	.06960	.75366	.10109
		PRESSURE = 1.00 ATM					
360	.00904	.06660	.06960	.00000	.00000	.75366	.10109
400	.00904	.06660	.06957	.00000	.00003	.75366	.10109
440	.00904	.06660	.06921	.00000	.00040	.75366	.10109
480	.00904	.06660	.06636	.00000	.00325	.75366	.10109
520	.00904	.06660	.00000	.05297	.01664	.75366	.10109
537	.00904	.06660	.00000	.03972	.02988	.75366	.10109
560	.00904	.06660	.00000	.00502	.06459	.75366	.10109
600	.00904	.06660	.00000	.00000	.06960	.75366	.10109
		PRESSURE = 10.00 ATM					
360	.00904	.06660	.06960	.00000	.00000	.75366	.10109
400	.00904	.06660	.06960	.00000	.00000	.75366	.10109
440	.00904	.06660	.06957	.00000	.00004	.75366	.10109
480	.00904	.06660	.06928	.00000	.00032	.75366	.10109
520	.00904	.06660	.00000	.06797	.00164	.75366	.10109
537	.00904	.06660	.00000	.06670	.00290	.75366	.10109
560	.00904	.06660	.00000	.06353	.00608	.75366	.10109
600	.00904	.06660	.00000	.05093	.01867	.75366	.10109
640	.00904	.06660	.00000	.01978	.04983	.75366	.10109
680	.00904	.06660	.00000	.00000	.06960	.75366	.10109
		PRESSURE = 50.00 ATM					
360	.00904	.06660	.06960	.00000	.00000	.75366	.10109
400	.00904	.06660	.06960	.00000	.00000	.75366	.10109
440	.00904	.06660	.06960	.00000	.00001	.75366	.10109
480	.00904	.06660	.06954	.00000	.00006	.75366	.10109
520	.00904	.06660	.00000	.06928	.00033	.75366	.10109
537	.00904	.06660	.00000	.06903	.00058	.75366	.10109
560	.00904	.06660	.00000	.06840	.00121	.75366	.10109
600	.00904	.06660	.00000	.06593	.00368	.75366	.10109
640	.00904	.06660	.00000	.06005	.00956	.75366	.10109
680	.00904	.06660	.00000	.04764	.02197	.75366	.10109
720	.00904	.06660	.00000	.02373	.04588	.75366	.10109
760	.00904	.06660	.00000	.00000	.06960	.75366	.10109

TABLE 14.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.050248; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00888	.00000	.09804	.00000	.00000	.10262	.00000	.00000	.74077	.00000	.00000	.04968
1700	.00888	.00000	.09804	.00000	.00000	.10262	.00000	.00001	.74077	.00000	.00000	.04968
1800	.00888	.00000	.09804	.00000	.00000	.10262	.00000	.00002	.74077	.00000	.00000	.04967
1900	.00888	.00000	.09804	.00000	.00000	.10262	.00000	.00003	.74076	.00000	.00000	.04967
2000	.00888	.00000	.09804	.00000	.00000	.10262	.00000	.00005	.74075	.00000	.00000	.04966
2100	.00888	.00000	.09804	.00000	.00000	.10262	.00000	.00008	.74073	.00000	.00000	.04964
2200	.00888	.00000	.09804	.00000	.00000	.10262	.00000	.00012	.74071	.00000	.00001	.04962
2300	.00888	.00000	.09804	.00000	.00000	.10261	.00000	.00018	.74068	.00000	.00002	.04959
2400	.00888	.00000	.09804	.00000	.00000	.10260	.00000	.00025	.74064	.00000	.00004	.04955
2500	.00888	.00000	.09803	.00000	.00000	.10259	.00000	.00035	.74059	.00000	.00006	.04949
2600	.00888	.00001	.09803	.00000	.00000	.10256	.00000	.00047	.74051	.00000	.00011	.04942
2700	.00888	.00002	.09801	.00000	.00001	.10252	.00000	.00062	.74042	.00001	.00018	.04933
2800	.00888	.00005	.09798	.00000	.00002	.10245	.00000	.00081	.74029	.00002	.00028	.04923
2900	.00888	.00010	.09792	.00000	.00003	.10235	.00000	.00102	.74012	.00004	.00044	.04910
3000	.00888	.00020	.09780	.00001	.00006	.10219	.00000	.00128	.73988	.00007	.00066	.04896
3100	.00888	.00039	.09760	.00002	.00012	.10196	.00000	.00158	.73957	.00012	.00096	.04882
3200	.00888	.00071	.09724	.00004	.00020	.10163	.00000	.00192	.73912	.00022	.00136	.04869
3300	.00887	.00125	.09664	.00009	.00033	.10114	.00000	.00231	.73850	.00036	.00189	.04861
3400	.00886	.00212	.09568	.00017	.00054	.10046	.00000	.00275	.73763	.00059	.00258	.04862
3500	.00885	.00345	.09422	.00032	.00084	.09951	.00000	.00324	.73640	.00095	.00346	.04876
3600	.00883	.00542	.09206	.00058	.00127	.09821	.00000	.00380	.73469	.00147	.00455	.04912
3700	.00881	.00819	.08903	.00101	.00187	.09645	.00000	.00442	.73236	.00225	.00589	.04974
3800	.00878	.01187	.08498	.00171	.00266	.09412	.00000	.00511	.72925	.00336	.00750	.05066
3900	.00873	.01652	.07985	.00280	.00367	.09109	.00000	.00589	.72522	.00494	.00941	.05187
4000	.00868	.02208	.07367	.00445	.00492	.08727	.00000	.00674	.72013	.00714	.01162	.05329
4100	.00861	.02837	.06662	.00685	.00641	.08254	.00000	.00767	.71388	.01014	.01410	.05480
4200	.00852	.03509	.05897	.01026	.00809	.07685	.00000	.00866	.70640	.01417	.01679	.05621
4300	.00843	.04191	.05106	.01491	.00989	.07017	.00000	.00968	.69764	.01944	.01958	.05729
4400	.00831	.04845	.04326	.02108	.01172	.06258	.00000	.01070	.68760	.02617	.02232	.05781
4500	.00818	.05441	.03588	.02895	.01341	.05423	.00000	.01169	.67633	.03456	.02478	.05757
4600	.00804	.05956	.02915	.03859	.01478	.04542	.00000	.01261	.66398	.04472	.02673	.05642
4700	.00789	.06377	.02325	.04988	.01562	.03656	.00001	.01339	.65079	.05668	.02793	.05424
4800	.00773	.06704	.01821	.06247	.01578	.02812	.00001	.01401	.63712	.07030	.02819	.05102
4900	.00756	.06943	.01404	.07573	.01522	.02059	.00002	.01443	.62346	.08529	.02740	.04684
5000	.00741	.07107	.01067	.08890	.01399	.01431	.00002	.01462	.61033	.10116	.02564	.04188
5100	.00726	.07214	.00800	.10121	.01228	.00945	.00003	.01457	.59824	.11729	.02309	.03642
5200	.00713	.07277	.00594	.11208	.01035	.00596	.00005	.01429	.58755	.13300	.02007	.03080
5300	.00702	.07310	.00437	.12118	.00844	.00362	.00007	.01381	.57846	.14765	.01690	.02537
5400	.00693	.07325	.00319	.12850	.00670	.00213	.00010	.01317	.57097	.16078	.01387	.02040

TABLE 14.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.050248; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00000	.74077	.00000	.00000	.04968
1700	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00001	.74077	.00000	.00000	.04968
1800	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00002	.74077	.00000	.00000	.04967
1900	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00003	.74076	.00000	.00000	.04967
2000	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00005	.74075	.00000	.00000	.04966
2100	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00008	.74073	.00000	.00000	.04964
2200	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00012	.74071	.00000	.00001	.04962
2300	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00018	.74068	.00000	.00001	.04959
2400	.00888	.00000	.09804	.00000	.00000	.00000	.10261	.00000	.00025	.74064	.00000	.00002	.04955
2500	.00888	.00000	.09804	.00000	.00000	.00000	.10260	.00000	.00035	.74059	.00000	.00004	.04950
2600	.00888	.00000	.09803	.00000	.00000	.00000	.10259	.00000	.00047	.74053	.00000	.00006	.04943
2700	.00888	.00001	.09803	.00000	.00000	.00000	.10257	.00000	.00062	.74044	.00000	.00010	.04935
2800	.00888	.00002	.09802	.00000	.00000	.00001	.10253	.00000	.00081	.74033	.00001	.00016	.04924
2900	.00888	.00003	.09800	.00000	.00000	.00001	.10248	.00000	.00102	.74020	.00001	.00025	.04912
3000	.00888	.00006	.09796	.00000	.00000	.00002	.10240	.00000	.00128	.74003	.00002	.00037	.04897
3100	.00888	.00012	.09789	.00000	.00000	.00004	.10229	.00000	.00158	.73981	.00004	.00054	.04881
3200	.00888	.00023	.09778	.00001	.00000	.00006	.10213	.00000	.00192	.73954	.00007	.00077	.04862
3300	.00888	.00040	.09758	.00002	.00000	.00011	.10191	.00000	.00231	.73919	.00011	.00107	.04843
3400	.00888	.00068	.09727	.00003	.00000	.00017	.10161	.00000	.00274	.73873	.00019	.00146	.04824
3500	.00887	.00113	.09677	.00006	.00000	.00027	.10120	.00000	.00322	.73814	.00030	.00195	.04808
3600	.00887	.00181	.09602	.00010	.00000	.00042	.10065	.00000	.00376	.73737	.00046	.00257	.04796
3700	.00886	.00281	.09493	.00018	.00000	.00062	.09993	.00000	.00435	.73635	.00070	.00334	.04793
3800	.00885	.00424	.09337	.00032	.00000	.00091	.09897	.00000	.00500	.73502	.00103	.00427	.04803
3900	.00883	.00619	.09124	.00053	.00000	.00129	.09773	.00000	.00571	.73330	.00151	.00539	.04828
4000	.00881	.00876	.08842	.00085	.00000	.00179	.09616	.00000	.00650	.73110	.00216	.00671	.04874
4100	.00878	.01203	.08484	.00134	.00000	.00243	.09418	.00000	.00736	.72834	.00304	.00825	.04940
4200	.00874	.01602	.08047	.00205	.00000	.00323	.09173	.00000	.00829	.72493	.00424	.01003	.05026
4300	.00870	.02067	.07535	.00307	.00000	.00418	.08876	.00000	.00931	.72083	.00582	.01205	.05127
4400	.00865	.02588	.06956	.00448	.00000	.00530	.08522	.00000	.01040	.71597	.00788	.01429	.05237
4500	.00859	.03150	.06328	.00641	.00000	.00658	.08106	.00000	.01155	.71034	.01053	.01672	.05345
4600	.00852	.03730	.05670	.00897	.00000	.00799	.07627	.00000	.01274	.70392	.01389	.01930	.05438
4700	.00844	.04309	.05004	.01230	.00001	.00950	.07085	.00000	.01396	.69672	.01806	.02195	.05506
4800	.00835	.04864	.04352	.01653	.00001	.01105	.06486	.00000	.01518	.68876	.02316	.02457	.05536
4900	.00825	.05377	.03732	.02177	.00001	.01257	.05837	.00001	.01636	.68008	.02927	.02704	.05519
5000	.00815	.05834	.03158	.02809	.00001	.01396	.05151	.00001	.01748	.67072	.03648	.02921	.05446
5100	.00804	.06228	.02640	.03552	.00001	.01512	.04447	.00001	.01850	.66079	.04480	.03094	.05313
5200	.00792	.06555	.02181	.04399	.00001	.01595	.03745	.00002	.01939	.65041	.05421	.03211	.05119
5300	.00779	.06816	.01784	.05335	.00001	.01636	.03069	.00002	.02012	.63977	.06465	.03259	.04864
5400	.00767	.07016	.01446	.06336	.00001	.01630	.02444	.00003	.02066	.62906	.07597	.03233	.04555

TABLE 14.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.050248; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00000	.00000	.74077	.00000	.00000	.04968
1700	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00001	.00000	.74077	.00000	.00000	.04968
1800	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00002	.00000	.74077	.00000	.00000	.04967
1900	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00003	.00000	.74076	.00000	.00000	.04967
2000	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00005	.00000	.74075	.00000	.00000	.04966
2100	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00008	.00000	.74074	.00000	.00000	.04964
2200	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00012	.00000	.74071	.00000	.00000	.04962
2300	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00018	.00000	.74068	.00000	.00001	.04959
2400	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00025	.00000	.74065	.00000	.00001	.04955
2500	.00888	.00000	.09804	.00000	.00000	.00000	.10261	.00000	.00035	.00000	.74060	.00000	.00002	.04950
2600	.00888	.00000	.09804	.00000	.00000	.00000	.10260	.00000	.00047	.00000	.74053	.00000	.00003	.04944
2700	.00888	.00000	.09803	.00000	.00000	.00000	.10259	.00000	.00062	.00000	.74045	.00000	.00006	.04936
2800	.00888	.00000	.09803	.00000	.00000	.00000	.10257	.00000	.00081	.00000	.74035	.00000	.00009	.04926
2900	.00888	.00001	.09802	.00000	.00000	.00000	.10254	.00000	.00102	.00000	.74023	.00000	.00014	.04914
3000	.00888	.00002	.09801	.00000	.00000	.00001	.10250	.00000	.00128	.00000	.74008	.00001	.00021	.04899
3100	.00888	.00004	.09799	.00000	.00000	.00001	.10245	.00000	.00158	.00000	.73991	.00001	.00030	.04883
3200	.00888	.00007	.09795	.00000	.00000	.00002	.10237	.00000	.00192	.00000	.73969	.00002	.00043	.04864
3300	.00888	.00013	.09789	.00000	.00000	.00003	.10226	.00000	.00231	.00000	.73944	.00004	.00060	.04843
3400	.00888	.00022	.09778	.00001	.00000	.00005	.10211	.00000	.00274	.00000	.73913	.00006	.00082	.04819
3500	.00888	.00036	.09762	.00001	.00000	.00009	.10192	.00000	.00322	.00000	.73875	.00009	.00110	.04795
3600	.00888	.00058	.09738	.00002	.00000	.00013	.10167	.00000	.00375	.00000	.73830	.00015	.00145	.04769
3700	.00887	.00091	.09701	.00003	.00000	.00020	.10134	.00000	.00433	.00000	.73775	.00022	.00189	.04744
3800	.00887	.00140	.09648	.00006	.00000	.00030	.10092	.00000	.00496	.00000	.73707	.00032	.00241	.04721
3900	.00886	.00208	.09573	.00010	.00000	.00043	.10038	.00000	.00565	.00000	.73623	.00047	.00305	.04702
4000	.00886	.00303	.09470	.00016	.00000	.00060	.09971	.00000	.00639	.00000	.73520	.00067	.00380	.04689
4100	.00885	.00430	.09331	.00025	.00000	.00083	.09887	.00000	.00719	.00000	.73393	.00094	.00469	.04685
4200	.00883	.00596	.09150	.00038	.00001	.00113	.09783	.00000	.00805	.00000	.73237	.00129	.00573	.04691
4300	.00881	.00807	.08920	.00058	.00001	.00150	.09656	.00000	.00898	.00000	.73048	.00176	.00692	.04711
4400	.00879	.01068	.08636	.00086	.00001	.00196	.09503	.00000	.00998	.00000	.72821	.00237	.00828	.04745
4500	.00877	.01379	.08296	.00126	.00001	.00253	.09321	.00000	.01105	.00000	.72552	.00315	.00981	.04794
4600	.00874	.01740	.07901	.00179	.00001	.00319	.09106	.00000	.01220	.00000	.72238	.00415	.01153	.04854
4700	.00870	.02147	.07455	.00252	.00001	.00397	.08856	.00000	.01341	.00000	.71877	.00540	.01342	.04923
4800	.00866	.02591	.06965	.00347	.00001	.00486	.08568	.00000	.01469	.00000	.71467	.00696	.01548	.04997
4900	.00861	.03062	.06442	.00470	.00001	.00586	.08242	.00000	.01602	.00001	.71008	.00887	.01769	.05069
5000	.00856	.03549	.05897	.00627	.00001	.00695	.07877	.00000	.01740	.00001	.70502	.01120	.02001	.05134
5100	.00850	.04037	.05345	.00824	.00001	.00814	.07473	.00000	.01880	.00001	.69949	.01399	.02242	.05184
5200	.00844	.04516	.04796	.01067	.00002	.00938	.07032	.00001	.02021	.00001	.69353	.01730	.02486	.05214
5300	.00837	.04973	.04264	.01363	.00002	.01067	.06557	.00001	.02160	.00001	.68714	.02118	.02726	.05219
5400	.00830	.05399	.03757	.01716	.00002	.01195	.06052	.00001	.02295	.00001	.68036	.02566	.02956	.05195

TABLE 14.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.050248; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00000	.74077	.00000	.00000	.04968
1700	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00001	.00000	.74077	.00000	.00000	.04968
1800	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00002	.00000	.74077	.00000	.00000	.04967
1900	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00003	.00000	.74076	.00000	.00000	.04967
2000	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00005	.00000	.74075	.00000	.00000	.04966
2100	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00008	.00000	.74073	.00000	.00000	.04964
2200	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00012	.00000	.74071	.00000	.00000	.04962
2300	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00018	.00000	.74069	.00000	.00000	.04959
2400	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00025	.00000	.74065	.00000	.00001	.04955
2500	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00035	.00000	.74060	.00000	.00001	.04950
2600	.00888	.00000	.09804	.00000	.00000	.00000	.10261	.00047	.00000	.74053	.00000	.00002	.04944
2700	.00888	.00000	.09804	.00000	.00000	.00000	.10260	.00062	.00000	.74046	.00000	.00003	.04936
2800	.00888	.00000	.09804	.00000	.00000	.00000	.10259	.00081	.00001	.74036	.00000	.00005	.04926
2900	.00888	.00000	.09803	.00000	.00000	.00000	.10258	.00102	.00001	.74025	.00000	.00008	.04914
3000	.00888	.00001	.09803	.00000	.00000	.00000	.10256	.00128	.00001	.74011	.00000	.00012	.04901
3100	.00888	.00001	.09802	.00000	.00000	.00000	.10253	.00158	.00001	.73995	.00000	.00017	.04885
3200	.00888	.00002	.09801	.00000	.00000	.00001	.10249	.00192	.00001	.73976	.00001	.00024	.04866
3300	.00888	.00004	.09799	.00000	.00000	.00001	.10243	.00231	.00001	.73953	.00001	.00034	.04845
3400	.00888	.00007	.09795	.00000	.00000	.00002	.10235	.00274	.00001	.73928	.00002	.00046	.04821
3500	.00888	.00011	.09790	.00000	.00000	.00003	.10226	.00322	.00001	.73898	.00003	.00062	.04795
3600	.00888	.00018	.09782	.00000	.00000	.00004	.10213	.00375	.00001	.73864	.00005	.00082	.04767
3700	.00888	.00029	.09770	.00001	.00000	.00006	.10197	.00433	.00001	.73825	.00007	.00106	.04736
3800	.00888	.00045	.09753	.00001	.00000	.00009	.10177	.00496	.00001	.73780	.00010	.00136	.04704
3900	.00888	.00067	.09728	.00002	.00001	.00014	.10152	.00563	.00001	.73727	.00015	.00172	.04671
4000	.00887	.00098	.09693	.00003	.00001	.00019	.10121	.00636	.00001	.73666	.00021	.00215	.04638
4100	.00887	.00142	.09646	.00004	.00001	.00027	.10083	.00714	.00001	.73595	.00029	.00265	.04606
4200	.00886	.00200	.09582	.00007	.00001	.00037	.10036	.00797	.00001	.73512	.00040	.00324	.04576
4300	.00886	.00277	.09498	.00011	.00001	.00050	.09980	.00885	.00001	.73415	.00055	.00392	.04550
4400	.00885	.00376	.09390	.00016	.00001	.00066	.09913	.00978	.00001	.73302	.00073	.00470	.04529
4500	.00884	.00501	.09254	.00023	.00001	.00087	.09833	.01077	.00001	.73169	.00097	.00558	.04514
4600	.00883	.00657	.09085	.00034	.00002	.00112	.09738	.01182	.00001	.73015	.00126	.00658	.04508
4700	.00881	.00845	.08880	.00048	.00002	.00143	.09628	.01292	.00001	.72836	.00163	.00770	.04511
4800	.00880	.01068	.08638	.00067	.00002	.00179	.09499	.01409	.00001	.72631	.00209	.00894	.04523
4900	.00878	.01327	.08356	.00091	.00002	.00222	.09352	.01532	.00001	.72398	.00266	.01031	.04544
5000	.00875	.01620	.08037	.00124	.00002	.00272	.09183	.01661	.00002	.72135	.00334	.01181	.04574
5100	.00872	.01946	.07681	.00165	.00003	.00328	.08993	.01797	.00002	.71842	.00417	.01343	.04610
5200	.00869	.02299	.07294	.00218	.00003	.00392	.08780	.01938	.00002	.71518	.00517	.01518	.04651
5300	.00866	.02676	.06880	.00284	.00003	.00464	.08544	.02084	.00002	.71164	.00635	.01704	.04694
5400	.00862	.03069	.06447	.00365	.00003	.00542	.08284	.02234	.00002	.70781	.00775	.01900	.04735

TABLE 14.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.050248; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00000	.00000	.74077	.00000	.00000	.00000	.04968
1700	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00001	.00000	.74077	.00000	.00000	.00000	.04968
1800	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00002	.00000	.74077	.00000	.00000	.00000	.04967
1900	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00003	.00000	.74076	.00000	.00000	.00000	.04966
2000	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00005	.00000	.74075	.00000	.00000	.00000	.04965
2100	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00008	.00001	.74073	.00000	.00000	.00000	.04964
2200	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00012	.00001	.74071	.00000	.00000	.00000	.04962
2300	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00018	.00001	.74069	.00000	.00000	.00000	.04959
2400	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00025	.00001	.74065	.00000	.00000	.00000	.04955
2500	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00035	.00001	.74060	.00000	.00000	.00001	.04950
2600	.00888	.00000	.09804	.00000	.00000	.00000	.10262	.00047	.00001	.74054	.00000	.00000	.00001	.04943
2700	.00888	.00000	.09804	.00000	.00000	.00000	.10261	.00062	.00001	.74046	.00000	.00000	.00002	.04935
2800	.00888	.00000	.09804	.00000	.00000	.00000	.10260	.00081	.00001	.74036	.00000	.00000	.00003	.04926
2900	.00888	.00000	.09804	.00000	.00000	.00000	.10259	.00102	.00001	.74025	.00000	.00000	.00005	.04914
3000	.00888	.00000	.09803	.00000	.00000	.00000	.10258	.00128	.00001	.74012	.00000	.00000	.00008	.04901
3100	.00888	.00001	.09803	.00000	.00000	.00000	.10256	.00158	.00002	.73996	.00000	.00000	.00011	.04885
3200	.00888	.00001	.09802	.00000	.00000	.00000	.10253	.00192	.00002	.73978	.00000	.00000	.00016	.04867
3300	.00888	.00002	.09801	.00000	.00000	.00000	.10250	.00231	.00002	.73957	.00000	.00001	.00023	.04846
3400	.00888	.00003	.09800	.00000	.00000	.00001	.10245	.00274	.00002	.73933	.00000	.00001	.00031	.04822
3500	.00888	.00005	.09797	.00000	.00000	.00001	.10239	.00322	.00002	.73906	.00000	.00001	.00042	.04796
3600	.00888	.00008	.09794	.00000	.00000	.00002	.10231	.00375	.00002	.73875	.00000	.00002	.00055	.04768
3700	.00888	.00013	.09788	.00000	.00001	.00003	.10221	.00433	.00002	.73840	.00000	.00003	.00071	.04736
3800	.00888	.00020	.09780	.00000	.00001	.00004	.10208	.00496	.00002	.73802	.00000	.00005	.00091	.04703
3900	.00888	.00030	.09769	.00001	.00001	.00006	.10193	.00563	.00002	.73758	.00000	.00007	.00115	.04667
4000	.00888	.00044	.09753	.00001	.00001	.00009	.10174	.00636	.00002	.73709	.00000	.00009	.00144	.04630
4100	.00888	.00064	.09731	.00001	.00001	.00012	.10151	.00713	.00002	.73654	.00000	.00013	.00178	.04591
4200	.00887	.00091	.09702	.00002	.00001	.00017	.10123	.00795	.00003	.73592	.00000	.00018	.00217	.04552
4300	.00887	.00126	.09662	.00003	.00002	.00023	.10090	.00882	.00003	.73522	.00000	.00024	.00263	.04513
4400	.00887	.00173	.09611	.00005	.00002	.00030	.10051	.00973	.00003	.73442	.00000	.00033	.00315	.04475
4500	.00886	.00233	.09546	.00007	.00002	.00040	.10004	.01069	.00003	.73352	.00000	.00043	.00375	.04439
4600	.00886	.00309	.09463	.00010	.00002	.00052	.09950	.01170	.00003	.73250	.00000	.00056	.00442	.04407
4700	.00885	.00404	.09359	.00015	.00003	.00066	.09886	.01276	.00003	.73134	.00000	.00072	.00518	.04378
4800	.00884	.00520	.09233	.00020	.00003	.00084	.09813	.01386	.00003	.73003	.00000	.00092	.00602	.04355
4900	.00883	.00660	.09082	.00028	.00003	.00106	.09728	.01502	.00003	.72856	.00001	.00116	.00695	.04338
5000	.00882	.00825	.08903	.00038	.00003	.00131	.09632	.01622	.00003	.72689	.00001	.00145	.00797	.04328
5100	.00880	.01017	.08694	.00052	.00004	.00161	.09522	.01748	.00003	.72503	.00001	.00181	.00910	.04325
5200	.00878	.01236	.08457	.00069	.00004	.00195	.09399	.01880	.00003	.72296	.00001	.00223	.01031	.04328
5300	.00876	.01482	.08190	.00090	.00005	.00234	.09261	.02016	.00003	.72067	.00001	.00273	.01163	.04338
5400	.00874	.01752	.07895	.00117	.00005	.00278	.09108	.02158	.00004	.71816	.00001	.00332	.01305	.04354

TABLE 14C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.050248; EQUIV.RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7504;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00888	.09804	.10248	.00000	.00014	.74077	.04968
400	.00888	.09804	.09952	.00000	.00311	.74077	.04968
440	.00888	.09804	.06258	.00000	.04004	.74077	.04968
		PRESSURE = 0.10 ATM					
360	.00888	.09804	.10261	.00000	.00001	.74077	.04968
400	.00888	.09804	.10231	.00000	.00031	.74077	.04968
440	.00888	.09804	.09877	.00000	.00385	.74077	.04968
480	.00888	.09804	.07030	.00000	.03232	.74077	.04968
520	.00888	.09804	.00000	.00000	.10262	.74077	.04968
		PRESSURE = 1.00 ATM					
360	.00888	.09804	.10262	.00000	.00000	.74077	.04968
400	.00888	.09804	.10259	.00000	.00003	.74077	.04968
440	.00888	.09804	.10224	.00000	.00038	.74077	.04968
480	.00888	.09804	.09949	.00000	.00313	.74077	.04968
520	.00888	.09804	.00000	.08657	.01605	.74077	.04968
537	.00888	.09804	.00000	.07380	.02882	.74077	.04968
560	.00888	.09804	.00000	.04033	.06229	.74077	.04968
600	.00888	.09804	.00000	.00000	.10262	.74077	.04968
		PRESSURE = 10.00 ATM					
360	.00888	.09804	.10262	.00000	.00000	.74077	.04968
400	.00888	.09804	.10262	.00000	.00000	.74077	.04968
440	.00888	.09804	.10258	.00000	.00004	.74077	.04968
480	.00888	.09804	.10231	.00000	.00031	.74077	.04968
520	.00888	.09804	.00000	.10104	.00158	.74077	.04968
537	.00888	.09804	.00000	.09982	.00280	.74077	.04968
560	.00888	.09804	.00000	.09676	.00586	.74077	.04968
600	.00888	.09804	.00000	.08461	.01801	.74077	.04968
640	.00888	.09804	.00000	.05456	.04806	.74077	.04968
680	.00888	.09804	.00000	.00000	.10262	.74077	.04968
		PRESSURE = 50.00 ATM					
360	.00888	.09804	.10262	.00000	.00000	.74077	.04968
400	.00888	.09804	.10262	.00000	.00000	.74077	.04968
440	.00888	.09804	.10261	.00000	.00001	.74077	.04968
480	.00888	.09804	.10256	.00000	.00006	.74077	.04968
520	.00888	.09804	.00000	.10231	.00032	.74077	.04968
537	.00888	.09804	.00000	.10206	.00056	.74077	.04968
560	.00888	.09804	.00000	.10146	.00117	.74077	.04968
600	.00888	.09804	.00000	.09908	.00354	.74077	.04968
640	.00888	.09804	.00000	.09340	.00922	.74077	.04968
680	.00888	.09804	.00000	.08143	.02119	.74077	.04968
720	.00888	.09804	.00000	.05837	.04425	.74077	.04968
760	.00888	.09804	.00000	.01656	.08607	.74077	.04968

TABLE 15.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.066997; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00874	.00000	.12842	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1700	.00874	.00000	.12842	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1800	.00874	.00000	.12842	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1900	.00874	.00000	.12842	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2000	.00874	.00000	.12842	.00000	.00000	.13453	.00000	.00000	.72831	.00000	.00000	.00000
2100	.00874	.00000	.12841	.00000	.00000	.13452	.00000	.00000	.72831	.00000	.00000	.00000
2200	.00873	.00001	.12841	.00000	.00001	.13452	.00000	.00000	.72831	.00000	.00000	.00001
2300	.00873	.00003	.12839	.00000	.00002	.13451	.00000	.00000	.72830	.00000	.00000	.00002
2400	.00873	.00006	.12835	.00000	.00003	.13449	.00000	.00001	.72828	.00000	.00001	.00004
2500	.00873	.00012	.12829	.00000	.00006	.13445	.00000	.00001	.72824	.00000	.00001	.00008
2600	.00873	.00022	.12818	.00000	.00010	.13439	.00000	.00002	.72818	.00000	.00003	.00014
2700	.00873	.00040	.12799	.00000	.00016	.13430	.00000	.00004	.72808	.00000	.00005	.00024
2800	.00873	.00068	.12767	.00001	.00025	.13415	.00000	.00007	.72792	.00000	.00010	.00041
2900	.00873	.00113	.12719	.00001	.00039	.13394	.00000	.00012	.72767	.00000	.00017	.00066
3000	.00872	.00180	.12645	.00003	.00058	.13362	.00000	.00018	.72729	.00001	.00029	.00103
3100	.00872	.00278	.12539	.00005	.00085	.13316	.00000	.00028	.72674	.00002	.00046	.00156
3200	.00871	.00416	.12388	.00010	.00120	.13252	.00000	.00041	.72595	.00005	.00072	.00230
3300	.00870	.00606	.12181	.00019	.00166	.13163	.00000	.00059	.72487	.00009	.00110	.00329
3400	.00868	.00858	.11905	.00035	.00227	.13044	.00000	.00084	.72340	.00018	.00163	.00459
3500	.00866	.01183	.11548	.00060	.00303	.12885	.00000	.00115	.72145	.00034	.00235	.00625
3600	.00863	.01591	.11099	.00102	.00399	.12678	.00000	.00154	.71892	.00061	.00331	.00830
3700	.00860	.02086	.10551	.00168	.00516	.12410	.00000	.00203	.71570	.00104	.00455	.01076
3800	.00855	.02669	.09902	.00269	.00658	.12071	.00000	.00262	.71168	.00174	.00612	.01360
3900	.00850	.03332	.09159	.00420	.00826	.11648	.00000	.00331	.70674	.00281	.00803	.01678
4000	.00843	.04059	.08334	.00640	.01020	.11127	.00000	.00409	.70080	.00439	.01029	.02018
4100	.00835	.04827	.07450	.00954	.01240	.10499	.00000	.00497	.69376	.00667	.01289	.02367
4200	.00826	.05605	.06535	.01387	.01479	.09756	.00000	.00592	.68554	.00983	.01576	.02707
4300	.00815	.06359	.05623	.01971	.01729	.08898	.00000	.00691	.67608	.01410	.01878	.03016
4400	.00803	.07059	.04743	.02736	.01974	.07932	.00000	.00792	.66538	.01970	.02180	.03274
4500	.00789	.07676	.03924	.03702	.02194	.06878	.00000	.00891	.65346	.02680	.02457	.03461
4600	.00774	.08194	.03186	.04881	.02364	.05773	.00000	.00983	.64046	.03552	.02686	.03560
4700	.00758	.08603	.02540	.06260	.02460	.04663	.00001	.01065	.62662	.04591	.02839	.03559
4800	.00741	.08906	.01990	.07800	.02461	.03606	.00001	.01130	.61233	.05783	.02895	.03453
4900	.00724	.09115	.01535	.09432	.02361	.02659	.00001	.01177	.59808	.07100	.02841	.03247
5000	.00708	.09246	.01166	.11069	.02168	.01863	.00002	.01202	.58444	.08497	.02681	.02955
5100	.00693	.09317	.00874	.12618	.01909	.01242	.00003	.01204	.57194	.09912	.02432	.02601
5200	.00680	.09349	.00647	.14004	.01616	.00790	.00005	.01185	.56097	.11284	.02127	.02217
5300	.00669	.09354	.00475	.15181	.01324	.00482	.00007	.01147	.55172	.12554	.01800	.01834
5400	.00659	.09346	.00347	.16139	.01057	.00286	.00010	.01094	.54419	.13682	.01483	.01477

TABLE 15.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.066997; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1700	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1800	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1900	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2000	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2100	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2200	.00874	.00001	.12841	.00000	.00000	.00000	.13452	.00000	.00000	.72831	.00000	.00000	.00000
2300	.00873	.00001	.12841	.00000	.00000	.00001	.13452	.00000	.00000	.72831	.00000	.00000	.00001
2400	.00873	.00003	.12839	.00000	.00000	.00002	.13451	.00000	.00000	.72830	.00000	.00000	.00002
2500	.00873	.00005	.12836	.00000	.00000	.00003	.13449	.00000	.00001	.72828	.00000	.00001	.00004
2600	.00873	.00010	.12831	.00000	.00000	.00005	.13446	.00000	.00002	.72825	.00000	.00001	.00006
2700	.00873	.00019	.12822	.00000	.00000	.00008	.13442	.00000	.00003	.72820	.00000	.00003	.00011
2800	.00873	.00032	.12807	.00000	.00000	.00012	.13435	.00000	.00005	.72812	.00000	.00005	.00019
2900	.00873	.00053	.12784	.00000	.00000	.00018	.13425	.00000	.00008	.72800	.00000	.00008	.00030
3000	.00873	.00085	.12749	.00001	.00000	.00027	.13410	.00000	.00012	.72782	.00000	.00013	.00047
3100	.00873	.00132	.12698	.00001	.00000	.00040	.13389	.00000	.00019	.72755	.00000	.00021	.00071
3200	.00872	.00198	.12626	.00002	.00000	.00056	.13360	.00000	.00028	.72717	.00001	.00034	.00105
3300	.00872	.00290	.12526	.00004	.00000	.00079	.13319	.00000	.00040	.72665	.00002	.00051	.00151
3400	.00871	.00414	.12391	.00008	.00000	.00107	.13265	.00000	.00057	.72594	.00004	.00076	.00213
3500	.00870	.00578	.12213	.00013	.00000	.00143	.13193	.00000	.00079	.72500	.00007	.00111	.00293
3600	.00869	.00788	.11984	.00022	.00000	.00189	.13100	.00000	.00107	.72377	.00013	.00157	.00395
3700	.00867	.01051	.11695	.00037	.00000	.00245	.12980	.00000	.00142	.72221	.00023	.00218	.00520
3800	.00865	.01374	.11341	.00059	.00000	.00314	.12828	.00000	.00185	.72024	.00039	.00297	.00673
3900	.00862	.01762	.10916	.00092	.00000	.00397	.12639	.00000	.00238	.71781	.00063	.00397	.00853
4000	.00859	.02214	.10417	.00141	.00000	.00496	.12405	.00000	.00300	.71486	.00101	.00520	.01060
4100	.00855	.02730	.09846	.00212	.00000	.00612	.12120	.00000	.00372	.71134	.00156	.00670	.01293
4200	.00851	.03303	.09206	.00312	.00000	.00747	.11778	.00000	.00454	.70720	.00235	.00847	.01547
4300	.00846	.03923	.08510	.00450	.00000	.00901	.11372	.00000	.00547	.70238	.00346	.01052	.01815
4400	.00840	.04576	.07769	.00638	.00000	.01074	.10897	.00000	.00648	.69687	.00498	.01284	.02090
4500	.00833	.05243	.07001	.00888	.00000	.01264	.10348	.00000	.00757	.69063	.00700	.01541	.02362
4600	.00825	.05904	.06227	.01216	.00000	.01468	.09724	.00000	.00871	.68365	.00964	.01816	.02619
4700	.00817	.06540	.05465	.01637	.00000	.01682	.09025	.00000	.00989	.67593	.01299	.02101	.02850
4800	.00807	.07132	.04734	.02166	.00000	.01897	.08257	.00000	.01108	.66746	.01718	.02388	.03046
4900	.00797	.07666	.04049	.02815	.00000	.02103	.07431	.00000	.01225	.65828	.02228	.02661	.03196
5000	.00786	.08129	.03422	.03595	.00000	.02287	.06562	.00001	.01337	.64844	.02837	.02907	.03293
5100	.00774	.08518	.02859	.04508	.00001	.02436	.05673	.00001	.01440	.63802	.03548	.03110	.03332
5200	.00761	.08830	.02363	.05547	.00001	.02536	.04788	.00002	.01531	.62715	.04360	.03256	.03310
5300	.00748	.09070	.01934	.06696	.00001	.02576	.03937	.00002	.01608	.61603	.05266	.03331	.03227
5400	.00735	.09244	.01568	.07927	.00000	.02551	.03148	.00003	.01668	.60486	.06254	.03329	.03086

TABLE 15.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.066997; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1700	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1800	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1900	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2000	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2100	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2200	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2300	.00874	.00001	.12841	.00000	.00000	.00000	.13452	.00000	.00000	.72831	.00000	.00000	.00000
2400	.00873	.00001	.12841	.00000	.00000	.00001	.13452	.00000	.00000	.72831	.00000	.00000	.00001
2500	.00873	.00003	.12839	.00000	.00000	.00001	.13451	.00000	.00001	.72830	.00000	.00000	.00002
2600	.00873	.00005	.12837	.00000	.00000	.00002	.13450	.00000	.00001	.72829	.00000	.00001	.00003
2700	.00873	.00009	.12832	.00000	.00000	.00004	.13448	.00000	.00002	.72826	.00000	.00001	.00005
2800	.00873	.00015	.12825	.00000	.00000	.00006	.13445	.00000	.00003	.72822	.00000	.00002	.00008
2900	.00873	.00025	.12814	.00000	.00000	.00009	.13440	.00000	.00005	.72816	.00000	.00004	.00013
3000	.00873	.00040	.12798	.00000	.00000	.00013	.13433	.00000	.00008	.72807	.00000	.00006	.00021
3100	.00873	.00063	.12774	.00000	.00000	.00019	.13423	.00000	.00013	.72794	.00000	.00010	.00032
3200	.00873	.00094	.12739	.00000	.00000	.00027	.13409	.00000	.00019	.72775	.00000	.00016	.00047
3300	.00873	.00138	.12691	.00001	.00000	.00037	.13391	.00000	.00027	.72749	.00000	.00024	.00068
3400	.00872	.00198	.12626	.00002	.00000	.00051	.13365	.00000	.00038	.72714	.00001	.00035	.00096
3500	.00872	.00278	.12540	.00003	.00000	.00068	.13332	.00000	.00053	.72668	.00002	.00051	.00133
3600	.00871	.00382	.12427	.00005	.00000	.00090	.13289	.00000	.00072	.72607	.00003	.00073	.00181
3700	.00870	.00514	.12284	.00008	.00000	.00116	.13234	.00000	.00097	.72529	.00005	.00102	.00241
3800	.00869	.00679	.12104	.00013	.00000	.00149	.13165	.00000	.00127	.72431	.00008	.00140	.00314
3900	.00868	.00881	.11883	.00020	.00000	.00189	.13078	.00000	.00164	.72310	.00014	.00188	.00404
4000	.00867	.01125	.11617	.00031	.00000	.00236	.12972	.00000	.00209	.72161	.00022	.00249	.00511
4100	.00865	.01414	.11302	.00046	.00000	.00293	.12842	.00000	.00262	.71982	.00035	.00325	.00635
4200	.00863	.01749	.10934	.00068	.00000	.00359	.12686	.00000	.00325	.71770	.00053	.00416	.00778
4300	.00860	.02132	.10514	.00099	.00000	.00435	.12499	.00000	.00397	.71520	.00079	.00526	.00939
4400	.00857	.02560	.10042	.00141	.00000	.00524	.12280	.00000	.00479	.71231	.00115	.00655	.01116
4500	.00854	.03030	.09521	.00197	.00000	.00624	.12023	.00000	.00571	.70901	.00165	.00805	.01307
4600	.00850	.03538	.08957	.00273	.00000	.00738	.11727	.00000	.00672	.70528	.00231	.00977	.01509
4700	.00846	.04074	.08357	.00371	.00001	.00864	.11387	.00000	.00782	.70110	.00319	.01170	.01718
4800	.00841	.04629	.07731	.00498	.00001	.01005	.11003	.00000	.00901	.69648	.00432	.01383	.01929
4900	.00835	.05193	.07089	.00660	.00001	.01157	.10571	.00000	.01026	.69142	.00576	.01614	.02135
5000	.00830	.05753	.06444	.00864	.00001	.01322	.10092	.00000	.01157	.68591	.00755	.01860	.02332
5100	.00823	.06298	.05805	.01117	.00001	.01496	.09566	.00000	.01291	.67998	.00974	.02117	.02513
5200	.00816	.06817	.05186	.01426	.00001	.01676	.08995	.00001	.01426	.67362	.01239	.02379	.02675
5300	.00809	.07302	.04594	.01798	.00001	.01859	.08383	.00001	.01561	.66686	.01554	.02640	.02811
5400	.00801	.07743	.04039	.02241	.00001	.02038	.07736	.00001	.01694	.65971	.01923	.02894	.02918

TABLE 15.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.066997; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1700	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1800	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1900	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2000	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2100	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2200	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2300	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72831	.00000	.00000	.00000
2400	.00874	.00001	.12841	.00000	.00000	.00000	.13452	.00000	.00000	.72831	.00000	.00000	.00000
2500	.00873	.00001	.12841	.00000	.00000	.00001	.13452	.00000	.00000	.72831	.00000	.00000	.00001
2600	.00873	.00002	.12839	.00000	.00000	.00001	.13451	.00001	.00000	.72830	.00000	.00000	.00001
2700	.00873	.00004	.12837	.00000	.00000	.00002	.13450	.00001	.00000	.72829	.00000	.00001	.00002
2800	.00873	.00007	.12834	.00000	.00000	.00003	.13449	.00002	.00000	.72827	.00000	.00001	.00004
2900	.00873	.00012	.12829	.00000	.00000	.00004	.13447	.00004	.00000	.72824	.00000	.00002	.00006
3000	.00873	.00019	.12821	.00000	.00000	.00006	.13443	.00006	.00000	.72819	.00000	.00003	.00009
3100	.00873	.00030	.12809	.00000	.00000	.00009	.13439	.00008	.00000	.72813	.00000	.00005	.00014
3200	.00873	.00045	.12793	.00000	.00000	.00013	.13432	.00012	.00000	.72803	.00000	.00007	.00021
3300	.00873	.00066	.12770	.00000	.00000	.00018	.13423	.00018	.00000	.72790	.00000	.00011	.00030
3400	.00873	.00095	.12739	.00000	.00000	.00024	.13412	.00026	.00000	.72772	.00000	.00016	.00043
3500	.00873	.00134	.12697	.00001	.00000	.00032	.13396	.00036	.00000	.72749	.00000	.00024	.00059
3600	.00872	.00184	.12642	.00001	.00000	.00043	.13376	.00048	.00000	.72718	.00001	.00034	.00081
3700	.00872	.00248	.12572	.00002	.00000	.00056	.13350	.00065	.00000	.72679	.00001	.00047	.00108
3800	.00872	.00330	.12484	.00003	.00000	.00071	.13318	.00085	.00000	.72629	.00002	.00065	.00141
3900	.00871	.00431	.12374	.00004	.00000	.00090	.13278	.00111	.00000	.72567	.00003	.00088	.00183
4000	.00870	.00555	.12240	.00007	.00000	.00113	.13229	.00142	.00000	.72491	.00005	.00116	.00233
4100	.00869	.00703	.12078	.00010	.00000	.00140	.13168	.00179	.00000	.72399	.00007	.00152	.00293
4200	.00868	.00880	.11886	.00015	.00000	.00171	.13096	.00223	.00000	.72290	.00011	.00197	.00363
4300	.00867	.01087	.11661	.00022	.00000	.00208	.13010	.00274	.00000	.72160	.00017	.00250	.00444
4400	.00866	.01325	.11401	.00031	.00000	.00251	.12908	.00334	.00000	.72008	.00025	.00315	.00537
4500	.00864	.01596	.11105	.00043	.00000	.00300	.12788	.00402	.00000	.71832	.00036	.00391	.00641
4600	.00862	.01900	.10772	.00060	.00000	.00355	.12650	.00479	.00000	.71632	.00052	.00480	.00757
4700	.00860	.02237	.10403	.00082	.00001	.00418	.12490	.00566	.00000	.71405	.00072	.00583	.00883
4800	.00857	.02605	.09998	.00110	.00001	.00489	.12308	.00662	.00000	.71150	.00099	.00701	.01018
4900	.00855	.03002	.09561	.00146	.00001	.00568	.12102	.00766	.00000	.70868	.00134	.00834	.01162
5000	.00852	.03424	.09095	.00192	.00001	.00656	.11871	.00880	.00000	.70557	.00179	.00982	.01312
5100	.00848	.03866	.08604	.00250	.00001	.00752	.11612	.01001	.00000	.70218	.00235	.01146	.01465
5200	.00845	.04323	.08093	.00323	.00001	.00857	.11325	.01130	.00001	.69852	.00305	.01324	.01620
5300	.00841	.04789	.07570	.00411	.00002	.00972	.11010	.01266	.00001	.69458	.00390	.01517	.01774
5400	.00836	.05257	.07040	.00519	.00002	.01095	.10666	.01406	.00001	.69038	.00494	.01722	.01923

TABLE 15.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.066997; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1700	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1800	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
1900	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2000	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2100	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2200	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2300	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72832	.00000	.00000	.00000
2400	.00874	.00000	.12842	.00000	.00000	.00000	.13453	.00000	.00000	.72831	.00000	.00000	.00000
2500	.00874	.00001	.12841	.00000	.00000	.00000	.13452	.00000	.00000	.72831	.00000	.00000	.00000
2600	.00873	.00001	.12840	.00000	.00000	.00001	.13452	.00001	.00000	.72831	.00000	.00000	.00001
2700	.00873	.00003	.12839	.00000	.00000	.00001	.13451	.00001	.00000	.72830	.00000	.00000	.00001
2800	.00873	.00004	.12837	.00000	.00000	.00002	.13450	.00002	.00000	.72829	.00000	.00001	.00002
2900	.00873	.00007	.12834	.00000	.00000	.00002	.13449	.00003	.00000	.72827	.00000	.00001	.00003
3000	.00873	.00012	.12829	.00000	.00000	.00004	.13447	.00004	.00000	.72824	.00000	.00002	.00005
3100	.00873	.00018	.12822	.00000	.00000	.00005	.13444	.00006	.00000	.72820	.00000	.00003	.00008
3200	.00873	.00027	.12813	.00000	.00000	.00008	.13441	.00009	.00000	.72814	.00000	.00004	.00012
3300	.00873	.00040	.12799	.00000	.00000	.00011	.13435	.00014	.00000	.72806	.00000	.00006	.00017
3400	.00873	.00057	.12780	.00000	.00000	.00014	.13428	.00019	.00000	.72794	.00000	.00009	.00024
3500	.00873	.00080	.12755	.00000	.00000	.00019	.13419	.00027	.00000	.72780	.00000	.00014	.00033
3600	.00873	.00111	.12722	.00000	.00000	.00026	.13407	.00036	.00000	.72760	.00000	.00020	.00045
3700	.00873	.00150	.12680	.00001	.00000	.00033	.13392	.00048	.00000	.72735	.00000	.00027	.00060
3800	.00872	.00199	.12626	.00001	.00000	.00043	.13373	.00064	.00000	.72704	.00001	.00038	.00079
3900	.00872	.00261	.12559	.00002	.00000	.00054	.13349	.00083	.00000	.72665	.00001	.00051	.00103
4000	.00872	.00337	.12477	.00002	.00000	.00068	.13320	.00106	.00000	.72617	.00002	.00068	.00132
4100	.00871	.00428	.12377	.00004	.00000	.00084	.13285	.00135	.00000	.72559	.00002	.00089	.00166
4200	.00870	.00538	.12258	.00005	.00000	.00103	.13242	.00168	.00000	.72489	.00004	.00115	.00207
4300	.00870	.00667	.12118	.00007	.00000	.00125	.13191	.00208	.00000	.72406	.00006	.00147	.00254
4400	.00869	.00819	.11954	.00011	.00000	.00150	.13131	.00254	.00000	.72309	.00009	.00185	.00309
4500	.00868	.00993	.11764	.00015	.00000	.00180	.13061	.00307	.00000	.72197	.00012	.00231	.00372
4600	.00867	.01191	.11549	.00021	.00000	.00213	.12980	.00368	.00000	.72067	.00018	.00284	.00443
4700	.00865	.01414	.11305	.00028	.00001	.00251	.12885	.00437	.00000	.71919	.00025	.00347	.00521
4800	.00864	.01664	.11033	.00038	.00001	.00294	.12778	.00514	.00000	.71752	.00034	.00420	.00608
4900	.00862	.01938	.10734	.00051	.00001	.00342	.12655	.00599	.00001	.71566	.00047	.00503	.00703
5000	.00860	.02237	.10406	.00067	.00001	.00395	.12518	.00693	.00001	.71359	.00063	.00597	.00804
5100	.00858	.02560	.10052	.00087	.00001	.00454	.12363	.00795	.00001	.71131	.00083	.00702	.00912
5200	.00856	.02905	.09674	.00112	.00002	.00519	.12191	.00906	.00001	.70882	.00109	.00820	.01025
5300	.00853	.03268	.09273	.00143	.00002	.00590	.12001	.01024	.00001	.70612	.00140	.00949	.01143
5400	.00850	.03648	.08853	.00181	.00002	.00668	.11791	.01150	.00001	.70322	.00179	.01090	.01263

TABLE 15C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.066997; EQUIV.RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000;
DRY AIR

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2
		PRESSURE = 0.01 ATM				
360	.00874	.12842	.13439	.00000	.00014	.72832
400	.00874	.12842	.13153	.00000	.00300	.72832
440	.00874	.12842	.09591	.00000	.03862	.72832
		PRESSURE = 0.10 ATM				
360	.00874	.12842	.13451	.00000	.00001	.72832
400	.00874	.12842	.13423	.00000	.00030	.72832
440	.00874	.12842	.13081	.00000	.00371	.72832
480	.00874	.12842	.10336	.00000	.03117	.72832
520	.00874	.12842	.00000	.00000	.13453	.72832
		PRESSURE = 1.00 ATM				
360	.00874	.12842	.13453	.00000	.00000	.72832
400	.00874	.12842	.13450	.00000	.00003	.72832
440	.00874	.12842	.13416	.00000	.00037	.72832
480	.00874	.12842	.13151	.00000	.00302	.72832
520	.00874	.12842	.00000	.11905	.01548	.72832
537	.00874	.12842	.00000	.10673	.02780	.72832
560	.00874	.12842	.00000	.07445	.06008	.72832
600	.00874	.12842	.00000	.00000	.13453	.72832
		PRESSURE = 10.00 ATM				
360	.00874	.12842	.13453	.00000	.00000	.72832
400	.00874	.12842	.13452	.00000	.00000	.72832
440	.00874	.12842	.13449	.00000	.00004	.72832
480	.00874	.12842	.13423	.00000	.00030	.72832
520	.00874	.12842	.00000	.13300	.00152	.72832
537	.00874	.12842	.00000	.13183	.00270	.72832
560	.00874	.12842	.00000	.12887	.00565	.72832
600	.00874	.12842	.00000	.11716	.01737	.72832
640	.00874	.12842	.00000	.08818	.04635	.72832
680	.00874	.12842	.00000	.02170	.11283	.72832
		PRESSURE = 50.00 ATM				
360	.00874	.12842	.13453	.00000	.00000	.72832
400	.00874	.12842	.13453	.00000	.00000	.72832
440	.00874	.12842	.13452	.00000	.00001	.72832
480	.00874	.12842	.13447	.00000	.00006	.72832
520	.00874	.12842	.00000	.13422	.00030	.72832
537	.00874	.12842	.00000	.13399	.00054	.72832
560	.00874	.12842	.00000	.13340	.00113	.72832
600	.00874	.12842	.00000	.13111	.00342	.72832
640	.00874	.12842	.00000	.12564	.00889	.72832
680	.00874	.12842	.00000	.11409	.02043	.72832
720	.00874	.12842	.00000	.09185	.04268	.72832
760	.00874	.12842	.00000	.05152	.08301	.72832

TABLE 16.1D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
380	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
400	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
420	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
440	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
460	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
480	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
500	.00859	.02402	.00000	.13378	.00000	.00001	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
520	.00859	.02402	.00000	.13378	.00000	.00001	.11733	.00000	.00000	.00000	.71627	.00000	.00000	.00000
537	.00859	.02401	.00000	.13378	.00000	.00002	.11733	.00000	.00000	.00000	.71626	.00000	.00000	.00000
540	.00859	.02401	.00000	.13378	.00000	.00003	.11733	.00000	.00000	.00000	.71626	.00000	.00000	.00000
560	.00859	.02401	.00000	.13379	.00000	.00005	.11731	.00000	.00000	.00000	.71626	.00000	.00000	.00000
580	.00859	.02400	.00000	.13379	.00000	.00008	.11729	.00000	.00000	.00000	.71624	.00000	.00000	.00000
600	.00859	.02398	.00000	.13380	.00000	.00014	.11726	.00000	.00000	.00000	.71622	.00000	.00000	.00000
620	.00859	.02396	.00000	.13382	.00000	.00022	.11721	.00000	.00000	.00000	.71619	.00000	.00000	.00000
640	.00859	.02393	.00000	.13384	.00000	.00035	.11714	.00000	.00000	.00000	.71615	.00000	.00000	.00000
660	.00859	.02388	.00000	.13388	.00000	.00054	.11704	.00000	.00000	.00000	.71608	.00000	.00000	.00000
680	.00859	.02380	.00000	.13393	.00000	.00081	.11688	.00000	.00000	.00000	.71598	.00000	.00000	.00000
700	.00859	.02371	.00000	.13400	.00000	.00119	.11667	.00000	.00000	.00000	.71584	.00000	.00000	.00000
720	.00858	.02357	.00000	.13409	.00000	.00171	.11638	.00000	.00000	.00000	.71566	.00000	.00000	.00000
740	.00858	.02338	.00000	.13422	.00000	.00241	.11599	.00000	.00000	.00000	.71541	.00000	.00000	.00000
760	.00858	.02314	.00000	.13439	.00000	.00334	.11548	.00000	.00000	.00000	.71507	.00000	.00000	.00000
780	.00857	.02283	.00001	.13460	.00000	.00453	.11481	.00000	.00001	.00000	.71465	.00000	.00000	.00000
800	.00856	.02243	.00002	.13488	.00000	.00605	.11396	.00000	.00001	.00000	.71410	.00000	.00000	.00000
820	.00856	.02192	.00003	.13521	.00000	.00796	.11290	.00000	.00001	.00000	.71341	.00000	.00000	.00000
840	.00855	.02131	.00005	.13563	.00000	.01030	.11160	.00000	.00001	.00000	.71256	.00000	.00000	.00000
860	.00853	.02055	.00008	.13612	.00000	.01314	.11003	.00000	.00001	.00000	.71154	.00000	.00000	.00000
880	.00852	.01966	.00012	.13670	.00000	.01651	.10817	.00000	.00001	.00000	.71032	.00000	.00000	.00000
900	.00850	.01861	.00019	.13736	.00000	.02043	.10600	.00000	.00001	.00000	.70888	.00000	.00000	.00000
920	.00848	.01741	.00030	.13810	.00000	.02493	.10354	.00000	.00001	.00000	.70723	.00000	.00000	.00000
940	.00846	.01604	.00045	.13890	.00000	.02998	.10078	.00000	.00001	.00000	.70537	.00000	.00000	.00000
960	.00844	.01453	.00067	.13974	.00000	.03553	.09778	.00000	.00001	.00000	.70331	.00000	.00000	.00000
980	.00841	.01289	.00098	.14058	.00000	.04149	.09459	.00000	.00001	.00000	.70106	.00000	.00000	.00000
1000	.00838	.01115	.00139	.14138	.00000	.04772	.09129	.00000	.00001	.00000	.69868	.00000	.00000	.00000
1020	.00835	.00935	.00194	.14209	.00000	.05405	.08800	.00000	.00001	.00000	.69622	.00000	.00000	.00000
1040	.00832	.00754	.00264	.14265	.00000	.06025	.08484	.00000	.00001	.00000	.69375	.00000	.00000	.00000
1060	.00829	.00580	.00350	.14301	.00000	.06603	.08199	.00000	.00001	.00000	.69137	.00000	.00000	.00000
1080	.00827	.00421	.00451	.14312	.00000	.07110	.07960	.00000	.00001	.00000	.68919	.00000	.00000	.00000
1100	.00824	.00286	.00561	.14296	.00000	.07516	.07782	.00000	.00001	.00000	.68735	.00000	.00000	.00000
1120	.00823	.00181	.00675	.14256	.00000	.07802	.07673	.00000	.00001	.00000	.68591	.00000	.00000	.00000
1140	.00821	.00108	.00787	.14195	.00000	.07969	.07629	.00000	.00000	.00000	.68491	.00000	.00000	.00000

TABLE 16.1D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00821	.00061	.00894	.14119	.00000	.08039	.07637	.00000	.00000	.00000	.68428	.00000	.00000	.00000
1180	.00820	.00034	.00998	.14035	.00000	.08040	.07683	.00000	.00000	.00000	.68391	.00000	.00000	.00000
1200	.00820	.00019	.01099	.13945	.00000	.07997	.07751	.00000	.00000	.00000	.68370	.00000	.00000	.00000
1220	.00820	.00010	.01199	.13851	.00000	.07929	.07833	.00000	.00000	.00000	.68358	.00000	.00000	.00000
1240	.00820	.00006	.01298	.13754	.00000	.07847	.07923	.00000	.00000	.00000	.68352	.00000	.00000	.00000
1260	.00820	.00003	.01399	.13655	.00000	.07756	.08018	.00000	.00000	.00000	.68348	.00000	.00000	.00000
1280	.00820	.00002	.01500	.13556	.00000	.07661	.08116	.00000	.00000	.00000	.68347	.00000	.00000	.00000
1300	.00820	.00001	.01601	.13455	.00000	.07562	.08216	.00000	.00000	.00000	.68346	.00000	.00000	.00000
1320	.00820	.00001	.01703	.13353	.00000	.07462	.08317	.00000	.00000	.00000	.68345	.00000	.00000	.00000
1340	.00820	.00000	.01805	.13251	.00000	.07361	.08418	.00000	.00000	.00000	.68345	.00000	.00000	.00000
1360	.00820	.00000	.01907	.13149	.00000	.07259	.08520	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1380	.00820	.00000	.02009	.13047	.00000	.07158	.08622	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1400	.00820	.00000	.02111	.12946	.00000	.07056	.08723	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1420	.00820	.00000	.02212	.12844	.00000	.06955	.08824	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1440	.00820	.00000	.02312	.12744	.00000	.06855	.08925	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1460	.00820	.00000	.02412	.12644	.00000	.06755	.09024	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1480	.00820	.00000	.02510	.12546	.00000	.06657	.09123	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1500	.00820	.00000	.02608	.12448	.00000	.06559	.09220	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1520	.00820	.00000	.02704	.12352	.00000	.06463	.09317	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1540	.00820	.00000	.02799	.12257	.00000	.06368	.09412	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1560	.00820	.00000	.02893	.12164	.00000	.06275	.09505	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1580	.00820	.00000	.02985	.12072	.00000	.06183	.09597	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1600	.00820	.00000	.03075	.11981	.00000	.06092	.09688	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1620	.00820	.00000	.03164	.11892	.00000	.06003	.09777	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1640	.00820	.00000	.03252	.11805	.00000	.05916	.09864	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1660	.00820	.00000	.03338	.11719	.00000	.05830	.09950	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1680	.00820	.00000	.03422	.11635	.00000	.05746	.10034	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1700	.00820	.00000	.03504	.11552	.00000	.05663	.10117	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1720	.00820	.00000	.03585	.11471	.00000	.05582	.10198	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1740	.00820	.00000	.03665	.11392	.00000	.05503	.10277	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1760	.00820	.00000	.03742	.11314	.00000	.05425	.10355	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1780	.00820	.00000	.03818	.11238	.00000	.05349	.10431	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1800	.00820	.00000	.03893	.11164	.00000	.05275	.10505	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1900	.00820	.00000	.04241	.10815	.00000	.04926	.10854	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2000	.00820	.00000	.04552	.10504	.00000	.04615	.11165	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2100	.00820	.00000	.04829	.10227	.00000	.04338	.11442	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2200	.00820	.00000	.05076	.09981	.00000	.04092	.11688	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2300	.00820	.00000	.05296	.09761	.00000	.03872	.11908	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2400	.00820	.00000	.05492	.09565	.00000	.03676	.12104	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2500	.00820	.00000	.05667	.09389	.00001	.03500	.12279	.00000	.00000	.00000	.68344	.00000	.00000	.00000

TABLE 16.1D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00820	.00000	.05824	.09232	.00002	.03343	.12436	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2700	.00820	.00000	.05965	.09091	.00003	.03201	.12577	.00000	.00000	.00000	.68343	.00000	.00000	.00000
2800	.00820	.00000	.06092	.08964	.00006	.03073	.12703	.00000	.00000	.00000	.68342	.00000	.00001	.00000
2900	.00820	.00000	.06206	.08850	.00010	.02957	.12816	.00000	.00000	.00000	.68340	.00000	.00002	.00000
3000	.00820	.00000	.06308	.08746	.00018	.02851	.12916	.00000	.00000	.00000	.68336	.00000	.00004	.00000
3100	.00820	.00000	.06401	.08652	.00030	.02755	.13003	.00000	.00000	.00001	.68330	.00000	.00008	.00000
3200	.00819	.00000	.06485	.08566	.00048	.02666	.13077	.00000	.00000	.00002	.68321	.00000	.00015	.00000
3300	.00819	.00000	.06562	.08486	.00075	.02584	.13136	.00000	.00000	.00004	.68304	.00001	.00028	.00001
3400	.00819	.00000	.06635	.08408	.00115	.02509	.13175	.00000	.00000	.00007	.68278	.00002	.00050	.00004
3500	.00818	.00000	.06708	.08326	.00171	.02441	.13187	.00000	.00000	.00014	.68235	.00004	.00085	.00010
3600	.00818	.00000	.06792	.08228	.00250	.02385	.13161	.00000	.00000	.00026	.68165	.00011	.00141	.00025
3700	.00816	.00000	.06903	.08093	.00358	.02347	.13079	.00000	.00000	.00046	.68050	.00024	.00225	.00058
3800	.00814	.00000	.07067	.07893	.00507	.02338	.12914	.00000	.00000	.00077	.67867	.00052	.00347	.00123
3900	.00811	.00000	.07311	.07592	.00712	.02371	.12635	.00000	.00000	.00122	.67586	.00106	.00514	.00239
4000	.00807	.00000	.07655	.07164	.00994	.02457	.12214	.00000	.00000	.00183	.67178	.00200	.00728	.00419
4100	.00801	.00000	.08096	.06610	.01380	.02597	.11632	.00000	.00000	.00258	.66625	.00353	.00987	.00662
4200	.00793	.00000	.08606	.05953	.01902	.02782	.10885	.00000	.00000	.00344	.65916	.00583	.01282	.00953
4300	.00783	.00000	.09145	.05235	.02595	.02995	.09978	.00000	.00000	.00439	.65053	.00913	.01601	.01264
4400	.00771	.00000	.09670	.04497	.03489	.03211	.08930	.00000	.00000	.00538	.64038	.01363	.01924	.01568
4500	.00758	.00000	.10145	.03778	.04610	.03403	.07770	.00000	.00000	.00637	.62882	.01952	.02229	.01836
4600	.00743	.00000	.10545	.03107	.05969	.03536	.06542	.00000	.00000	.00731	.61602	.02692	.02489	.02043
4700	.00727	.00000	.10855	.02503	.07554	.03582	.05303	.00001	.00000	.00815	.60228	.03586	.02676	.02171
4800	.00711	.00000	.11073	.01978	.09323	.03516	.04118	.00001	.00000	.00885	.58800	.04623	.02766	.02206
4900	.00694	.00000	.11208	.01535	.11203	.03330	.03051	.00001	.00000	.00938	.57372	.05775	.02745	.02148
5000	.00678	.00000	.11274	.01171	.13100	.03037	.02150	.00002	.00000	.00969	.56004	.06998	.02613	.02005
5100	.00663	.00000	.11290	.00880	.14910	.02665	.01441	.00003	.00000	.00979	.54750	.08236	.02388	.01796
5200	.00649	.00000	.11275	.00652	.16545	.02256	.00921	.00005	.00000	.00968	.53653	.09428	.02100	.01548
5300	.00638	.00000	.11242	.00479	.17950	.01851	.00565	.00007	.00000	.00940	.52731	.10523	.01784	.01288
5400	.00629	.00000	.11203	.00349	.19106	.01482	.00336	.00010	.00000	.00898	.51985	.11487	.01474	.01041

TABLE 16.2D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
380	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
400	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
420	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
440	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
460	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
480	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
500	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
520	.00859	.02402	.00000	.13378	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
537	.00859	.02402	.00000	.13378	.00000	.00001	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
540	.00859	.02402	.00000	.13378	.00000	.00001	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
560	.00859	.02401	.00000	.13378	.00000	.00001	.11733	.00000	.00000	.00000	.71627	.00000	.00000	.00000
580	.00859	.02401	.00000	.13378	.00000	.00003	.11732	.00000	.00000	.00000	.71626	.00000	.00000	.00000
600	.00859	.02401	.00000	.13379	.00000	.00004	.11731	.00000	.00000	.00000	.71626	.00000	.00000	.00000
620	.00859	.02400	.00000	.13379	.00000	.00007	.11730	.00000	.00000	.00000	.71625	.00000	.00000	.00000
640	.00859	.02399	.00000	.13380	.00000	.00011	.11728	.00000	.00000	.00000	.71623	.00000	.00000	.00000
660	.00859	.02397	.00000	.13381	.00000	.00017	.11724	.00000	.00000	.00000	.71621	.00000	.00000	.00000
680	.00859	.02395	.00000	.13383	.00000	.00026	.11719	.00000	.00000	.00000	.71618	.00000	.00000	.00000
700	.00859	.02392	.00000	.13385	.00000	.00038	.11712	.00000	.00001	.00000	.71614	.00000	.00000	.00000
720	.00859	.02387	.00000	.13388	.00000	.00055	.11703	.00000	.00001	.00000	.71608	.00000	.00000	.00000
740	.00859	.02381	.00000	.13392	.00000	.00077	.11690	.00000	.00001	.00000	.71599	.00000	.00000	.00000
760	.00859	.02374	.00000	.13397	.00000	.00107	.11674	.00000	.00001	.00000	.71589	.00000	.00000	.00000
780	.00858	.02363	.00000	.13405	.00000	.00146	.11652	.00000	.00001	.00000	.71575	.00000	.00000	.00000
800	.00858	.02350	.00000	.13414	.00000	.00196	.11624	.00000	.00001	.00000	.71557	.00000	.00000	.00000
820	.00858	.02333	.00001	.13425	.00000	.00259	.11589	.00000	.00001	.00000	.71534	.00000	.00000	.00000
840	.00858	.02312	.00001	.13439	.00000	.00339	.11544	.00000	.00001	.00000	.71505	.00000	.00000	.00000
860	.00857	.02286	.00002	.13456	.00000	.00437	.11490	.00000	.00001	.00000	.71469	.00000	.00000	.00000
880	.00857	.02254	.00004	.13477	.00000	.00557	.11423	.00000	.00001	.00000	.71426	.00000	.00000	.00000
900	.00856	.02216	.00006	.13502	.00000	.00701	.11344	.00000	.00002	.00000	.71373	.00000	.00000	.00000
920	.00855	.02170	.00009	.13531	.00000	.00873	.11249	.00000	.00002	.00000	.71311	.00000	.00000	.00000
940	.00854	.02116	.00014	.13564	.00000	.01075	.11139	.00000	.00002	.00000	.71237	.00000	.00000	.00000
960	.00853	.02053	.00021	.13601	.00000	.01309	.11011	.00000	.00002	.00000	.71150	.00000	.00000	.00000
980	.00852	.01980	.00031	.13642	.00000	.01577	.10865	.00000	.00002	.00000	.71051	.00000	.00000	.00000
1000	.00851	.01896	.00045	.13686	.00000	.01881	.10702	.00000	.00002	.00000	.70937	.00000	.00000	.00000
1020	.00849	.01802	.00064	.13733	.00000	.02221	.10520	.00000	.00002	.00000	.70808	.00000	.00000	.00000
1040	.00848	.01697	.00090	.13780	.00000	.02596	.10322	.00000	.00002	.00000	.70664	.00000	.00000	.00000
1060	.00846	.01581	.00125	.13827	.00000	.03005	.10109	.00000	.00002	.00000	.70506	.00000	.00000	.00000
1080	.00844	.01454	.00170	.13870	.00000	.03443	.09884	.00000	.00002	.00000	.70332	.00000	.00000	.00000
1100	.00841	.01318	.00229	.13907	.00000	.03906	.09651	.00000	.00002	.00000	.70146	.00000	.00000	.00000
1120	.00839	.01173	.00302	.13935	.00000	.04386	.09415	.00000	.00002	.00000	.69948	.00000	.00000	.00000
1140	.00836	.01021	.00393	.13950	.00000	.04873	.09183	.00000	.00002	.00000	.69741	.00000	.00000	.00000

TABLE 16.2D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00834	.00866	.00502	.13950	.00000	.05356	.08962	.00000	.00002	.00000	.69529	.00000	.00000	.00000
1180	.00831	.00712	.00629	.13930	.00000	.05819	.08759	.00000	.00002	.00000	.69318	.00000	.00000	.00000
1200	.00829	.00563	.00772	.13892	.00000	.06244	.08585	.00000	.00002	.00000	.69114	.00000	.00000	.00000
1220	.00827	.00426	.00926	.13833	.00000	.06614	.08446	.00000	.00002	.00000	.68926	.00000	.00000	.00000
1240	.00825	.00306	.01085	.13757	.00000	.06910	.08351	.00000	.00002	.00000	.68763	.00000	.00000	.00000
1260	.00823	.00210	.01242	.13668	.00000	.07123	.08302	.00000	.00001	.00000	.68631	.00000	.00000	.00000
1280	.00822	.00137	.01390	.13570	.00000	.07252	.08295	.00000	.00001	.00000	.68532	.00000	.00000	.00000
1300	.00821	.00086	.01528	.13468	.00000	.07308	.08325	.00000	.00001	.00000	.68462	.00000	.00000	.00000
1320	.00821	.00053	.01656	.13364	.00000	.07307	.08382	.00000	.00001	.00000	.68417	.00000	.00000	.00000
1340	.00820	.00032	.01775	.13259	.00000	.07268	.08457	.00000	.00001	.00000	.68388	.00000	.00000	.00000
1360	.00820	.00020	.01888	.13155	.00000	.07203	.08542	.00000	.00001	.00000	.68371	.00000	.00000	.00000
1380	.00820	.00012	.01997	.13051	.00000	.07124	.08635	.00000	.00001	.00000	.68360	.00000	.00000	.00000
1400	.00820	.00007	.02103	.12948	.00000	.07036	.08731	.00000	.00001	.00000	.68354	.00000	.00000	.00000
1420	.00820	.00004	.02207	.12846	.00000	.06943	.08829	.00000	.00001	.00000	.68350	.00000	.00000	.00000
1440	.00820	.00003	.02309	.12745	.00000	.06847	.08928	.00000	.00000	.00000	.68348	.00000	.00000	.00000
1460	.00820	.00002	.02410	.12645	.00000	.06750	.09026	.00000	.00000	.00000	.68347	.00000	.00000	.00000
1480	.00820	.00001	.02509	.12547	.00000	.06654	.09124	.00000	.00000	.00000	.68346	.00000	.00000	.00000
1500	.00820	.00001	.02607	.12449	.00000	.06557	.09221	.00000	.00000	.00000	.68345	.00000	.00000	.00000
1520	.00820	.00000	.02704	.12353	.00000	.06462	.09317	.00000	.00000	.00000	.68345	.00000	.00000	.00000
1540	.00820	.00000	.02799	.12258	.00000	.06367	.09412	.00000	.00000	.00000	.68345	.00000	.00000	.00000
1560	.00820	.00000	.02892	.12164	.00000	.06274	.09505	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1580	.00820	.00000	.02984	.12072	.00000	.06182	.09597	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1600	.00820	.00000	.03075	.11981	.00000	.06092	.09688	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1620	.00820	.00000	.03164	.11892	.00000	.06003	.09777	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1640	.00820	.00000	.03252	.11805	.00000	.05915	.09864	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1660	.00820	.00000	.03338	.11719	.00000	.05830	.09950	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1680	.00820	.00000	.03422	.11635	.00000	.05745	.10034	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1700	.00820	.00000	.03504	.11552	.00000	.05663	.10117	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1720	.00820	.00000	.03585	.11471	.00000	.05582	.10198	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1740	.00820	.00000	.03665	.11392	.00000	.05503	.10277	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1760	.00820	.00000	.03742	.11314	.00000	.05425	.10355	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1780	.00820	.00000	.03818	.11238	.00000	.05349	.10431	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1800	.00820	.00000	.03893	.11164	.00000	.05275	.10505	.00000	.00000	.00000	.68344	.00000	.00000	.00000
1900	.00820	.00000	.04241	.10815	.00000	.04926	.10854	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2000	.00820	.00000	.04552	.10504	.00000	.04615	.11165	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2100	.00820	.00000	.04829	.10227	.00000	.04338	.11442	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2200	.00820	.00000	.05076	.09981	.00000	.04092	.11688	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2300	.00820	.00000	.05296	.09761	.00000	.03872	.11908	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2400	.00820	.00000	.05492	.09565	.00000	.03676	.12104	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2500	.00820	.00000	.05667	.09389	.00000	.03500	.12280	.00000	.00000	.00000	.68344	.00000	.00000	.00000

TABLE 16.2D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00820	.00000	.05824	.09232	.00001	.03343	.12437	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2700	.00820	.00000	.05965	.09091	.00001	.03201	.12578	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2800	.00820	.00000	.06092	.08964	.00002	.03074	.12705	.00000	.00000	.00000	.68343	.00000	.00000	.00000
2900	.00820	.00000	.06207	.08849	.00003	.02959	.12819	.00000	.00000	.00000	.68343	.00000	.00001	.00000
3000	.00820	.00000	.06311	.08745	.00006	.02854	.12922	.00000	.00000	.00000	.68342	.00000	.00001	.00000
3100	.00820	.00000	.06405	.08651	.00009	.02759	.13014	.00000	.00000	.00000	.68340	.00000	.00002	.00000
3200	.00820	.00000	.06490	.08565	.00015	.02672	.13096	.00000	.00000	.00001	.68337	.00000	.00005	.00000
3300	.00820	.00000	.06567	.08486	.00024	.02592	.13168	.00000	.00000	.00001	.68332	.00000	.00009	.00000
3400	.00819	.00000	.06639	.08414	.00036	.02519	.13230	.00000	.00000	.00002	.68324	.00000	.00016	.00000
3500	.00819	.00000	.06705	.08345	.00054	.02452	.13281	.00000	.00000	.00005	.68312	.00000	.00027	.00001
3600	.00819	.00000	.06768	.08278	.00079	.02390	.13317	.00000	.00000	.00008	.68292	.00001	.00045	.00003
3700	.00819	.00000	.06832	.08208	.00113	.02335	.13335	.00000	.00000	.00015	.68262	.00002	.00073	.00006
3800	.00818	.00000	.06901	.08130	.00159	.02288	.13329	.00000	.00000	.00026	.68216	.00006	.00115	.00014
3900	.00818	.00000	.06984	.08034	.00219	.02251	.13290	.00000	.00000	.00043	.68145	.00012	.00175	.00029
4000	.00816	.00000	.07093	.07904	.00299	.02231	.13206	.00000	.00000	.00069	.68037	.00024	.00261	.00059
4100	.00815	.00000	.07245	.07721	.00405	.02233	.13060	.00000	.00000	.00107	.67878	.00046	.00378	.00113
4200	.00812	.00000	.07456	.07465	.00543	.02266	.12835	.00000	.00000	.00160	.67649	.00084	.00530	.00200
4300	.00809	.00000	.07737	.07122	.00725	.02336	.12516	.00000	.00000	.00227	.67336	.00147	.00719	.00327
4400	.00805	.00000	.08088	.06690	.00963	.02445	.12090	.00000	.00000	.00309	.66927	.00242	.00944	.00496
4500	.00799	.00000	.08497	.06180	.01272	.02591	.11554	.00000	.00000	.00404	.66419	.00381	.01201	.00701
4600	.00792	.00000	.08941	.05614	.01670	.02767	.10910	.00000	.00000	.00509	.65811	.00574	.01484	.00928
4700	.00785	.00000	.09395	.05017	.02173	.02964	.10162	.00000	.00000	.00621	.65107	.00830	.01783	.01164
4800	.00776	.00000	.09835	.04414	.02798	.03168	.09323	.00000	.00000	.00736	.64310	.01161	.02086	.01393
4900	.00766	.00000	.10240	.03827	.03560	.03363	.08409	.00000	.00000	.00851	.63426	.01576	.02381	.01600
5000	.00755	.00000	.10594	.03273	.04468	.03533	.07440	.00001	.00000	.00963	.62465	.02082	.02652	.01774
5100	.00743	.00000	.10889	.02763	.05526	.03660	.06444	.00001	.00000	.01068	.61437	.02682	.02882	.01904
5200	.00731	.00000	.11121	.02304	.06726	.03728	.05451	.00002	.00000	.01163	.60357	.03376	.03057	.01985
5300	.00718	.00000	.11289	.01900	.08050	.03724	.04493	.00002	.00000	.01245	.59246	.04158	.03162	.02012
5400	.00705	.00000	.11400	.01551	.09470	.03640	.03603	.00003	.00000	.01311	.58128	.05015	.03189	.01984

TABLE 16.3D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
380	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
400	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
420	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
440	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
460	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
480	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
500	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
520	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
537	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
540	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
560	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.00000	.71627	.00000	.00000	.00000
580	.00859	.02402	.00000	.13378	.00000	.00000	.00001	.11733	.00000	.00000	.00000	.71627	.00000	.00000	.00000
600	.00859	.02401	.00000	.13378	.00000	.00000	.00001	.11733	.00000	.00000	.00000	.71627	.00000	.00000	.00000
620	.00859	.02401	.00000	.13378	.00000	.00000	.00002	.11732	.00000	.00001	.00000	.71626	.00000	.00000	.00000
640	.00859	.02401	.00000	.13379	.00000	.00000	.00004	.11732	.00000	.00001	.00000	.71626	.00000	.00000	.00000
660	.00859	.02400	.00000	.13379	.00000	.00000	.00005	.11730	.00000	.00001	.00000	.71625	.00000	.00000	.00000
680	.00859	.02399	.00000	.13380	.00000	.00000	.00008	.11729	.00000	.00001	.00000	.71624	.00000	.00000	.00000
700	.00859	.02398	.00000	.13380	.00000	.00000	.00012	.11727	.00000	.00001	.00000	.71623	.00000	.00000	.00000
720	.00859	.02397	.00000	.13381	.00000	.00000	.00017	.11724	.00000	.00001	.00000	.71621	.00000	.00000	.00000
740	.00859	.02395	.00000	.13383	.00000	.00000	.00024	.11719	.00000	.00001	.00000	.71618	.00000	.00000	.00000
760	.00859	.02392	.00000	.13384	.00000	.00000	.00034	.11714	.00000	.00001	.00000	.71615	.00000	.00000	.00000
780	.00859	.02389	.00000	.13387	.00000	.00000	.00046	.11707	.00000	.00002	.00000	.71610	.00000	.00000	.00000
800	.00859	.02385	.00000	.13390	.00000	.00000	.00062	.11698	.00000	.00002	.00000	.71604	.00000	.00000	.00000
820	.00859	.02379	.00000	.13394	.00000	.00000	.00083	.11686	.00000	.00002	.00000	.71597	.00000	.00000	.00000
840	.00859	.02373	.00000	.13398	.00000	.00000	.00109	.11672	.00000	.00002	.00000	.71588	.00000	.00000	.00000
860	.00858	.02364	.00001	.13404	.00000	.00000	.00141	.11654	.00000	.00002	.00000	.71576	.00000	.00000	.00000
880	.00858	.02353	.00001	.13411	.00000	.00000	.00180	.11632	.00000	.00003	.00000	.71562	.00000	.00000	.00000
900	.00858	.02341	.00002	.13419	.00000	.00000	.00228	.11606	.00000	.00003	.00000	.71544	.00000	.00000	.00000
920	.00858	.02325	.00003	.13429	.00000	.00000	.00285	.11574	.00000	.00003	.00000	.71523	.00000	.00000	.00000
940	.00858	.02307	.00005	.13440	.00000	.00000	.00354	.11536	.00000	.00003	.00000	.71498	.00000	.00000	.00000
960	.00857	.02285	.00007	.13453	.00000	.00000	.00435	.11491	.00000	.00004	.00000	.71468	.00000	.00000	.00000
980	.00857	.02259	.00010	.13468	.00000	.00000	.00531	.11439	.00000	.00004	.00000	.71432	.00000	.00000	.00000
1000	.00856	.02229	.00014	.13485	.00000	.00000	.00641	.11379	.00000	.00004	.00000	.71391	.00000	.00000	.00000
1020	.00856	.02194	.00020	.13503	.00000	.00000	.00768	.11311	.00000	.00004	.00000	.71343	.00000	.00000	.00000
1040	.00855	.02153	.00029	.13523	.00000	.00000	.00913	.11233	.00000	.00005	.00000	.71288	.00000	.00000	.00000
1060	.00854	.02107	.00040	.13544	.00000	.00000	.01078	.11146	.00000	.00005	.00000	.71226	.00000	.00000	.00000
1080	.00853	.02055	.00055	.13566	.00000	.00000	.01262	.11049	.00000	.00005	.00000	.71154	.00000	.00000	.00000
1100	.00852	.01996	.00074	.13588	.00000	.00000	.01468	.10943	.00000	.00005	.00000	.71073	.00000	.00000	.00000
1120	.00851	.01930	.00099	.13609	.00000	.00000	.01695	.10827	.00000	.00005	.00000	.70983	.00000	.00000	.00000
1140	.00850	.01856	.00131	.13629	.00000	.00000	.01943	.10702	.00000	.00006	.00000	.70883	.00000	.00000	.00000

TABLE 16.3D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00849	.01775	.00172	.13645	.00000	.00000	.02213	.10570	.00000	.00006	.00000	.70771	.00000	.00000	.00000
1180	.00847	.01686	.00223	.13657	.00000	.00000	.02503	.10430	.00000	.00006	.00000	.70649	.00000	.00000	.00000
1200	.00846	.01588	.00285	.13662	.00000	.00000	.02813	.10284	.00000	.00006	.00000	.70516	.00000	.00000	.00000
1220	.00844	.01482	.00362	.13660	.00000	.00000	.03140	.10135	.00000	.00006	.00000	.70371	.00000	.00000	.00000
1240	.00842	.01369	.00453	.13647	.00000	.00000	.03481	.09985	.00000	.00006	.00000	.70216	.00000	.00000	.00000
1260	.00840	.01248	.00562	.13623	.00000	.00000	.03833	.09836	.00000	.00006	.00000	.70051	.00000	.00000	.00000
1280	.00838	.01121	.00688	.13585	.00000	.00000	.04191	.09692	.00000	.00006	.00000	.69878	.00000	.00000	.00000
1300	.00836	.00990	.00833	.13533	.00000	.00000	.04549	.09556	.00000	.00006	.00000	.69698	.00000	.00000	.00000
1320	.00834	.00856	.00994	.13465	.00000	.00000	.04899	.09432	.00000	.00006	.00000	.69515	.00000	.00000	.00000
1340	.00832	.00722	.01170	.13382	.00000	.00000	.05233	.09323	.00000	.00005	.00000	.69332	.00000	.00000	.00000
1360	.00829	.00593	.01357	.13286	.00000	.00000	.05541	.09234	.00000	.00005	.00000	.69155	.00000	.00000	.00000
1380	.00827	.00471	.01550	.13178	.00000	.00000	.05812	.09167	.00000	.00005	.00000	.68989	.00000	.00000	.00000
1400	.00826	.00362	.01741	.13062	.00000	.00000	.06036	.09127	.00000	.00005	.00000	.68840	.00000	.00000	.00000
1420	.00824	.00269	.01926	.12943	.00000	.00000	.06208	.09113	.00000	.00004	.00000	.68713	.00000	.00000	.00000
1440	.00823	.00193	.02100	.12822	.00000	.00000	.06325	.09124	.00000	.00004	.00000	.68609	.00000	.00000	.00000
1460	.00822	.00135	.02258	.12704	.00000	.00000	.06389	.09159	.00000	.00004	.00000	.68529	.00000	.00000	.00000
1480	.00821	.00092	.02402	.12590	.00000	.00000	.06409	.09211	.00000	.00003	.00000	.68471	.00000	.00000	.00000
1500	.00821	.00062	.02533	.12481	.00000	.00000	.06394	.09278	.00000	.00003	.00000	.68429	.00000	.00000	.00000
1520	.00820	.00041	.02653	.12375	.00000	.00000	.06353	.09353	.00000	.00003	.00000	.68401	.00000	.00000	.00000
1540	.00820	.00027	.02764	.12274	.00000	.00000	.06295	.09435	.00000	.00002	.00000	.68382	.00000	.00000	.00000
1560	.00820	.00018	.02869	.12175	.00000	.00000	.06226	.09520	.00000	.00002	.00000	.68369	.00000	.00000	.00000
1580	.00820	.00012	.02968	.12080	.00000	.00000	.06150	.09607	.00000	.00002	.00000	.68361	.00000	.00000	.00000
1600	.00820	.00008	.03064	.11987	.00000	.00000	.06070	.09694	.00000	.00002	.00000	.68356	.00000	.00000	.00000
1620	.00820	.00005	.03156	.11896	.00000	.00000	.05988	.09781	.00000	.00001	.00000	.68352	.00000	.00000	.00000
1640	.00820	.00004	.03246	.11808	.00000	.00000	.05905	.09867	.00000	.00001	.00000	.68349	.00000	.00000	.00000
1660	.00820	.00003	.03334	.11721	.00000	.00000	.05822	.09952	.00000	.00001	.00000	.68348	.00000	.00000	.00000
1680	.00820	.00002	.03419	.11636	.00000	.00000	.05740	.10035	.00000	.00001	.00000	.68347	.00000	.00000	.00000
1700	.00820	.00001	.03502	.11553	.00000	.00000	.05659	.10117	.00000	.00001	.00000	.68346	.00000	.00000	.00000
1720	.00820	.00001	.03584	.11472	.00000	.00000	.05579	.10198	.00000	.00001	.00000	.68345	.00000	.00000	.00000
1740	.00820	.00001	.03663	.11393	.00000	.00000	.05501	.10277	.00000	.00001	.00000	.68345	.00000	.00000	.00000
1760	.00820	.00000	.03741	.11315	.00000	.00000	.05423	.10355	.00000	.00001	.00000	.68345	.00000	.00000	.00000
1780	.00820	.00000	.03818	.11239	.00000	.00000	.05348	.10431	.00000	.00001	.00000	.68345	.00000	.00000	.00000
1800	.00820	.00000	.03892	.11164	.00000	.00000	.05274	.10505	.00000	.00001	.00000	.68345	.00000	.00000	.00000
1900	.00820	.00000	.04241	.10816	.00000	.00000	.04926	.10853	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2000	.00820	.00000	.04552	.10504	.00000	.00000	.04615	.11164	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2100	.00820	.00000	.04829	.10227	.00000	.00000	.04338	.11441	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2200	.00820	.00000	.05076	.09981	.00000	.00000	.04091	.11688	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2300	.00820	.00000	.05296	.09761	.00000	.00000	.03872	.11908	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2400	.00820	.00000	.05492	.09565	.00000	.00000	.03676	.12104	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2500	.00820	.00000	.05667	.09389	.00000	.00000	.03500	.12280	.00000	.00000	.00000	.68344	.00000	.00000	.00000

TABLE 16.3D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00820	.00000	.05824	.09232	.00000	.00000	.03343	.12437	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2700	.00820	.00000	.05966	.09091	.00000	.00000	.03202	.12578	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2800	.00820	.00000	.06093	.08964	.00001	.00000	.03074	.12705	.00000	.00000	.00000	.68344	.00000	.00000	.00000
2900	.00820	.00000	.06208	.08849	.00001	.00000	.02959	.12820	.00000	.00000	.00000	.68344	.00000	.00000	.00000
3000	.00820	.00000	.06311	.08745	.00002	.00000	.02855	.12923	.00000	.00000	.00000	.68343	.00000	.00000	.00000
3100	.00820	.00000	.06406	.08650	.00003	.00000	.02760	.13017	.00000	.00000	.00000	.68343	.00000	.00001	.00000
3200	.00820	.00000	.06491	.08564	.00005	.00000	.02674	.13102	.00000	.00000	.00000	.68342	.00000	.00002	.00000
3300	.00820	.00000	.06570	.08486	.00008	.00000	.02595	.13179	.00000	.00000	.00000	.68340	.00000	.00003	.00000
3400	.00820	.00000	.06641	.08414	.00012	.00000	.02523	.13247	.00000	.00000	.00001	.68338	.00000	.00005	.00000
3500	.00820	.00000	.06707	.08348	.00017	.00000	.02457	.13308	.00000	.00000	.00001	.68334	.00000	.00009	.00000
3600	.00820	.00000	.06768	.08286	.00025	.00000	.02396	.13361	.00000	.00000	.00003	.68328	.00000	.00014	.00000
3700	.00819	.00000	.06825	.08227	.00036	.00000	.02340	.13406	.00000	.00000	.00005	.68319	.00000	.00023	.00001
3800	.00819	.00000	.06879	.08170	.00050	.00000	.02289	.13440	.00000	.00000	.00008	.68306	.00001	.00037	.00001
3900	.00819	.00000	.06933	.08112	.00069	.00000	.02242	.13463	.00000	.00000	.00014	.68287	.00001	.00056	.00003
4000	.00819	.00000	.06989	.08051	.00094	.00000	.02201	.13472	.00000	.00000	.00023	.68258	.00002	.00085	.00006
4100	.00818	.00000	.07051	.07981	.00126	.00000	.02167	.13461	.00000	.00000	.00036	.68216	.00005	.00125	.00013
4200	.00818	.00000	.07125	.07896	.00167	.00000	.02142	.13427	.00000	.00000	.00056	.68155	.00009	.00180	.00024
4300	.00817	.00000	.07218	.07787	.00219	.00000	.02128	.13362	.00000	.00000	.00085	.68069	.00017	.00254	.00045
4400	.00816	.00000	.07339	.07644	.00284	.00000	.02129	.13256	.00000	.00000	.00124	.67948	.00031	.00351	.00079
4500	.00814	.00000	.07498	.07454	.00366	.00000	.02149	.13102	.00000	.00000	.00177	.67784	.00052	.00473	.00131
4600	.00812	.00000	.07703	.07209	.00470	.00000	.02193	.12888	.00000	.00000	.00243	.67567	.00085	.00623	.00206
4700	.00809	.00000	.07957	.06903	.00601	.00000	.02264	.12610	.00000	.00000	.00324	.67290	.00135	.00800	.00307
4800	.00805	.00000	.08258	.06538	.00764	.00000	.02362	.12260	.00000	.00000	.00419	.66951	.00205	.01005	.00433
4900	.00801	.00000	.08597	.06122	.00968	.00000	.02485	.11840	.00000	.00000	.00525	.66547	.00300	.01233	.00581
5000	.00796	.00000	.08961	.05668	.01220	.00000	.02632	.11348	.00000	.00000	.00641	.66081	.00426	.01482	.00744
5100	.00791	.00000	.09336	.05190	.01528	.00000	.02798	.10790	.00000	.00000	.00764	.65556	.00588	.01746	.00914
5200	.00785	.00000	.09709	.04703	.01900	.00001	.02976	.10169	.00001	.00000	.00892	.64973	.00789	.02019	.01084
5300	.00778	.00000	.10067	.04220	.02345	.00001	.03159	.09494	.00001	.00000	.01022	.64338	.01035	.02294	.01247
5400	.00770	.00000	.10398	.03752	.02869	.00001	.03341	.08773	.00001	.00000	.01151	.63654	.01330	.02563	.01397

TABLE 16.4D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
380	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
400	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
420	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
440	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
460	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
480	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
500	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
520	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
537	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
540	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
560	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00001	.00000	.71627	.00000	.00000	.00000
580	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11733	.00001	.00000	.71627	.00000	.00000	.00000
600	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11733	.00001	.00000	.71627	.00000	.00000	.00000
620	.00859	.02401	.00000	.13378	.00000	.00000	.00001	.11733	.00001	.00000	.71627	.00000	.00000	.00000
640	.00859	.02401	.00000	.13378	.00000	.00000	.00001	.11733	.00001	.00000	.71627	.00000	.00000	.00000
660	.00859	.02401	.00000	.13379	.00000	.00000	.00002	.11732	.00001	.00000	.71626	.00000	.00000	.00000
680	.00859	.02401	.00000	.13379	.00000	.00000	.00003	.11731	.00002	.00000	.71626	.00000	.00000	.00000
700	.00859	.02400	.00000	.13379	.00000	.00000	.00004	.11731	.00002	.00000	.71625	.00000	.00000	.00000
720	.00859	.02400	.00000	.13380	.00000	.00000	.00005	.11729	.00002	.00000	.71625	.00000	.00000	.00000
740	.00859	.02399	.00000	.13380	.00000	.00000	.00008	.11728	.00002	.00000	.71624	.00000	.00000	.00000
760	.00859	.02398	.00000	.13381	.00000	.00000	.00011	.11726	.00003	.00000	.71623	.00000	.00000	.00000
780	.00859	.02397	.00000	.13382	.00000	.00000	.00015	.11724	.00003	.00000	.71621	.00000	.00000	.00000
800	.00859	.02396	.00000	.13383	.00000	.00000	.00020	.11721	.00003	.00000	.71619	.00000	.00000	.00000
820	.00859	.02394	.00000	.13384	.00000	.00000	.00026	.11717	.00004	.00000	.71617	.00000	.00000	.00000
840	.00859	.02391	.00000	.13386	.00000	.00000	.00034	.11712	.00004	.00000	.71614	.00000	.00000	.00000
860	.00859	.02389	.00000	.13388	.00000	.00000	.00045	.11706	.00004	.00000	.71610	.00000	.00000	.00000
880	.00859	.02385	.00000	.13390	.00000	.00000	.00057	.11699	.00005	.00000	.71605	.00000	.00000	.00000
900	.00859	.02381	.00001	.13393	.00000	.00000	.00073	.11690	.00005	.00000	.71599	.00000	.00000	.00000
920	.00859	.02376	.00001	.13396	.00000	.00000	.00091	.11679	.00006	.00000	.71592	.00000	.00000	.00000
940	.00859	.02370	.00001	.13400	.00000	.00000	.00113	.11667	.00006	.00000	.71584	.00000	.00000	.00000
960	.00858	.02362	.00002	.13404	.00000	.00000	.00140	.11652	.00007	.00000	.71574	.00000	.00000	.00000
980	.00858	.02354	.00003	.13409	.00000	.00000	.00171	.11635	.00007	.00000	.71563	.00000	.00000	.00000
1000	.00858	.02344	.00005	.13415	.00000	.00000	.00208	.11615	.00008	.00000	.71549	.00000	.00000	.00000
1020	.00858	.02332	.00006	.13422	.00000	.00000	.00250	.11591	.00008	.00000	.71533	.00000	.00000	.00000
1040	.00858	.02318	.00009	.13429	.00000	.00000	.00299	.11565	.00009	.00000	.71514	.00000	.00000	.00000
1060	.00858	.02302	.00013	.13436	.00000	.00000	.00355	.11535	.00009	.00000	.71493	.00000	.00000	.00000
1080	.00857	.02284	.00017	.13444	.00000	.00000	.00419	.11501	.00010	.00000	.71468	.00000	.00000	.00000
1100	.00857	.02263	.00023	.13453	.00000	.00000	.00491	.11463	.00010	.00000	.71440	.00000	.00000	.00000
1120	.00856	.02240	.00031	.13461	.00000	.00000	.00573	.11420	.00011	.00000	.71407	.00000	.00000	.00000
1140	.00856	.02213	.00042	.13470	.00000	.00000	.00664	.11374	.00011	.00000	.71371	.00000	.00000	.00000

TABLE 16.4D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00856	.02183	.00055	.13478	.00000	.00000	.00765	.11322	.00012	.00000	.71330	.00000	.00000	.00000
1180	.00855	.02149	.00071	.13485	.00000	.00000	.00877	.11267	.00012	.00000	.71284	.00000	.00000	.00000
1200	.00854	.02111	.00092	.13491	.00000	.00000	.01000	.11207	.00013	.00000	.71232	.00000	.00000	.00000
1220	.00854	.02069	.00118	.13495	.00000	.00000	.01135	.11142	.00013	.00000	.71175	.00000	.00000	.00000
1240	.00853	.02022	.00149	.13496	.00000	.00000	.01282	.11074	.00013	.00000	.71111	.00000	.00000	.00000
1260	.00852	.01970	.00187	.13494	.00000	.00000	.01440	.11002	.00014	.00000	.71040	.00000	.00000	.00000
1280	.00851	.01913	.00233	.13488	.00000	.00000	.01611	.10927	.00014	.00000	.70962	.00000	.00000	.00000
1300	.00850	.01851	.00288	.13477	.00000	.00000	.01794	.10848	.00015	.00000	.70877	.00000	.00000	.00000
1320	.00849	.01783	.00353	.13459	.00000	.00000	.01989	.10768	.00015	.00000	.70784	.00000	.00000	.00000
1340	.00848	.01709	.00430	.13435	.00000	.00000	.02195	.10686	.00015	.00000	.70682	.00000	.00000	.00000
1360	.00847	.01628	.00519	.13402	.00000	.00000	.02412	.10604	.00015	.00000	.70573	.00000	.00000	.00000
1380	.00845	.01542	.00621	.13360	.00000	.00000	.02639	.10523	.00015	.00000	.70455	.00000	.00000	.00000
1400	.00844	.01450	.00738	.13307	.00000	.00000	.02874	.10443	.00016	.00000	.70328	.00000	.00000	.00000
1420	.00842	.01352	.00870	.13244	.00000	.00000	.03117	.10365	.00016	.00000	.70194	.00000	.00000	.00000
1440	.00840	.01248	.01017	.13169	.00000	.00000	.03364	.10292	.00016	.00000	.70053	.00000	.00000	.00000
1460	.00839	.01141	.01178	.13083	.00000	.00000	.03614	.10224	.00016	.00000	.69906	.00000	.00000	.00000
1480	.00837	.01030	.01354	.12986	.00000	.00000	.03863	.10162	.00015	.00000	.69754	.00000	.00000	.00000
1500	.00835	.00916	.01541	.12877	.00000	.00000	.04107	.10108	.00015	.00000	.69600	.00000	.00000	.00000
1520	.00833	.00803	.01738	.12760	.00000	.00000	.04343	.10064	.00015	.00000	.69445	.00000	.00000	.00000
1540	.00831	.00692	.01941	.12634	.00000	.00000	.04566	.10029	.00015	.00000	.69292	.00000	.00000	.00000
1560	.00829	.00584	.02147	.12503	.00000	.00000	.04771	.10006	.00014	.00000	.69145	.00000	.00000	.00000
1580	.00828	.00483	.02352	.12369	.00000	.00000	.04952	.09996	.00014	.00000	.69007	.00000	.00000	.00000
1600	.00826	.00391	.02550	.12235	.00000	.00000	.05106	.09998	.00013	.00000	.68881	.00000	.00000	.00000
1620	.00825	.00310	.02739	.12103	.00000	.00000	.05229	.10013	.00012	.00000	.68770	.00000	.00000	.00000
1640	.00824	.00240	.02915	.11976	.00000	.00000	.05320	.10040	.00011	.00000	.68674	.00000	.00000	.00000
1660	.00823	.00183	.03076	.11854	.00000	.00000	.05380	.10078	.00011	.00000	.68596	.00000	.00000	.00000
1680	.00822	.00137	.03222	.11740	.00000	.00000	.05410	.10126	.00010	.00000	.68533	.00000	.00000	.00000
1700	.00821	.00101	.03354	.11634	.00000	.00000	.05416	.10182	.00009	.00000	.68484	.00000	.00000	.00000
1720	.00821	.00074	.03473	.11533	.00000	.00000	.05401	.10243	.00008	.00000	.68446	.00000	.00000	.00000
1740	.00821	.00054	.03581	.11439	.00000	.00000	.05371	.10308	.00008	.00000	.68419	.00000	.00000	.00000
1760	.00820	.00039	.03680	.11350	.00000	.00000	.05329	.10376	.00007	.00000	.68399	.00000	.00000	.00000
1780	.00820	.00028	.03772	.11266	.00000	.00000	.05279	.10445	.00006	.00000	.68384	.00000	.00000	.00000
1800	.00820	.00020	.03858	.11185	.00000	.00000	.05223	.10515	.00006	.00000	.68373	.00000	.00000	.00000
1900	.00820	.00004	.04232	.10822	.00000	.00000	.04913	.10854	.00004	.00000	.68351	.00000	.00000	.00000
2000	.00820	.00001	.04549	.10507	.00000	.00000	.04611	.11164	.00002	.00000	.68346	.00000	.00000	.00000
2100	.00820	.00000	.04828	.10229	.00000	.00000	.04336	.11441	.00002	.00000	.68345	.00000	.00000	.00000
2200	.00820	.00000	.05075	.09982	.00000	.00000	.04090	.11688	.00001	.00000	.68344	.00000	.00000	.00000
2300	.00820	.00000	.05295	.09761	.00000	.00000	.03871	.11908	.00001	.00000	.68344	.00000	.00000	.00000
2400	.00820	.00000	.05491	.09565	.00000	.00000	.03675	.12104	.00001	.00000	.68344	.00000	.00000	.00000
2500	.00820	.00000	.05667	.09390	.00000	.00000	.03500	.12279	.00000	.00000	.68344	.00000	.00000	.00000

TABLE 16.4D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00820	.00000	.05824	.09232	.00000	.00000	.03343	.12437	.00000	.00000	.68344	.00000	.00000	.00000
2700	.00820	.00000	.05965	.09091	.00000	.00000	.03201	.12578	.00000	.00000	.68344	.00000	.00000	.00000
2800	.00820	.00000	.06093	.08964	.00000	.00000	.03074	.12705	.00000	.00000	.68344	.00000	.00000	.00000
2900	.00820	.00000	.06208	.08849	.00000	.00000	.02959	.12820	.00000	.00000	.68344	.00000	.00000	.00000
3000	.00820	.00000	.06312	.08745	.00001	.00000	.02855	.12924	.00000	.00000	.68344	.00000	.00000	.00000
3100	.00820	.00000	.06406	.08650	.00001	.00000	.02761	.13018	.00000	.00000	.68344	.00000	.00000	.00000
3200	.00820	.00000	.06492	.08564	.00002	.00000	.02675	.13104	.00000	.00000	.68343	.00000	.00000	.00000
3300	.00820	.00000	.06570	.08486	.00002	.00000	.02596	.13182	.00000	.00000	.68343	.00000	.00001	.00000
3400	.00820	.00000	.06642	.08414	.00004	.00000	.02524	.13252	.00000	.00000	.68342	.00000	.00002	.00000
3500	.00820	.00000	.06708	.08348	.00005	.00000	.02458	.13317	.00000	.00000	.68341	.00000	.00003	.00000
3600	.00820	.00000	.06768	.08287	.00008	.00000	.02398	.13375	.00000	.00001	.68339	.00000	.00005	.00000
3700	.00820	.00000	.06824	.08231	.00011	.00000	.02342	.13427	.00000	.00001	.68336	.00000	.00007	.00000
3800	.00820	.00000	.06876	.08178	.00016	.00000	.02291	.13473	.00000	.00003	.68332	.00000	.00012	.00000
3900	.00820	.00000	.06925	.08128	.00022	.00000	.02243	.13513	.00000	.00004	.68327	.00000	.00018	.00000
4000	.00819	.00000	.06971	.08080	.00030	.00000	.02200	.13546	.00000	.00007	.68318	.00000	.00027	.00001
4100	.00819	.00000	.07017	.08032	.00040	.00000	.02161	.13572	.00000	.00012	.68306	.00000	.00040	.00001
4200	.00819	.00000	.07063	.07983	.00053	.00000	.02125	.13589	.00000	.00018	.68289	.00001	.00058	.00003
4300	.00819	.00000	.07111	.07931	.00069	.00000	.02094	.13595	.00000	.00028	.68265	.00002	.00082	.00005
4400	.00819	.00000	.07163	.07873	.00089	.00000	.02068	.13589	.00000	.00042	.68231	.00003	.00115	.00009
4500	.00818	.00000	.07223	.07805	.00113	.00000	.02048	.13567	.00000	.00061	.68186	.00006	.00159	.00015
4600	.00818	.00000	.07294	.07723	.00143	.00000	.02035	.13525	.00000	.00087	.68124	.00010	.00215	.00026
4700	.00817	.00000	.07383	.07621	.00180	.00000	.02031	.13461	.00000	.00123	.68041	.00016	.00285	.00043
4800	.00816	.00000	.07492	.07492	.00224	.00000	.02038	.13367	.00000	.00168	.67933	.00026	.00373	.00069
4900	.00814	.00000	.07628	.07332	.00279	.00000	.02059	.13241	.00000	.00226	.67795	.00041	.00479	.00106
5000	.00813	.00000	.07795	.07135	.00344	.00000	.02096	.13076	.00000	.00297	.67621	.00062	.00605	.00156
5100	.00811	.00000	.07994	.06898	.00423	.00000	.02150	.12871	.00000	.00380	.67409	.00091	.00751	.00220
5200	.00808	.00000	.08225	.06622	.00519	.00000	.02222	.12621	.00000	.00477	.67157	.00131	.00917	.00300
5300	.00805	.00000	.08484	.06311	.00634	.00001	.02312	.12326	.00000	.00584	.66865	.00184	.01101	.00393
5400	.00802	.00000	.08766	.05969	.00772	.00001	.02419	.11986	.00000	.00702	.66533	.00251	.01301	.00497

TABLE 16.5D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
380	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
400	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
420	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
440	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
460	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
480	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
500	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
520	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00000	.00000	.71627	.00000	.00000	.00000
537	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00001	.00000	.71627	.00000	.00000	.00000
540	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11734	.00001	.00000	.71627	.00000	.00000	.00000
560	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11733	.00001	.00000	.71627	.00000	.00000	.00000
580	.00859	.02402	.00000	.13378	.00000	.00000	.00000	.11733	.00001	.00000	.71627	.00000	.00000	.00000
600	.00859	.02401	.00000	.13378	.00000	.00000	.00000	.11733	.00001	.00000	.71627	.00000	.00000	.00000
620	.00859	.02401	.00000	.13378	.00000	.00000	.00000	.11733	.00001	.00000	.71627	.00000	.00000	.00000
640	.00859	.02401	.00000	.13378	.00000	.00000	.00001	.11733	.00002	.00000	.71627	.00000	.00000	.00000
660	.00859	.02401	.00000	.13379	.00000	.00000	.00001	.11732	.00002	.00000	.71626	.00000	.00000	.00000
680	.00859	.02401	.00000	.13379	.00000	.00000	.00001	.11732	.00002	.00000	.71626	.00000	.00000	.00000
700	.00859	.02400	.00000	.13379	.00000	.00000	.00002	.11731	.00003	.00000	.71626	.00000	.00000	.00000
720	.00859	.02400	.00000	.13379	.00000	.00000	.00002	.11730	.00003	.00000	.71625	.00000	.00000	.00000
740	.00859	.02400	.00000	.13380	.00000	.00000	.00003	.11730	.00004	.00000	.71625	.00000	.00000	.00000
760	.00859	.02399	.00000	.13380	.00000	.00000	.00005	.11728	.00004	.00000	.71624	.00000	.00000	.00000
780	.00859	.02399	.00000	.13381	.00000	.00000	.00007	.11727	.00004	.00000	.71623	.00000	.00000	.00000
800	.00859	.02398	.00000	.13381	.00000	.00000	.00009	.11726	.00005	.00000	.71623	.00000	.00000	.00000
820	.00859	.02397	.00000	.13382	.00000	.00000	.00012	.11724	.00006	.00000	.71621	.00000	.00000	.00000
840	.00859	.02396	.00000	.13383	.00000	.00000	.00015	.11721	.00006	.00000	.71620	.00000	.00000	.00000
860	.00859	.02394	.00000	.13384	.00000	.00000	.00020	.11718	.00007	.00000	.71618	.00000	.00000	.00000
880	.00859	.02392	.00000	.13385	.00000	.00000	.00026	.11715	.00007	.00000	.71616	.00000	.00000	.00000
900	.00859	.02390	.00000	.13387	.00000	.00000	.00033	.11710	.00008	.00000	.71613	.00000	.00000	.00000
920	.00859	.02388	.00000	.13388	.00000	.00000	.00041	.11705	.00009	.00000	.71610	.00000	.00000	.00000
940	.00859	.02385	.00001	.13390	.00000	.00000	.00051	.11699	.00009	.00000	.71606	.00000	.00000	.00000
960	.00859	.02382	.00001	.13393	.00000	.00000	.00063	.11692	.00010	.00000	.71601	.00000	.00000	.00000
980	.00859	.02377	.00001	.13395	.00000	.00000	.00077	.11684	.00011	.00000	.71596	.00000	.00000	.00000
1000	.00859	.02373	.00002	.13398	.00000	.00000	.00093	.11674	.00012	.00000	.71589	.00000	.00000	.00000
1020	.00859	.02367	.00003	.13401	.00000	.00000	.00113	.11664	.00012	.00000	.71582	.00000	.00000	.00000
1040	.00858	.02361	.00004	.13404	.00000	.00000	.00135	.11651	.00013	.00000	.71573	.00000	.00000	.00000
1060	.00858	.02353	.00006	.13408	.00000	.00000	.00160	.11637	.00014	.00000	.71563	.00000	.00000	.00000
1080	.00858	.02345	.00008	.13412	.00000	.00000	.00190	.11621	.00015	.00000	.71552	.00000	.00000	.00000
1100	.00858	.02335	.00010	.13416	.00000	.00000	.00223	.11603	.00016	.00000	.71539	.00000	.00000	.00000
1120	.00858	.02324	.00014	.13421	.00000	.00000	.00261	.11583	.00016	.00000	.71524	.00000	.00000	.00000
1140	.00858	.02311	.00019	.13425	.00000	.00000	.00303	.11561	.00017	.00000	.71507	.00000	.00000	.00000

TABLE 16.5D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00857	.02297	.00025	.13429	.00000	.00000	.00350	.11536	.00018	.00000	.71487	.00000	.00000	.00000
1180	.00857	.02281	.00032	.13433	.00000	.00000	.00403	.11510	.00019	.00000	.71466	.00000	.00000	.00000
1200	.00857	.02263	.00041	.13437	.00000	.00000	.00461	.11480	.00020	.00000	.71441	.00000	.00000	.00000
1220	.00857	.02243	.00053	.13439	.00000	.00000	.00526	.11449	.00021	.00000	.71414	.00000	.00000	.00000
1240	.00856	.02220	.00067	.13441	.00000	.00000	.00596	.11415	.00021	.00000	.71383	.00000	.00000	.00000
1260	.00856	.02195	.00084	.13441	.00000	.00000	.00674	.11379	.00022	.00000	.71349	.00000	.00000	.00000
1280	.00855	.02167	.00105	.13440	.00000	.00000	.00758	.11340	.00023	.00000	.71311	.00000	.00000	.00000
1300	.00855	.02136	.00131	.13436	.00000	.00000	.00849	.11300	.00024	.00000	.71269	.00000	.00000	.00000
1320	.00854	.02102	.00161	.13430	.00000	.00000	.00948	.11258	.00024	.00000	.71222	.00000	.00000	.00000
1340	.00854	.02065	.00197	.13421	.00000	.00000	.01055	.11213	.00025	.00000	.71171	.00000	.00000	.00000
1360	.00853	.02024	.00239	.13407	.00000	.00000	.01169	.11168	.00026	.00000	.71115	.00000	.00000	.00000
1380	.00852	.01978	.00288	.13389	.00000	.00000	.01291	.11121	.00027	.00000	.71053	.00000	.00000	.00000
1400	.00852	.01929	.00346	.13367	.00000	.00000	.01420	.11073	.00027	.00000	.70986	.00000	.00000	.00000
1420	.00851	.01876	.00412	.13338	.00000	.00000	.01558	.11026	.00028	.00000	.70913	.00000	.00000	.00000
1440	.00850	.01818	.00487	.13303	.00000	.00000	.01702	.10978	.00028	.00000	.70834	.00000	.00000	.00000
1460	.00849	.01755	.00573	.13261	.00000	.00000	.01855	.10930	.00029	.00000	.70748	.00000	.00000	.00000
1480	.00848	.01688	.00670	.13211	.00000	.00000	.02014	.10884	.00029	.00000	.70656	.00000	.00000	.00000
1500	.00846	.01616	.00779	.13153	.00000	.00000	.02180	.10839	.00030	.00000	.70558	.00000	.00000	.00000
1520	.00845	.01539	.00900	.13086	.00000	.00000	.02352	.10795	.00030	.00000	.70453	.00000	.00000	.00000
1540	.00844	.01458	.01033	.13010	.00000	.00000	.02529	.10755	.00030	.00000	.70342	.00000	.00000	.00000
1560	.00842	.01372	.01178	.12925	.00000	.00000	.02711	.10717	.00030	.00000	.70225	.00000	.00000	.00000
1580	.00841	.01282	.01335	.12830	.00000	.00000	.02895	.10683	.00030	.00000	.70103	.00000	.00000	.00000
1600	.00839	.01189	.01503	.12727	.00000	.00000	.03082	.10654	.00030	.00000	.69976	.00000	.00000	.00000
1620	.00838	.01094	.01681	.12615	.00000	.00000	.03269	.10628	.00030	.00000	.69845	.00000	.00000	.00000
1640	.00836	.00996	.01869	.12496	.00000	.00000	.03453	.10608	.00030	.00000	.69712	.00000	.00000	.00000
1660	.00835	.00898	.02063	.12370	.00000	.00000	.03634	.10593	.00030	.00000	.69577	.00000	.00000	.00000
1680	.00833	.00800	.02262	.12239	.00000	.00000	.03809	.10583	.00029	.00000	.69444	.00000	.00000	.00000
1700	.00831	.00704	.02464	.12104	.00000	.00000	.03974	.10580	.00029	.00000	.69312	.00000	.00000	.00000
1720	.00830	.00612	.02665	.11968	.00000	.00000	.04128	.10584	.00028	.00000	.69185	.00000	.00000	.00000
1740	.00828	.00523	.02863	.11831	.00000	.00000	.04268	.10594	.00027	.00000	.69065	.00000	.00000	.00000
1760	.00827	.00441	.03055	.11697	.00000	.00000	.04390	.10611	.00026	.00000	.68952	.00000	.00000	.00000
1780	.00826	.00367	.03238	.11566	.00000	.00000	.04494	.10634	.00025	.00000	.68850	.00000	.00000	.00000
1800	.00825	.00300	.03410	.11440	.00000	.00000	.04578	.10664	.00024	.00000	.68759	.00000	.00000	.00000
1900	.00821	.00092	.04080	.10915	.00000	.00000	.04712	.10890	.00018	.00000	.68473	.00000	.00000	.00000
2000	.00820	.00024	.04503	.10538	.00000	.00000	.04553	.11169	.00012	.00000	.68380	.00000	.00000	.00000
2100	.00820	.00007	.04812	.10240	.00000	.00000	.04317	.11440	.00008	.00000	.68355	.00000	.00000	.00000
2200	.00820	.00002	.05069	.09987	.00000	.00000	.04082	.11686	.00006	.00000	.68348	.00000	.00000	.00000
2300	.00820	.00001	.05292	.09765	.00000	.00000	.03867	.11906	.00004	.00000	.68346	.00000	.00000	.00000
2400	.00820	.00000	.05489	.09567	.00000	.00000	.03672	.12103	.00003	.00000	.68345	.00000	.00000	.00000
2500	.00820	.00000	.05665	.09391	.00000	.00000	.03498	.12278	.00002	.00000	.68345	.00000	.00000	.00000

TABLE 16.5D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00820	.00000	.05823	.09234	.00000	.00000	.03341	.12436	.00002	.00000	.68345	.00000	.00000	.00000
2700	.00820	.00000	.05965	.09092	.00000	.00000	.03201	.12577	.00002	.00000	.68344	.00000	.00000	.00000
2800	.00820	.00000	.06092	.08965	.00000	.00000	.03074	.12705	.00001	.00000	.68344	.00000	.00000	.00000
2900	.00820	.00000	.06207	.08849	.00000	.00000	.02959	.12820	.00001	.00000	.68344	.00000	.00000	.00000
3000	.00820	.00000	.06311	.08745	.00000	.00000	.02855	.12924	.00001	.00000	.68344	.00000	.00000	.00000
3100	.00820	.00000	.06406	.08651	.00000	.00000	.02761	.13018	.00001	.00000	.68344	.00000	.00000	.00000
3200	.00820	.00000	.06492	.08565	.00001	.00000	.02675	.13104	.00001	.00000	.68344	.00000	.00000	.00000
3300	.00820	.00000	.06570	.08486	.00001	.00000	.02596	.13182	.00000	.00000	.68344	.00000	.00000	.00000
3400	.00820	.00000	.06642	.08414	.00002	.00000	.02524	.13254	.00000	.00000	.68343	.00000	.00001	.00000
3500	.00820	.00000	.06708	.08349	.00002	.00000	.02459	.13319	.00000	.00000	.68343	.00000	.00001	.00000
3600	.00820	.00000	.06768	.08288	.00004	.00000	.02398	.13378	.00000	.00000	.68342	.00000	.00002	.00000
3700	.00820	.00000	.06824	.08232	.00005	.00000	.02343	.13432	.00000	.00001	.68341	.00000	.00003	.00000
3800	.00820	.00000	.06875	.08180	.00007	.00000	.02291	.13481	.00000	.00001	.68339	.00000	.00005	.00000
3900	.00820	.00000	.06923	.08132	.00010	.00000	.02244	.13525	.00000	.00002	.68336	.00000	.00008	.00000
4000	.00820	.00000	.06968	.08086	.00013	.00000	.02200	.13564	.00000	.00003	.68333	.00000	.00012	.00000
4100	.00820	.00000	.07011	.08042	.00018	.00000	.02160	.13598	.00000	.00005	.68327	.00000	.00018	.00000
4200	.00819	.00000	.07052	.08000	.00024	.00000	.02123	.13627	.00000	.00008	.68320	.00000	.00026	.00001
4300	.00819	.00000	.07092	.07958	.00031	.00000	.02090	.13650	.00000	.00012	.68310	.00000	.00037	.00001
4400	.00819	.00000	.07132	.07916	.00040	.00000	.02059	.13666	.00000	.00019	.68295	.00001	.00052	.00002
4500	.00819	.00000	.07173	.07871	.00050	.00000	.02032	.13674	.00000	.00028	.68276	.00001	.00072	.00003
4600	.00819	.00000	.07218	.07822	.00064	.00000	.02009	.13673	.00000	.00040	.68250	.00002	.00098	.00006
4700	.00818	.00000	.07267	.07767	.00080	.00000	.01991	.13661	.00000	.00057	.68216	.00003	.00131	.00009
4800	.00818	.00000	.07324	.07702	.00099	.00000	.01977	.13636	.00000	.00079	.68170	.00005	.00173	.00015
4900	.00818	.00000	.07391	.07626	.00122	.00000	.01970	.13595	.00000	.00109	.68111	.00009	.00225	.00024
5000	.00817	.00000	.07472	.07533	.00149	.00000	.01970	.13537	.00000	.00147	.68036	.00014	.00289	.00038
5100	.00816	.00000	.07569	.07420	.00182	.00000	.01978	.13457	.00000	.00194	.67940	.00021	.00366	.00057
5200	.00815	.00000	.07686	.07284	.00220	.00000	.01997	.13353	.00000	.00252	.67822	.00031	.00458	.00083
5300	.00814	.00000	.07825	.07121	.00266	.00000	.02027	.13222	.00000	.00322	.67678	.00045	.00564	.00118
5400	.00812	.00000	.07987	.06929	.00319	.00001	.02069	.13061	.00000	.00403	.67507	.00064	.00686	.00161

TABLE 16.1E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 0.14696 LB/IN2 (0.01 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00820	.04584	.00000	.00000	.10473	.00000	.15767	.00013	.00000	.68344
400	.00820	.04584	.00000	.00000	.10473	.00000	.15504	.00276	.00000	.68344
440	.00820	.04579	.00002	.00000	.10476	.00000	.12222	.03554	.00000	.68347
480	.00821	.04417	.00087	.00000	.10578	.00000	.00000	.15633	.00000	.68463
520	.00822	.04304	.00146	.00000	.10650	.00001	.00000	.15533	.00000	.68544
537	.00823	.04246	.00176	.00000	.10687	.00001	.00000	.15481	.00000	.68585
560	.00823	.04154	.00224	.00000	.10745	.00003	.00000	.15399	.00000	.68651
600	.00825	.03970	.00319	.00000	.10864	.00010	.00000	.15232	.00000	.68780
640	.00827	.03754	.00428	.00000	.11004	.00027	.00000	.15032	.00000	.68929
680	.00829	.03511	.00545	.00000	.11165	.00065	.00000	.14796	.00000	.69089
720	.00831	.03244	.00665	.00000	.11348	.00143	.00000	.14517	.00000	.69252
760	.00832	.02956	.00778	.00000	.11557	.00288	.00000	.14182	.00000	.69407
800	.00834	.02646	.00874	.00001	.11798	.00536	.00000	.13770	.00000	.69539
840	.00835	.02316	.00943	.00003	.12078	.00932	.00000	.13258	.00001	.69633
880	.00836	.01962	.00974	.00009	.12405	.01517	.00000	.12622	.00001	.69675
920	.00835	.01583	.00958	.00022	.12782	.02323	.00000	.11843	.00001	.69654
960	.00834	.01172	.00895	.00054	.13206	.03353	.00000	.10918	.00001	.69568
1000	.00833	.00721	.00793	.00119	.13662	.04578	.00000	.09865	.00001	.69428
1040	.00831	.00219	.00667	.00251	.14121	.05933	.00000	.08723	.00001	.69255
1080	.00827	.00000	.00421	.00451	.14312	.07110	.00000	.07960	.00001	.68919
1120	.00823	.00000	.00181	.00675	.14256	.07802	.00000	.07673	.00001	.68591
1160	.00821	.00000	.00061	.00894	.14119	.08039	.00000	.07637	.00000	.68428
1200	.00820	.00000	.00019	.01099	.13945	.07997	.00000	.07751	.00000	.68370
1240	.00820	.00000	.00006	.01298	.13754	.07847	.00000	.07923	.00000	.68352
1280	.00820	.00000	.00002	.01500	.13556	.07661	.00000	.08116	.00000	.68347
1320	.00820	.00000	.00001	.01703	.13353	.07462	.00000	.08317	.00000	.68345
1360	.00820	.00000	.00000	.01907	.13149	.07259	.00000	.08520	.00000	.68344
1400	.00820	.00000	.00000	.02111	.12946	.07056	.00000	.08723	.00000	.68344

TABLE 16.2E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 1.46959 LB/IN2 (0.10 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00820	.04584	.00000	.00000	.10473	.00000	.15779	.00001	.00000	.68344
400	.00820	.04584	.00000	.00000	.10473	.00000	.15752	.00027	.00000	.68344
440	.00820	.04584	.00000	.00000	.10473	.00000	.15438	.00342	.00000	.68344
480	.00820	.04578	.00003	.00000	.10476	.00000	.12906	.02869	.00000	.68348
520	.00822	.04304	.00146	.00000	.10650	.00000	.00000	.15533	.00000	.68544
537	.00823	.04247	.00177	.00000	.10686	.00000	.00000	.15482	.00000	.68585
560	.00823	.04155	.00224	.00000	.10744	.00001	.00000	.15401	.00000	.68651
600	.00825	.03972	.00320	.00000	.10861	.00003	.00000	.15238	.00000	.68781
640	.00827	.03760	.00429	.00000	.10996	.00008	.00000	.15048	.00000	.68931
680	.00829	.03526	.00549	.00000	.11147	.00021	.00000	.14834	.00000	.69094
720	.00831	.03274	.00674	.00000	.11311	.00046	.00000	.14598	.00001	.69266
760	.00833	.03011	.00800	.00000	.11487	.00092	.00000	.14339	.00001	.69437
800	.00835	.02740	.00920	.00000	.11673	.00174	.00000	.14054	.00001	.69602
840	.00837	.02463	.01030	.00001	.11873	.00308	.00000	.13736	.00001	.69752
880	.00838	.02183	.01122	.00003	.12087	.00514	.00000	.13374	.00001	.69878
920	.00839	.01900	.01190	.00007	.12318	.00817	.00000	.12957	.00002	.69971
960	.00840	.01613	.01227	.00016	.12570	.01239	.00000	.12472	.00002	.70022
1000	.00840	.01319	.01229	.00036	.12842	.01797	.00000	.11909	.00002	.70025
1040	.00839	.01013	.01195	.00076	.13132	.02502	.00000	.11263	.00002	.69978
1080	.00838	.00686	.01125	.00151	.13434	.03349	.00000	.10534	.00002	.69882
1120	.00837	.00323	.01025	.00284	.13733	.04320	.00000	.09729	.00002	.69746
1160	.00834	.00000	.00866	.00502	.13950	.05356	.00000	.08962	.00002	.69529
1200	.00829	.00000	.00563	.00772	.13892	.06244	.00000	.08585	.00002	.69114
1240	.00825	.00000	.00306	.01085	.13757	.06910	.00000	.08351	.00002	.68763
1280	.00822	.00000	.00137	.01390	.13570	.07252	.00000	.08295	.00001	.68532
1320	.00821	.00000	.00053	.01656	.13364	.07307	.00000	.08382	.00001	.68417
1360	.00820	.00000	.00020	.01888	.13155	.07203	.00000	.08542	.00001	.68371
1400	.00820	.00000	.00007	.02103	.12948	.07036	.00000	.08731	.00001	.68354

TABLE 16.3E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 14.6959 LB/IN2 (1.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00820	.04584	.00000	.00000	.10473	.00000	.15780	.00000	.00000	.00000	.68344
400	.00820	.04584	.00000	.00000	.10473	.00000	.15777	.00000	.00003	.00000	.68344
440	.00820	.04584	.00000	.00000	.10473	.00000	.15746	.00000	.00034	.00000	.68344
480	.00820	.04584	.00000	.00000	.10473	.00000	.15502	.00000	.00278	.00000	.68344
520	.00820	.04581	.00001	.00000	.10474	.00000	.00000	.14353	.01424	.00000	.68346
537	.00820	.04574	.00005	.00000	.10479	.00000	.00000	.13213	.02558	.00000	.68351
560	.00820	.04527	.00030	.00000	.10509	.00000	.00000	.10194	.05536	.00000	.68385
600	.00825	.03973	.00320	.00000	.10860	.00001	.00000	.00000	.15240	.00000	.68781
640	.00827	.03762	.00429	.00000	.10994	.00003	.00000	.00000	.15053	.00000	.68931
680	.00829	.03530	.00550	.00000	.11142	.00007	.00000	.00000	.14846	.00001	.69096
720	.00831	.03284	.00677	.00000	.11300	.00014	.00000	.00000	.14624	.00001	.69270
760	.00833	.03028	.00807	.00000	.11464	.00029	.00000	.00000	.14390	.00001	.69447
800	.00835	.02769	.00936	.00000	.11633	.00055	.00000	.00000	.14146	.00002	.69623
840	.00837	.02511	.01060	.00000	.11805	.00099	.00000	.00000	.13894	.00002	.69793
880	.00839	.02255	.01176	.00001	.11979	.00166	.00000	.00000	.13630	.00002	.69951
920	.00841	.02004	.01280	.00002	.12156	.00268	.00000	.00000	.13352	.00003	.70094
960	.00842	.01758	.01370	.00005	.12337	.00414	.00000	.00000	.13054	.00003	.70217
1000	.00843	.01517	.01441	.00011	.12521	.00615	.00000	.00000	.12732	.00004	.70315
1040	.00844	.01281	.01491	.00024	.12710	.00883	.00000	.00000	.12379	.00004	.70383
1080	.00845	.01047	.01517	.00047	.12903	.01228	.00000	.00000	.11990	.00005	.70419
1120	.00845	.00811	.01518	.00087	.13098	.01658	.00000	.00000	.11559	.00005	.70419
1160	.00844	.00567	.01491	.00157	.13291	.02177	.00000	.00000	.11083	.00006	.70384
1200	.00843	.00303	.01440	.00272	.13476	.02787	.00000	.00000	.10561	.00006	.70313
1240	.00842	.00008	.01365	.00453	.13642	.03480	.00000	.00000	.09993	.00006	.70211
1280	.00838	.00000	.01121	.00688	.13585	.04191	.00000	.00000	.09692	.00006	.69878
1320	.00834	.00000	.00856	.00994	.13465	.04899	.00000	.00000	.09432	.00006	.69515
1360	.00829	.00000	.00593	.01357	.13286	.05541	.00000	.00000	.09234	.00005	.69155
1400	.00826	.00000	.00362	.01741	.13062	.06036	.00000	.00000	.09127	.00005	.68840

TABLE 16.4E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 146.959 LB/IN2 (10.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00820	.04584	.00000	.00000	.10473	.00000	.15780	.00000	.00000	.00000	.68344
400	.00820	.04584	.00000	.00000	.10473	.00000	.15780	.00000	.00000	.00000	.68344
440	.00820	.04584	.00000	.00000	.10473	.00000	.15776	.00000	.00003	.00000	.68344
480	.00820	.04584	.00000	.00000	.10473	.00000	.15752	.00000	.00028	.00000	.68344
520	.00820	.04584	.00000	.00000	.10473	.00000	.00000	.15640	.00140	.00000	.68344
537	.00820	.04584	.00000	.00000	.10473	.00000	.00000	.15531	.00249	.00000	.68344
560	.00820	.04583	.00000	.00000	.10473	.00000	.00000	.15259	.00520	.00000	.68344
600	.00820	.04577	.00004	.00000	.10477	.00000	.00000	.14175	.01598	.00000	.68349
640	.00820	.04514	.00036	.00000	.10517	.00000	.00000	.11446	.04272	.00000	.68394
680	.00824	.04040	.00284	.00000	.10818	.00001	.00000	.04783	.10515	.00001	.68733
720	.00831	.03286	.00678	.00000	.11296	.00005	.00000	.00000	.14631	.00002	.69271
760	.00833	.03033	.00809	.00000	.11458	.00009	.00000	.00000	.14405	.00002	.69450
800	.00835	.02778	.00940	.00000	.11621	.00018	.00000	.00000	.14175	.00003	.69630
840	.00837	.02525	.01069	.00000	.11784	.00031	.00000	.00000	.13943	.00004	.69806
880	.00839	.02277	.01193	.00000	.11946	.00053	.00000	.00000	.13711	.00004	.69976
920	.00841	.02036	.01310	.00001	.12105	.00086	.00000	.00000	.13480	.00005	.70136
960	.00843	.01803	.01419	.00002	.12260	.00133	.00000	.00000	.13247	.00006	.70285
1000	.00845	.01579	.01519	.00004	.12413	.00199	.00000	.00000	.13013	.00007	.70421
1040	.00846	.01364	.01606	.00007	.12564	.00290	.00000	.00000	.12773	.00008	.70541
1080	.00847	.01157	.01681	.00015	.12711	.00408	.00000	.00000	.12527	.00009	.70644
1120	.00848	.00957	.01742	.00027	.12856	.00561	.00000	.00000	.12270	.00010	.70727
1160	.00849	.00763	.01788	.00049	.12997	.00753	.00000	.00000	.12000	.00011	.70790
1200	.00850	.00570	.01817	.00085	.13133	.00989	.00000	.00000	.11713	.00012	.70830
1240	.00850	.00376	.01830	.00141	.13263	.01272	.00000	.00000	.11408	.00013	.70848
1280	.00850	.00174	.01825	.00227	.13381	.01605	.00000	.00000	.11081	.00014	.70842
1320	.00849	.00000	.01783	.00353	.13459	.01989	.00000	.00000	.10768	.00015	.70784
1360	.00847	.00000	.01628	.00519	.13402	.02412	.00000	.00000	.10604	.00015	.70573
1400	.00844	.00000	.01450	.00738	.13307	.02874	.00000	.00000	.10443	.00016	.70328

TABLE 16.5E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.083747; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2496; P = 734.797 LB/IN2 (50.00 ATM)
DRY AIR

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00820	.04584	.00000	.00000	.10473	.00000	.15780	.00000	.00000	.00000	.68344
400	.00820	.04584	.00000	.00000	.10473	.00000	.15780	.00000	.00000	.00000	.68344
440	.00820	.04584	.00000	.00000	.10473	.00000	.15779	.00000	.00001	.00000	.68344
480	.00820	.04584	.00000	.00000	.10473	.00000	.15774	.00000	.00006	.00000	.68344
520	.00820	.04584	.00000	.00000	.10473	.00000	.00000	.15752	.00028	.00000	.68344
537	.00820	.04584	.00000	.00000	.10473	.00000	.00000	.15730	.00050	.00000	.68344
560	.00820	.04584	.00000	.00000	.10473	.00000	.00000	.15676	.00104	.00000	.68344
600	.00820	.04583	.00000	.00000	.10473	.00000	.00000	.15465	.00315	.00000	.68344
640	.00820	.04581	.00001	.00000	.10474	.00000	.00000	.14960	.00818	.00000	.68346
680	.00820	.04566	.00009	.00000	.10484	.00000	.00000	.13883	.01881	.00000	.68357
720	.00821	.04483	.00053	.00000	.10537	.00001	.00000	.11754	.03936	.00000	.68416
760	.00824	.04110	.00247	.00000	.10774	.00002	.00000	.07636	.07724	.00001	.68683
800	.00835	.02780	.00941	.00000	.11619	.00008	.00000	.00000	.14181	.00004	.69632
840	.00837	.02529	.01071	.00000	.11780	.00014	.00000	.00000	.13954	.00005	.69809
880	.00839	.02282	.01197	.00000	.11938	.00024	.00000	.00000	.13731	.00007	.69982
920	.00841	.02044	.01318	.00000	.12092	.00038	.00000	.00000	.13511	.00008	.70147
960	.00843	.01814	.01432	.00001	.12242	.00060	.00000	.00000	.13296	.00009	.70303
1000	.00845	.01594	.01539	.00002	.12387	.00090	.00000	.00000	.13084	.00011	.70449
1040	.00847	.01384	.01637	.00003	.12527	.00131	.00000	.00000	.12875	.00013	.70584
1080	.00848	.01184	.01726	.00007	.12662	.00185	.00000	.00000	.12668	.00014	.70706
1120	.00849	.00992	.01806	.00012	.12792	.00256	.00000	.00000	.12461	.00016	.70815
1160	.00851	.00809	.01875	.00022	.12917	.00345	.00000	.00000	.12252	.00018	.70911
1200	.00852	.00632	.01934	.00038	.13038	.00456	.00000	.00000	.12040	.00019	.70991
1240	.00852	.00460	.01982	.00063	.13152	.00592	.00000	.00000	.11822	.00021	.71057
1280	.00853	.00290	.02017	.00101	.13259	.00754	.00000	.00000	.11597	.00023	.71106
1320	.00853	.00118	.02042	.00158	.13357	.00946	.00000	.00000	.11362	.00024	.71139
1360	.00853	.00000	.02024	.00239	.13407	.01169	.00000	.00000	.11168	.00026	.71115
1400	.00852	.00000	.01929	.00346	.13367	.01420	.00000	.00000	.11073	.00027	.70986

TABLE 17.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

WET AIR ONLY (W/A= 0.03); F/A = 0; EQUIV. RATIO =0; CHEM. EQUIV. RATIO = 0.1045; P = 0.14696 LB/IN2 (0.01 ATM)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00893	.00000	.00030	.00000	.00000	.04601	.00000	.00001	.74491	.00000	.00000	.19983
1700	.00893	.00000	.00030	.00000	.00000	.04601	.00000	.00002	.74490	.00000	.00000	.19983
1800	.00893	.00000	.00030	.00000	.00000	.04601	.00000	.00003	.74489	.00000	.00000	.19982
1900	.00893	.00000	.00030	.00000	.00000	.04601	.00000	.00006	.74488	.00000	.00000	.19981
2000	.00893	.00000	.00030	.00000	.00000	.04601	.00000	.00010	.74486	.00000	.00000	.19979
2100	.00893	.00000	.00030	.00000	.00000	.04601	.00000	.00016	.74483	.00000	.00000	.19976
2200	.00893	.00000	.00030	.00000	.00000	.04601	.00000	.00024	.74479	.00000	.00001	.19971
2300	.00893	.00000	.00030	.00000	.00000	.04601	.00000	.00036	.74473	.00000	.00002	.19965
2400	.00893	.00000	.00030	.00000	.00000	.04600	.00000	.00051	.74465	.00000	.00003	.19957
2500	.00893	.00000	.00030	.00000	.00000	.04598	.00000	.00070	.74455	.00000	.00006	.19947
2600	.00893	.00000	.00030	.00000	.00000	.04596	.00000	.00095	.74441	.00001	.00010	.19933
2700	.00893	.00000	.00030	.00000	.00000	.04593	.00000	.00125	.74424	.00002	.00017	.19915
2800	.00893	.00000	.00030	.00000	.00000	.04587	.00000	.00162	.74403	.00004	.00027	.19892
2900	.00893	.00000	.00030	.00000	.00001	.04579	.00000	.00206	.74377	.00007	.00042	.19864
3000	.00893	.00000	.00030	.00000	.00001	.04568	.00000	.00258	.74344	.00014	.00062	.19828
3100	.00893	.00000	.00030	.00001	.00003	.04551	.00000	.00318	.74304	.00025	.00091	.19783
3200	.00893	.00000	.00030	.00002	.00004	.04529	.00000	.00387	.74254	.00043	.00129	.19727
3300	.00893	.00000	.00030	.00004	.00007	.04499	.00000	.00465	.74193	.00073	.00179	.19657
3400	.00892	.00000	.00030	.00008	.00012	.04458	.00000	.00552	.74116	.00119	.00244	.19568
3500	.00892	.00001	.00030	.00015	.00019	.04404	.00000	.00649	.74020	.00189	.00325	.19457
3600	.00891	.00001	.00029	.00027	.00028	.04334	.00000	.00755	.73899	.00292	.00425	.19318
3700	.00890	.00001	.00029	.00048	.00042	.04243	.00000	.00870	.73747	.00441	.00547	.19142
3800	.00888	.00002	.00028	.00081	.00060	.04128	.00000	.00993	.73556	.00649	.00691	.18924
3900	.00886	.00003	.00027	.00135	.00085	.03983	.00000	.01123	.73314	.00936	.00857	.18652
4000	.00883	.00004	.00026	.00216	.00116	.03803	.00000	.01259	.73009	.01323	.01044	.18317
4100	.00879	.00006	.00024	.00336	.00154	.03583	.00000	.01399	.72629	.01833	.01249	.17907
4200	.00875	.00008	.00022	.00508	.00198	.03320	.00000	.01540	.72159	.02494	.01464	.17412
4300	.00869	.00010	.00020	.00747	.00248	.03013	.00000	.01680	.71585	.03331	.01680	.16819
4400	.00861	.00012	.00018	.01064	.00299	.02664	.00000	.01815	.70895	.04371	.01881	.16120
4500	.00852	.00014	.00015	.01470	.00346	.02282	.00000	.01941	.70084	.05635	.02052	.15308
4600	.00842	.00016	.00013	.01966	.00383	.01882	.00000	.02054	.69153	.07140	.02174	.14378
4700	.00830	.00018	.00010	.02539	.00405	.01485	.00001	.02148	.68115	.08886	.02229	.13333
4800	.00817	.00020	.00008	.03165	.00405	.01116	.00001	.02221	.66996	.10862	.02207	.12181
4900	.00803	.00021	.00006	.03807	.00385	.00795	.00002	.02267	.65831	.13035	.02106	.10942
5000	.00789	.00022	.00005	.04425	.00346	.00538	.00002	.02284	.64660	.15349	.01936	.09643
5100	.00776	.00023	.00004	.04983	.00298	.00346	.00004	.02270	.63526	.17730	.01718	.08323
5200	.00763	.00023	.00003	.05460	.00246	.00214	.00005	.02226	.62465	.20090	.01477	.07029
5300	.00751	.00023	.00002	.05850	.00197	.00127	.00008	.02155	.61506	.22339	.01234	.05807
5400	.00740	.00024	.00002	.06158	.00154	.00074	.00011	.02061	.60668	.24401	.01009	.04698

TABLE 17.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

WET AIR ONLY (W/A= 0.03); F/A = 0; EQUIV. RATIO =0; CHEM. EQUIV. RATIO = 0.1045; P = 1.46959 LB/IN2 (0.10 ATM)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00001	.74491	.00000	.00000	.19983
1700	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00002	.74490	.00000	.00000	.19983
1800	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00003	.74489	.00000	.00000	.19982
1900	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00006	.74488	.00000	.00000	.19981
2000	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00010	.74486	.00000	.00000	.19979
2100	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00016	.74483	.00000	.00000	.19976
2200	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00024	.74479	.00000	.00000	.19971
2300	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00036	.74473	.00000	.00001	.19966
2400	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00051	.74465	.00000	.00002	.19958
2500	.00893	.00000	.00030	.00000	.00000	.00000	.04600	.00000	.00070	.74455	.00000	.00003	.19947
2600	.00893	.00000	.00030	.00000	.00000	.00000	.04598	.00000	.00095	.74442	.00000	.00006	.19934
2700	.00893	.00000	.00030	.00000	.00000	.00000	.04597	.00000	.00125	.74426	.00001	.00010	.19918
2800	.00893	.00000	.00030	.00000	.00000	.00000	.04594	.00000	.00162	.74406	.00001	.00015	.19897
2900	.00893	.00000	.00030	.00000	.00000	.00000	.04589	.00000	.00206	.74382	.00002	.00023	.19872
3000	.00893	.00000	.00030	.00000	.00000	.00000	.04583	.00000	.00258	.74353	.00004	.00035	.19841
3100	.00893	.00000	.00030	.00000	.00000	.00001	.04574	.00000	.00319	.74319	.00008	.00051	.19804
3200	.00893	.00000	.00030	.00000	.00000	.00001	.04562	.00000	.00388	.74278	.00014	.00073	.19760
3300	.00893	.00000	.00030	.00001	.00000	.00002	.04546	.00000	.00466	.74229	.00023	.00101	.19707
3400	.00893	.00000	.00030	.00001	.00000	.00004	.04525	.00000	.00554	.74172	.00038	.00138	.19644
3500	.00893	.00000	.00030	.00003	.00000	.00006	.04498	.00000	.00651	.74105	.00060	.00185	.19569
3600	.00892	.00000	.00030	.00005	.00000	.00009	.04463	.00000	.00759	.74025	.00093	.00243	.19480
3700	.00892	.00000	.00030	.00009	.00000	.00014	.04419	.00000	.00876	.73932	.00140	.00315	.19373
3800	.00891	.00001	.00030	.00015	.00000	.00020	.04363	.00000	.01003	.73822	.00207	.00401	.19247
3900	.00891	.00001	.00029	.00025	.00000	.00029	.04295	.00000	.01139	.73691	.00300	.00503	.19097
4000	.00890	.00001	.00029	.00040	.00000	.00040	.04211	.00000	.01284	.73537	.00425	.00623	.18920
4100	.00888	.00002	.00028	.00063	.00000	.00055	.04109	.00000	.01437	.73354	.00593	.00760	.18710
4200	.00887	.00003	.00027	.00098	.00001	.00073	.03987	.00000	.01597	.73137	.00812	.00916	.18463
4300	.00885	.00004	.00026	.00147	.00001	.00096	.03843	.00000	.01762	.72880	.01095	.01088	.18173
4400	.00882	.00005	.00025	.00217	.00001	.00124	.03673	.00000	.01932	.72577	.01454	.01274	.17836
4500	.00879	.00006	.00023	.00312	.00001	.00156	.03477	.00000	.02103	.72221	.01902	.01472	.17445
4600	.00875	.00008	.00022	.00441	.00001	.00193	.03254	.00000	.02275	.71806	.02455	.01676	.16994
4700	.00870	.00010	.00020	.00609	.00001	.00233	.03004	.00000	.02444	.71324	.03124	.01880	.16480
4800	.00864	.00012	.00018	.00824	.00001	.00274	.02729	.00000	.02607	.70772	.03924	.02075	.15899
4900	.00858	.00014	.00016	.01090	.00001	.00315	.02433	.00001	.02762	.70147	.04866	.02250	.15248
5000	.00850	.00015	.00014	.01411	.00001	.00352	.02123	.00001	.02905	.69447	.05957	.02396	.14526
5100	.00842	.00017	.00012	.01786	.00001	.00383	.01809	.00001	.03032	.68679	.07202	.02502	.13734
5200	.00833	.00019	.00010	.02211	.00001	.00403	.01500	.00002	.03141	.67848	.08599	.02559	.12876
5300	.00823	.00020	.00008	.02674	.00001	.00411	.01208	.00002	.03227	.66969	.10138	.02560	.11959
5400	.00812	.00021	.00007	.03160	.00001	.00405	.00944	.00004	.03289	.66057	.11803	.02505	.10993

TABLE 17.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

WET AIR ONLY (W/A= 0.03); F/A = 0; EQUIV. RATIO =0; CHEM. EQUIV. RATIO = 0.1045; P = 14.6959 LB/IN2 (1.00 ATM)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00001	.00000	.74491	.00000	.00000	.19983
1700	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00002	.00000	.74490	.00000	.00000	.19983
1800	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00003	.00000	.74489	.00000	.00000	.19982
1900	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00006	.00000	.74488	.00000	.00000	.19981
2000	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00010	.00000	.74486	.00000	.00000	.19978
2100	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00016	.00000	.74483	.00000	.00000	.19975
2200	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00024	.00000	.74479	.00000	.00000	.19971
2300	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00036	.00000	.74473	.00000	.00001	.19965
2400	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00051	.00000	.74465	.00000	.00001	.19958
2500	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00000	.00070	.00001	.74455	.00000	.00002	.19948
2600	.00893	.00000	.00030	.00000	.00000	.00000	.04600	.00000	.00095	.00001	.74443	.00000	.00003	.19935
2700	.00893	.00000	.00030	.00000	.00000	.00000	.04599	.00000	.00125	.00001	.74427	.00000	.00005	.19919
2800	.00893	.00000	.00030	.00000	.00000	.00000	.04597	.00000	.00162	.00001	.74408	.00000	.00009	.19899
2900	.00893	.00000	.00030	.00000	.00000	.00000	.04595	.00000	.00207	.00001	.74385	.00001	.00013	.19875
3000	.00893	.00000	.00030	.00000	.00000	.00000	.04591	.00000	.00258	.00001	.74357	.00001	.00020	.19847
3100	.00893	.00000	.00030	.00000	.00000	.00000	.04586	.00000	.00319	.00001	.74325	.00002	.00029	.19813
3200	.00893	.00000	.00030	.00000	.00000	.00000	.04580	.00000	.00388	.00001	.74288	.00004	.00041	.19774
3300	.00893	.00000	.00030	.00000	.00000	.00001	.04571	.00000	.00466	.00001	.74244	.00007	.00057	.19728
3400	.00893	.00000	.00030	.00000	.00000	.00001	.04560	.00000	.00554	.00001	.74194	.00012	.00078	.19675
3500	.00893	.00000	.00030	.00000	.00000	.00002	.04545	.00000	.00652	.00001	.74137	.00019	.00105	.19614
3600	.00893	.00000	.00030	.00001	.00000	.00003	.04527	.00000	.00760	.00001	.74073	.00029	.00138	.19545
3700	.00893	.00000	.00030	.00002	.00000	.00004	.04503	.00000	.00878	.00001	.73999	.00044	.00179	.19465
3800	.00893	.00000	.00030	.00003	.00001	.00006	.04475	.00000	.01007	.00001	.73916	.00066	.00229	.19374
3900	.00892	.00000	.00030	.00004	.00001	.00009	.04440	.00000	.01145	.00001	.73823	.00095	.00288	.19270
4000	.00892	.00000	.00030	.00007	.00001	.00013	.04397	.00000	.01293	.00001	.73718	.00135	.00359	.19153
4100	.00891	.00001	.00030	.00012	.00001	.00018	.04346	.00000	.01451	.00001	.73599	.00189	.00442	.19019
4200	.00891	.00001	.00029	.00018	.00001	.00025	.04286	.00000	.01618	.00002	.73466	.00260	.00537	.18868
4300	.00890	.00001	.00029	.00027	.00001	.00033	.04215	.00000	.01793	.00002	.73316	.00351	.00645	.18697
4400	.00889	.00002	.00029	.00040	.00001	.00043	.04132	.00000	.01975	.00002	.73147	.00468	.00767	.18505
4500	.00888	.00002	.00028	.00059	.00001	.00056	.04036	.00000	.02165	.00002	.72956	.00616	.00903	.18288
4600	.00887	.00003	.00027	.00085	.00002	.00071	.03926	.00000	.02360	.00002	.72742	.00800	.01051	.18044
4700	.00885	.00004	.00026	.00120	.00002	.00090	.03801	.00000	.02559	.00002	.72502	.01026	.01212	.17772
4800	.00883	.00005	.00025	.00166	.00002	.00111	.03661	.00000	.02761	.00002	.72232	.01301	.01383	.17468
4900	.00880	.00006	.00024	.00226	.00002	.00135	.03504	.00000	.02965	.00002	.71931	.01631	.01563	.17130
5000	.00878	.00007	.00022	.00303	.00002	.00163	.03331	.00000	.03168	.00002	.71595	.02023	.01749	.16757
5100	.00874	.00009	.00021	.00401	.00002	.00193	.03141	.00000	.03368	.00002	.71221	.02485	.01937	.16345
5200	.00871	.00010	.00019	.00522	.00002	.00224	.02937	.00001	.03565	.00002	.70809	.03021	.02122	.15895
5300	.00866	.00012	.00018	.00669	.00002	.00257	.02718	.00001	.03754	.00002	.70355	.03639	.02301	.15405
5400	.00861	.00013	.00016	.00846	.00003	.00290	.02489	.00001	.03935	.00002	.69861	.04342	.02466	.14875

TABLE 17.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

WET AIR ONLY (W/A= 0.03); F/A = 0; EQUIV. RATIO =0; CHEM. EQUIV. RATIO = 0.1045; P = 146.959 LB/IN2 (10.00 ATM)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00001	.00000	.74491	.00000	.00000	.00000	.19983
1700	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00002	.00000	.74490	.00000	.00000	.00000	.19982
1800	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00003	.00001	.74489	.00000	.00000	.00000	.19982
1900	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00006	.00001	.74488	.00000	.00000	.00000	.19980
2000	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00010	.00001	.74486	.00000	.00000	.00000	.19978
2100	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00016	.00001	.74483	.00000	.00000	.00000	.19975
2200	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00024	.00001	.74479	.00000	.00000	.00000	.19971
2300	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00036	.00001	.74473	.00000	.00000	.00000	.19965
2400	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00051	.00001	.74465	.00000	.00000	.00001	.19957
2500	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00070	.00002	.74455	.00000	.00000	.00001	.19947
2600	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00095	.00002	.74443	.00000	.00000	.00002	.19934
2700	.00893	.00000	.00030	.00000	.00000	.00000	.04600	.00125	.00002	.74427	.00000	.00000	.00003	.19918
2800	.00893	.00000	.00030	.00000	.00000	.00000	.04599	.00162	.00002	.74409	.00000	.00000	.00005	.19899
2900	.00893	.00000	.00030	.00000	.00000	.00000	.04598	.00207	.00002	.74386	.00000	.00000	.00007	.19876
3000	.00893	.00000	.00030	.00000	.00000	.00000	.04596	.00258	.00003	.74359	.00000	.00000	.00011	.19848
3100	.00893	.00000	.00030	.00000	.00000	.00000	.04593	.00319	.00003	.74328	.00000	.00001	.00016	.19816
3200	.00893	.00000	.00030	.00000	.00000	.00000	.04589	.00388	.00003	.74292	.00000	.00001	.00023	.19779
3300	.00893	.00000	.00030	.00000	.00000	.00000	.04585	.00466	.00003	.74250	.00000	.00002	.00032	.19736
3400	.00893	.00000	.00030	.00000	.00000	.00000	.04578	.00554	.00003	.74204	.00000	.00004	.00044	.19688
3500	.00893	.00000	.00030	.00000	.00000	.00001	.04570	.00653	.00004	.74151	.00000	.00006	.00059	.19633
3600	.00893	.00000	.00030	.00000	.00001	.00001	.04560	.00761	.00004	.74092	.00000	.00009	.00078	.19571
3700	.00893	.00000	.00030	.00000	.00001	.00001	.04548	.00879	.00004	.74026	.00000	.00014	.00101	.19502
3800	.00893	.00000	.00030	.00000	.00001	.00002	.04532	.01008	.00004	.73953	.00000	.00021	.00130	.19425
3900	.00893	.00000	.00030	.00001	.00001	.00003	.04513	.01148	.00004	.73873	.00000	.00030	.00164	.19339
4000	.00893	.00000	.00030	.00001	.00001	.00004	.04490	.01297	.00004	.73786	.00000	.00043	.00204	.19245
4100	.00893	.00000	.00030	.00002	.00001	.00006	.04463	.01457	.00005	.73690	.00000	.00060	.00252	.19141
4200	.00892	.00000	.00030	.00003	.00002	.00008	.04432	.01626	.00005	.73585	.00000	.00082	.00308	.19027
4300	.00892	.00000	.00030	.00005	.00002	.00011	.04394	.01804	.00005	.73471	.00000	.00112	.00371	.18902
4400	.00892	.00001	.00030	.00007	.00002	.00014	.04351	.01992	.00005	.73347	.00000	.00149	.00444	.18765
4500	.00891	.00001	.00030	.00011	.00003	.00019	.04302	.02188	.00005	.73212	.00000	.00197	.00526	.18616
4600	.00891	.00001	.00029	.00016	.00003	.00024	.04245	.02392	.00005	.73066	.00000	.00256	.00618	.18454
4700	.00890	.00001	.00029	.00022	.00003	.00031	.04181	.02602	.00006	.72909	.00000	.00329	.00720	.18277
4800	.00889	.00002	.00029	.00031	.00004	.00039	.04109	.02819	.00006	.72738	.00000	.00419	.00831	.18085
4900	.00888	.00002	.00028	.00043	.00004	.00048	.04028	.03042	.00006	.72553	.00000	.00527	.00953	.17877
5000	.00887	.00003	.00027	.00058	.00004	.00059	.03938	.03269	.00006	.72354	.00000	.00657	.01084	.17653
5100	.00886	.00003	.00027	.00078	.00005	.00072	.03840	.03499	.00006	.72140	.00001	.00811	.01223	.17410
5200	.00885	.00004	.00026	.00103	.00005	.00087	.03731	.03731	.00006	.71909	.00001	.00992	.01371	.17149
5300	.00883	.00005	.00025	.00134	.00005	.00103	.03613	.03965	.00006	.71660	.00001	.01204	.01526	.16869
5400	.00881	.00006	.00024	.00173	.00006	.00122	.03486	.04198	.00006	.71393	.00001	.01449	.01686	.16568

TABLE 17.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

WET AIR ONLY (W/A= 0.03); F/A = 0; EQUIV. RATIO =0; CHEM. EQUIV. RATIO = 0.1045; P = 734.797 LB/IN2 (50.00 ATM)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00001	.00001	.74490	.00000	.00000	.00000	.19983
1700	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00002	.00001	.74490	.00000	.00000	.00000	.19982
1800	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00003	.00001	.74489	.00000	.00000	.00000	.19981
1900	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00006	.00001	.74488	.00000	.00000	.00000	.19979
2000	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00010	.00002	.74486	.00000	.00000	.00000	.19977
2100	.00893	.00000	.00030	.00000	.00000	.00000	.04602	.00016	.00002	.74483	.00000	.00000	.00000	.19974
2200	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00024	.00002	.74479	.00000	.00000	.00000	.19969
2300	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00036	.00003	.74473	.00000	.00000	.00000	.19963
2400	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00051	.00003	.74465	.00000	.00000	.00000	.19955
2500	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00070	.00004	.74455	.00000	.00000	.00001	.19945
2600	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00095	.00004	.74443	.00000	.00000	.00001	.19932
2700	.00893	.00000	.00030	.00000	.00000	.00000	.04601	.00125	.00004	.74427	.00000	.00000	.00002	.19916
2800	.00893	.00000	.00030	.00000	.00000	.00000	.04600	.00162	.00005	.74409	.00000	.00000	.00003	.19897
2900	.00893	.00000	.00030	.00000	.00000	.00000	.04599	.00207	.00005	.74386	.00000	.00000	.00005	.19874
3000	.00893	.00000	.00030	.00000	.00000	.00000	.04598	.00258	.00006	.74360	.00000	.00000	.00007	.19847
3100	.00893	.00000	.00030	.00000	.00000	.00000	.04596	.00319	.00006	.74329	.00000	.00000	.00011	.19815
3200	.00893	.00000	.00030	.00000	.00000	.00000	.04593	.00388	.00007	.74293	.00000	.00001	.00015	.19779
3300	.00893	.00000	.00030	.00000	.00000	.00000	.04590	.00466	.00007	.74252	.00000	.00001	.00022	.19737
3400	.00893	.00000	.00030	.00000	.00001	.00000	.04586	.00555	.00007	.74207	.00000	.00002	.00029	.19689
3500	.00893	.00000	.00030	.00000	.00001	.00000	.04581	.00653	.00008	.74155	.00000	.00003	.00040	.19636
3600	.00893	.00000	.00030	.00000	.00001	.00000	.04574	.00761	.00008	.74098	.00000	.00004	.00052	.19577
3700	.00893	.00000	.00030	.00000	.00001	.00001	.04566	.00880	.00009	.74035	.00000	.00006	.00068	.19511
3800	.00893	.00000	.00030	.00000	.00001	.00001	.04555	.01009	.00009	.73965	.00000	.00009	.00087	.19439
3900	.00893	.00000	.00030	.00000	.00002	.00001	.04543	.01148	.00010	.73890	.00000	.00013	.00110	.19359
4000	.00893	.00000	.00030	.00000	.00002	.00002	.04528	.01298	.00010	.73807	.00000	.00019	.00137	.19272
4100	.00893	.00000	.00030	.00001	.00002	.00003	.04510	.01458	.00010	.73718	.00000	.00027	.00170	.19178
4200	.00893	.00000	.00030	.00001	.00003	.00004	.04489	.01628	.00011	.73621	.00001	.00037	.00207	.19075
4300	.00893	.00000	.00030	.00001	.00003	.00005	.04465	.01808	.00011	.73518	.00001	.00050	.00251	.18964
4400	.00892	.00000	.00030	.00002	.00003	.00007	.04437	.01997	.00012	.73407	.00001	.00067	.00300	.18845
4500	.00892	.00000	.00030	.00003	.00004	.00009	.04405	.02195	.00012	.73288	.00001	.00088	.00357	.18717
4600	.00892	.00000	.00030	.00005	.00004	.00011	.04368	.02401	.00012	.73161	.00001	.00115	.00420	.18579
4700	.00892	.00001	.00030	.00007	.00005	.00014	.04327	.02615	.00012	.73026	.00001	.00148	.00491	.18432
4800	.00891	.00001	.00030	.00009	.00005	.00018	.04280	.02837	.00013	.72883	.00001	.00188	.00569	.18274
4900	.00891	.00001	.00029	.00013	.00006	.00022	.04228	.03065	.00013	.72731	.00001	.00237	.00655	.18107
5000	.00890	.00001	.00029	.00018	.00007	.00028	.04171	.03299	.00013	.72570	.00001	.00296	.00749	.17929
5100	.00890	.00002	.00029	.00024	.00007	.00034	.04107	.03538	.00013	.72399	.00001	.00366	.00850	.17739
5200	.00889	.00002	.00028	.00032	.00008	.00042	.04038	.03781	.00014	.72219	.00001	.00449	.00959	.17538
5300	.00888	.00003	.00028	.00042	.00009	.00050	.03961	.04028	.00014	.72029	.00001	.00546	.01076	.17326
5400	.00887	.00003	.00027	.00054	.00009	.00060	.03879	.04278	.00014	.71829	.00001	.00658	.01199	.17101

TABLE 17C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

WET AIR ONLY (W/A= 0.03); F/A = 0; EQUIV. RATIO = 0; CHEM. EQUIV. RATIO = 0.1045

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
PRESSURE = 0.01 ATM							
360	.00893	.00030	.04586	.00000	.00015	.74491	.19984
400	.00893	.00030	.04271	.00000	.00330	.74491	.19984
440	.00893	.00030	.00344	.00000	.04257	.74491	.19984
PRESSURE = 0.10 ATM							
360	.00893	.00030	.04600	.00000	.00002	.74491	.19984
400	.00893	.00030	.04569	.00000	.00033	.74491	.19984
440	.00893	.00030	.04192	.00000	.00409	.74491	.19984
480	.00893	.00030	.01166	.00000	.03436	.74491	.19984
520	.00893	.00030	.00000	.00000	.04601	.74491	.19984
PRESSURE = 1.00 ATM							
360	.00893	.00030	.04601	.00000	.00000	.74491	.19984
400	.00893	.00030	.04598	.00000	.00003	.74491	.19984
440	.00893	.00030	.04561	.00000	.00041	.74491	.19984
480	.00893	.00030	.04269	.00000	.00333	.74491	.19984
520	.00893	.00030	.00000	.02895	.01706	.74491	.19984
537	.00893	.00030	.00000	.01537	.03064	.74491	.19984
560	.00893	.00030	.00000	.00000	.04601	.74491	.19984
600	.00893	.00030	.00000	.00000	.04601	.74491	.19984
PRESSURE = 10.00 ATM							
360	.00893	.00030	.04601	.00000	.00000	.74491	.19984
400	.00893	.00030	.04601	.00000	.00000	.74491	.19984
440	.00893	.00030	.04597	.00000	.00004	.74491	.19984
480	.00893	.00030	.04568	.00000	.00033	.74491	.19984
520	.00893	.00030	.00000	.04434	.00168	.74491	.19984
537	.00893	.00030	.00000	.04304	.00298	.74491	.19984
560	.00893	.00030	.00000	.03978	.00623	.74491	.19984
600	.00893	.00030	.00000	.02687	.01914	.74491	.19984
640	.00893	.00030	.00000	.00000	.04601	.74491	.19984
680	.00893	.00030	.00000	.00000	.04601	.74491	.19984
PRESSURE = 50.00 ATM							
360	.00893	.00030	.04601	.00000	.00000	.74491	.19984
400	.00893	.00030	.04601	.00000	.00000	.74491	.19984
440	.00893	.00030	.04601	.00000	.00001	.74491	.19984
480	.00893	.00030	.04595	.00000	.00007	.74491	.19984
520	.00893	.00030	.00000	.04568	.00034	.74491	.19984
537	.00893	.00030	.00000	.04542	.00059	.74491	.19984
560	.00893	.00030	.00000	.04477	.00124	.74491	.19984
600	.00893	.00030	.00000	.04225	.00377	.74491	.19984
640	.00893	.00030	.00000	.03622	.00980	.74491	.19984
680	.00893	.00030	.00000	.02349	.02252	.74491	.19984
720	.00893	.00030	.00000	.00000	.04601	.74491	.19984
760	.00893	.00030	.00000	.00000	.04601	.74491	.19984

TABLE 18.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.016906; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00880	.00000	.03484	.00000	.00000	.07470	.00000	.00001	.73397	.00000	.00000	.14767
1700	.00880	.00000	.03484	.00000	.00000	.07470	.00000	.00002	.73397	.00000	.00000	.14767
1800	.00880	.00000	.03484	.00000	.00000	.07470	.00000	.00003	.73396	.00000	.00000	.14766
1900	.00880	.00000	.03484	.00000	.00000	.07470	.00000	.00005	.73395	.00000	.00000	.14765
2000	.00880	.00000	.03484	.00000	.00000	.07470	.00000	.00008	.73393	.00000	.00000	.14763
2100	.00880	.00000	.03484	.00000	.00000	.07470	.00000	.00013	.73391	.00000	.00000	.14761
2200	.00880	.00000	.03484	.00000	.00000	.07470	.00000	.00021	.73387	.00000	.00001	.14757
2300	.00880	.00000	.03484	.00000	.00000	.07469	.00000	.00030	.73382	.00000	.00002	.14752
2400	.00880	.00000	.03484	.00000	.00000	.07468	.00000	.00043	.73375	.00000	.00004	.14745
2500	.00880	.00000	.03484	.00000	.00000	.07466	.00000	.00060	.73366	.00000	.00007	.14736
2600	.00880	.00000	.03484	.00000	.00000	.07464	.00000	.00081	.73354	.00001	.00012	.14723
2700	.00880	.00000	.03484	.00000	.00000	.07459	.00000	.00107	.73339	.00002	.00020	.14708
2800	.00880	.00001	.03483	.00000	.00001	.07453	.00000	.00138	.73320	.00003	.00032	.14688
2900	.00880	.00002	.03482	.00000	.00001	.07443	.00000	.00176	.73297	.00006	.00049	.14663
3000	.00880	.00004	.03479	.00001	.00003	.07428	.00000	.00220	.73267	.00012	.00074	.14633
3100	.00880	.00008	.03475	.00001	.00005	.07408	.00000	.00272	.73229	.00021	.00107	.14594
3200	.00880	.00015	.03467	.00003	.00008	.07379	.00000	.00330	.73181	.00037	.00152	.14548
3300	.00879	.00026	.03455	.00006	.00014	.07339	.00000	.00397	.73120	.00063	.00212	.14490
3400	.00879	.00044	.03435	.00011	.00023	.07286	.00000	.00471	.73041	.00102	.00289	.14421
3500	.00878	.00073	.03403	.00021	.00035	.07213	.00000	.00553	.72939	.00162	.00385	.14336
3600	.00877	.00116	.03356	.00038	.00054	.07117	.00000	.00643	.72808	.00251	.00505	.14235
3700	.00876	.00179	.03287	.00066	.00080	.06992	.00000	.00741	.72637	.00378	.00651	.14113
3800	.00874	.00268	.03190	.00113	.00116	.06829	.00000	.00846	.72415	.00558	.00824	.13968
3900	.00871	.00388	.03059	.00187	.00164	.06620	.00000	.00958	.72130	.00805	.01025	.13794
4000	.00867	.00543	.02890	.00301	.00225	.06357	.00000	.01075	.71765	.01139	.01253	.13586
4100	.00862	.00732	.02681	.00469	.00300	.06031	.00000	.01196	.71306	.01582	.01505	.13335
4200	.00856	.00952	.02437	.00712	.00389	.05634	.00000	.01319	.70736	.02157	.01774	.13032
4300	.00849	.01195	.02165	.01049	.00490	.05164	.00000	.01442	.70044	.02890	.02048	.12664
4400	.00840	.01446	.01877	.01502	.00595	.04621	.00000	.01561	.69220	.03805	.02312	.12219
4500	.00829	.01691	.01589	.02088	.00698	.04018	.00000	.01674	.68261	.04923	.02546	.11684
4600	.00816	.01917	.01314	.02811	.00784	.03374	.00000	.01774	.67174	.06259	.02726	.11049
4700	.00802	.02114	.01062	.03664	.00843	.02720	.00001	.01859	.65978	.07815	.02829	.10312
4800	.00788	.02275	.00842	.04617	.00862	.02093	.00001	.01925	.64705	.09579	.02839	.09474
4900	.00772	.02401	.00656	.05620	.00838	.01531	.00002	.01966	.63399	.11521	.02747	.08548
5000	.00757	.02493	.00503	.06611	.00773	.01063	.00002	.01981	.62110	.13588	.02561	.07557
5100	.00742	.02557	.00380	.07531	.00680	.00701	.00003	.01969	.60888	.15711	.02301	.06535
5200	.00728	.02599	.00284	.08336	.00573	.00442	.00005	.01930	.59773	.17808	.01998	.05522
5300	.00716	.02625	.00210	.09006	.00466	.00268	.00007	.01867	.58791	.19798	.01684	.04561
5400	.00706	.02639	.00155	.09541	.00369	.00158	.00011	.01784	.57954	.21613	.01385	.03686

TABLE 18.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.016906; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00001	.73397	.00000	.00000	.14767
1700	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00002	.73397	.00000	.00000	.14767
1800	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00003	.73396	.00000	.00000	.14766
1900	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00005	.73395	.00000	.00000	.14765
2000	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00008	.73393	.00000	.00000	.14763
2100	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00013	.73391	.00000	.00000	.14761
2200	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00021	.73387	.00000	.00001	.14757
2300	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00030	.73382	.00000	.00001	.14752
2400	.00880	.00000	.03484	.00000	.00000	.00000	.07469	.00000	.00043	.73375	.00000	.00002	.14745
2500	.00880	.00000	.03484	.00000	.00000	.00000	.07468	.00000	.00060	.73367	.00000	.00004	.14736
2600	.00880	.00000	.03484	.00000	.00000	.00000	.07467	.00000	.00081	.73355	.00000	.00007	.14725
2700	.00880	.00000	.03484	.00000	.00000	.00000	.07464	.00000	.00107	.73342	.00000	.00011	.14711
2800	.00880	.00000	.03484	.00000	.00000	.00000	.07461	.00000	.00138	.73324	.00001	.00018	.14693
2900	.00880	.00001	.03483	.00000	.00000	.00000	.07455	.00000	.00176	.73303	.00002	.00028	.14671
3000	.00880	.00001	.03483	.00000	.00000	.00001	.07448	.00000	.00220	.73277	.00004	.00041	.14644
3100	.00880	.00003	.03481	.00000	.00000	.00002	.07437	.00000	.00272	.73246	.00007	.00060	.14612
3200	.00880	.00005	.03479	.00000	.00000	.00003	.07422	.00000	.00331	.73209	.00012	.00086	.14574
3300	.00880	.00008	.03475	.00001	.00000	.00004	.07402	.00000	.00397	.73164	.00020	.00120	.14529
3400	.00880	.00014	.03468	.00002	.00000	.00007	.07375	.00000	.00472	.73111	.00032	.00163	.14475
3500	.00879	.00023	.03458	.00004	.00000	.00011	.07340	.00000	.00555	.73046	.00051	.00219	.14413
3600	.00879	.00038	.03442	.00007	.00000	.00017	.07294	.00000	.00646	.72968	.00080	.00288	.14340
3700	.00878	.00059	.03419	.00012	.00000	.00026	.07236	.00000	.00746	.72874	.00120	.00373	.14256
3800	.00878	.00089	.03385	.00021	.00000	.00038	.07162	.00000	.00854	.72760	.00178	.00476	.14159
3900	.00877	.00133	.03338	.00034	.00000	.00055	.07069	.00000	.00970	.72621	.00257	.00598	.14048
4000	.00876	.00192	.03273	.00056	.00000	.00077	.06954	.00000	.01093	.72452	.00365	.00742	.13921
4100	.00874	.00271	.03188	.00088	.00000	.00105	.06812	.00000	.01223	.72246	.00508	.00907	.13776
4200	.00872	.00372	.03078	.00136	.00001	.00142	.06639	.00000	.01360	.71997	.00697	.01095	.13611
4300	.00869	.00499	.02941	.00205	.00001	.00187	.06431	.00000	.01502	.71697	.00941	.01304	.13423
4400	.00865	.00650	.02775	.00303	.00001	.00242	.06184	.00000	.01648	.71338	.01251	.01534	.13208
4500	.00861	.00826	.02583	.00438	.00001	.00307	.05893	.00000	.01797	.70914	.01640	.01779	.12961
4600	.00856	.01021	.02368	.00620	.00001	.00381	.05556	.00000	.01946	.70417	.02120	.02036	.12677
4700	.00850	.01229	.02137	.00859	.00001	.00463	.05174	.00000	.02094	.69843	.02705	.02296	.12350
4800	.00843	.01441	.01897	.01166	.00001	.00550	.04747	.00000	.02237	.69188	.03406	.02549	.11973
4900	.00835	.01650	.01656	.01550	.00001	.00638	.04282	.00001	.02374	.68452	.04234	.02785	.11542
5000	.00826	.01847	.01424	.02018	.00001	.00720	.03787	.00001	.02501	.67638	.05196	.02989	.11052
5100	.00816	.02025	.01206	.02571	.00001	.00792	.03275	.00001	.02614	.66752	.06298	.03149	.10501
5200	.00805	.02180	.01008	.03204	.00001	.00846	.02762	.00002	.02711	.65804	.07536	.03251	.09890
5300	.00794	.02310	.00833	.03906	.00001	.00877	.02265	.00002	.02788	.64811	.08903	.03285	.09223
5400	.00782	.02416	.00680	.04657	.00001	.00880	.01804	.00003	.02844	.63793	.10383	.03247	.08508

TABLE 18.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.016906; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00001	.00000	.73397	.00000	.00000	.14767
1700	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00002	.00000	.73397	.00000	.00000	.14767
1800	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00003	.00000	.73396	.00000	.00000	.14766
1900	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00005	.00000	.73395	.00000	.00000	.14765
2000	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00008	.00000	.73393	.00000	.00000	.14763
2100	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00013	.00000	.73391	.00000	.00000	.14761
2200	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00021	.00000	.73387	.00000	.00000	.14757
2300	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00030	.00000	.73382	.00000	.00001	.14752
2400	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00000	.00043	.00000	.73375	.00000	.00001	.14745
2500	.00880	.00000	.03484	.00000	.00000	.00000	.07469	.00000	.00060	.00000	.73367	.00000	.00002	.14737
2600	.00880	.00000	.03484	.00000	.00000	.00000	.07468	.00000	.00081	.00000	.73356	.00000	.00004	.14726
2700	.00880	.00000	.03484	.00000	.00000	.00000	.07467	.00000	.00107	.00000	.73343	.00000	.00006	.14712
2800	.00880	.00000	.03484	.00000	.00000	.00000	.07465	.00000	.00139	.00001	.73326	.00000	.00010	.14695
2900	.00880	.00000	.03484	.00000	.00000	.00000	.07462	.00000	.00176	.00001	.73306	.00001	.00016	.14674
3000	.00880	.00000	.03484	.00000	.00000	.00000	.07458	.00000	.00220	.00001	.73282	.00001	.00023	.14650
3100	.00880	.00001	.03483	.00000	.00000	.00000	.07452	.00000	.00272	.00001	.73254	.00002	.00034	.14621
3200	.00880	.00001	.03482	.00000	.00000	.00001	.07444	.00000	.00331	.00001	.73221	.00004	.00048	.14587
3300	.00880	.00003	.03481	.00000	.00000	.00001	.07433	.00000	.00397	.00001	.73182	.00006	.00068	.14547
3400	.00880	.00004	.03479	.00000	.00000	.00002	.07419	.00000	.00472	.00001	.73138	.00010	.00092	.14501
3500	.00880	.00007	.03475	.00001	.00000	.00004	.07401	.00000	.00556	.00001	.73086	.00016	.00124	.14449
3600	.00880	.00012	.03470	.00001	.00000	.00006	.07378	.00000	.00648	.00001	.73027	.00025	.00163	.14389
3700	.00880	.00019	.03463	.00002	.00000	.00008	.07348	.00000	.00748	.00001	.72959	.00038	.00212	.14322
3800	.00879	.00029	.03452	.00004	.00001	.00012	.07312	.00000	.00857	.00001	.72881	.00056	.00271	.14246
3900	.00879	.00043	.03436	.00006	.00001	.00018	.07266	.00000	.00975	.00001	.72792	.00082	.00342	.14161
4000	.00878	.00063	.03414	.00010	.00001	.00025	.07211	.00000	.01101	.00001	.72689	.00116	.00426	.14066
4100	.00878	.00090	.03384	.00016	.00001	.00035	.07144	.00000	.01234	.00001	.72570	.00162	.00524	.13961
4200	.00877	.00127	.03345	.00025	.00001	.00047	.07063	.00000	.01376	.00001	.72433	.00222	.00638	.13845
4300	.00876	.00175	.03293	.00038	.00001	.00063	.06967	.00000	.01525	.00001	.72276	.00301	.00768	.13717
4400	.00875	.00236	.03227	.00056	.00001	.00084	.06853	.00000	.01680	.00001	.72094	.00401	.00914	.13577
4500	.00873	.00312	.03144	.00082	.00001	.00109	.06720	.00000	.01841	.00001	.71886	.00528	.01078	.13424
4600	.00871	.00406	.03043	.00118	.00002	.00139	.06566	.00000	.02007	.00001	.71646	.00686	.01258	.13256
4700	.00869	.00517	.02923	.00167	.00002	.00176	.06387	.00000	.02178	.00001	.71373	.00880	.01455	.13073
4800	.00866	.00645	.02784	.00232	.00002	.00219	.06184	.00000	.02351	.00001	.71062	.01117	.01666	.12871
4900	.00863	.00790	.02627	.00318	.00002	.00268	.05953	.00000	.02526	.00001	.70710	.01402	.01889	.12651
5000	.00860	.00949	.02453	.00427	.00002	.00323	.05695	.00000	.02701	.00001	.70316	.01741	.02122	.12408
5100	.00855	.01119	.02267	.00567	.00002	.00385	.05409	.00000	.02876	.00001	.69877	.02141	.02360	.12141
5200	.00851	.01294	.02072	.00740	.00002	.00451	.05096	.00001	.03046	.00001	.69392	.02608	.02598	.11846
5300	.00845	.01471	.01874	.00952	.00003	.00521	.04758	.00001	.03212	.00001	.68861	.03147	.02831	.11522
5400	.00839	.01644	.01678	.01208	.00003	.00592	.04398	.00001	.03371	.00001	.68285	.03762	.03052	.11166

TABLE 18.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.016906; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00001	.00000	.73397	.00000	.00000	.00000	.14767
1700	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00002	.00000	.73397	.00000	.00000	.00000	.14767
1800	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00003	.00000	.73396	.00000	.00000	.00000	.14766
1900	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00005	.00000	.73395	.00000	.00000	.00000	.14765
2000	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00008	.00001	.73393	.00000	.00000	.00000	.14763
2100	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00013	.00001	.73391	.00000	.00000	.00000	.14760
2200	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00021	.00001	.73387	.00000	.00000	.00000	.14757
2300	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00030	.00001	.73382	.00000	.00000	.00000	.14752
2400	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00043	.00001	.73375	.00000	.00000	.00001	.14745
2500	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00060	.00001	.73367	.00000	.00000	.00001	.14736
2600	.00880	.00000	.03484	.00000	.00000	.00000	.07469	.00081	.00001	.73356	.00000	.00000	.00002	.14725
2700	.00880	.00000	.03484	.00000	.00000	.00000	.07468	.00107	.00001	.73343	.00000	.00000	.00004	.14712
2800	.00880	.00000	.03484	.00000	.00000	.00000	.07467	.00139	.00002	.73327	.00000	.00000	.00006	.14695
2900	.00880	.00000	.03484	.00000	.00000	.00000	.07466	.00176	.00002	.73307	.00000	.00000	.00009	.14675
3000	.00880	.00000	.03484	.00000	.00000	.00000	.07463	.00220	.00002	.73284	.00000	.00000	.00013	.14652
3100	.00880	.00000	.03484	.00000	.00000	.00000	.07460	.00272	.00002	.73257	.00000	.00001	.00019	.14624
3200	.00880	.00000	.03484	.00000	.00000	.00000	.07456	.00331	.00002	.73226	.00000	.00001	.00027	.14592
3300	.00880	.00001	.03483	.00000	.00000	.00000	.07450	.00398	.00002	.73190	.00000	.00002	.00038	.14555
3400	.00880	.00001	.03483	.00000	.00000	.00001	.07442	.00473	.00002	.73149	.00000	.00003	.00052	.14513
3500	.00880	.00002	.03481	.00000	.00001	.00001	.07432	.00556	.00003	.73103	.00000	.00005	.00070	.14465
3600	.00880	.00004	.03480	.00000	.00001	.00002	.07420	.00648	.00003	.73051	.00000	.00008	.00092	.14412
3700	.00880	.00006	.03477	.00000	.00001	.00003	.07404	.00749	.00003	.72993	.00000	.00012	.00120	.14352
3800	.00880	.00009	.03473	.00001	.00001	.00004	.07385	.00859	.00003	.72928	.00000	.00018	.00153	.14286
3900	.00880	.00014	.03468	.00001	.00001	.00006	.07361	.00977	.00003	.72856	.00000	.00026	.00194	.14214
4000	.00879	.00020	.03461	.00002	.00001	.00008	.07333	.01104	.00003	.72776	.00000	.00037	.00242	.14134
4100	.00879	.00029	.03451	.00003	.00002	.00011	.07299	.01239	.00003	.72688	.00000	.00051	.00298	.14046
4200	.00879	.00041	.03438	.00004	.00002	.00015	.07258	.01383	.00004	.72590	.00000	.00071	.00364	.13951
4300	.00879	.00057	.03420	.00007	.00002	.00021	.07210	.01534	.00004	.72482	.00000	.00096	.00440	.13849
4400	.00878	.00078	.03398	.00010	.00002	.00027	.07154	.01693	.00004	.72363	.00000	.00128	.00527	.13738
4500	.00877	.00105	.03368	.00015	.00003	.00036	.07089	.01859	.00004	.72231	.00000	.00168	.00625	.13619
4600	.00877	.00139	.03331	.00022	.00003	.00047	.07014	.02031	.00004	.72086	.00000	.00219	.00735	.13492
4700	.00876	.00182	.03286	.00031	.00003	.00060	.06928	.02210	.00004	.71926	.00000	.00281	.00857	.13357
4800	.00875	.00234	.03230	.00043	.00004	.00075	.06830	.02393	.00004	.71750	.00000	.00358	.00991	.13213
4900	.00874	.00296	.03162	.00060	.00004	.00094	.06720	.02582	.00004	.71556	.00000	.00450	.01138	.13060
5000	.00872	.00370	.03083	.00081	.00004	.00116	.06595	.02774	.00004	.71343	.00000	.00561	.01296	.12898
5100	.00871	.00456	.02990	.00109	.00005	.00142	.06457	.02970	.00004	.71109	.00000	.00693	.01467	.12726
5200	.00869	.00554	.02885	.00144	.00005	.00171	.06303	.03168	.00004	.70854	.00000	.00849	.01648	.12545
5300	.00867	.00663	.02767	.00189	.00006	.00205	.06133	.03367	.00004	.70575	.00001	.01030	.01839	.12353
5400	.00864	.00784	.02637	.00245	.00006	.00243	.05947	.03567	.00004	.70273	.00001	.01241	.02038	.12150

TABLE 18.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.016906; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00001	.00001	.73397	.00000	.00000	.00000	.14767
1700	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00002	.00001	.73396	.00000	.00000	.00000	.14766
1800	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00003	.00001	.73396	.00000	.00000	.00000	.14765
1900	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00005	.00001	.73395	.00000	.00000	.00000	.14764
2000	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00008	.00001	.73393	.00000	.00000	.00000	.14762
2100	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00013	.00002	.73390	.00000	.00000	.00000	.14760
2200	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00021	.00002	.73387	.00000	.00000	.00000	.14756
2300	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00030	.00002	.73382	.00000	.00000	.00000	.14751
2400	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00043	.00002	.73375	.00000	.00000	.00000	.14744
2500	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00060	.00003	.73367	.00000	.00000	.00001	.14735
2600	.00880	.00000	.03484	.00000	.00000	.00000	.07470	.00081	.00003	.73356	.00000	.00000	.00001	.14724
2700	.00880	.00000	.03484	.00000	.00000	.00000	.07469	.00107	.00003	.73343	.00000	.00000	.00002	.14710
2800	.00880	.00000	.03484	.00000	.00000	.00000	.07468	.00138	.00004	.73327	.00000	.00000	.00004	.14694
2900	.00880	.00000	.03484	.00000	.00000	.00000	.07467	.00176	.00004	.73308	.00000	.00000	.00006	.14674
3000	.00880	.00000	.03484	.00000	.00000	.00000	.07466	.00220	.00004	.73285	.00000	.00000	.00009	.14651
3100	.00880	.00000	.03484	.00000	.00000	.00000	.07464	.00272	.00005	.73258	.00000	.00000	.00013	.14624
3200	.00880	.00000	.03484	.00000	.00000	.00000	.07461	.00331	.00005	.73228	.00000	.00001	.00018	.14592
3300	.00880	.00000	.03484	.00000	.00000	.00000	.07457	.00398	.00005	.73193	.00000	.00001	.00025	.14556
3400	.00880	.00001	.03484	.00000	.00001	.00000	.07452	.00473	.00005	.73153	.00000	.00001	.00035	.14515
3500	.00880	.00001	.03483	.00000	.00001	.00001	.07445	.00556	.00006	.73108	.00000	.00002	.00047	.14470
3600	.00880	.00002	.03482	.00000	.00001	.00001	.07437	.00648	.00006	.73059	.00000	.00004	.00062	.14418
3700	.00880	.00003	.03481	.00000	.00001	.00001	.07427	.00749	.00006	.73004	.00000	.00005	.00080	.14362
3800	.00880	.00004	.03479	.00000	.00001	.00002	.07414	.00859	.00007	.72943	.00000	.00008	.00103	.14299
3900	.00880	.00006	.03477	.00000	.00002	.00003	.07399	.00978	.00007	.72876	.00000	.00012	.00130	.14231
4000	.00880	.00009	.03474	.00001	.00002	.00004	.07380	.01105	.00007	.72803	.00000	.00016	.00162	.14156
4100	.00880	.00013	.03469	.00001	.00002	.00005	.07358	.01241	.00008	.72724	.00000	.00023	.00200	.14076
4200	.00880	.00018	.03463	.00001	.00003	.00007	.07332	.01385	.00008	.72637	.00000	.00032	.00245	.13988
4300	.00879	.00026	.03455	.00002	.00003	.00009	.07302	.01537	.00008	.72544	.00001	.00043	.00296	.13895
4400	.00879	.00035	.03444	.00003	.00003	.00012	.07266	.01697	.00008	.72442	.00001	.00057	.00355	.13795
4500	.00879	.00048	.03431	.00005	.00004	.00016	.07225	.01865	.00009	.72333	.00001	.00075	.00422	.13688
4600	.00878	.00064	.03413	.00007	.00004	.00021	.07178	.02039	.00009	.72215	.00001	.00098	.00498	.13574
4700	.00878	.00084	.03392	.00009	.00005	.00027	.07125	.02220	.00009	.72088	.00001	.00126	.00582	.13455
4800	.00877	.00108	.03365	.00013	.00006	.00035	.07064	.02407	.00009	.71950	.00001	.00161	.00675	.13328
4900	.00877	.00139	.03332	.00018	.00006	.00044	.06996	.02600	.00009	.71803	.00001	.00202	.00778	.13195
5000	.00876	.00176	.03292	.00025	.00007	.00054	.06919	.02797	.00010	.71644	.00001	.00253	.00891	.13056
5100	.00875	.00220	.03245	.00033	.00007	.00067	.06834	.02999	.00010	.71473	.00001	.00312	.01013	.12910
5200	.00874	.00271	.03189	.00044	.00008	.00081	.06740	.03205	.00010	.71290	.00001	.00383	.01144	.12759
5300	.00873	.00332	.03125	.00058	.00009	.00098	.06635	.03413	.00010	.71094	.00001	.00465	.01285	.12601
5400	.00872	.00401	.03051	.00076	.00009	.00118	.06521	.03624	.00010	.70883	.00001	.00561	.01435	.12437

TABLE 18C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.016906; EQUIV.RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00880	.03484	.07455	.00000	.00015	.73397	.14768
400	.00880	.03484	.07150	.00000	.00320	.73397	.14768
440	.00880	.03484	.03341	.00000	.04129	.73397	.14768
		PRESSURE = 0.10 ATM					
360	.00880	.03484	.07469	.00000	.00001	.73397	.14768
400	.00880	.03484	.07438	.00000	.00032	.73397	.14768
440	.00880	.03484	.07073	.00000	.00397	.73397	.14768
480	.00880	.03484	.04138	.00000	.03333	.73397	.14768
520	.00880	.03484	.00000	.00000	.07470	.73397	.14768
		PRESSURE = 1.00 ATM					
360	.00880	.03484	.07470	.00000	.00000	.73397	.14768
400	.00880	.03484	.07467	.00000	.00003	.73397	.14768
440	.00880	.03484	.07431	.00000	.00040	.73397	.14768
480	.00880	.03484	.07147	.00000	.00323	.73397	.14768
520	.00880	.03484	.00000	.05815	.01655	.73397	.14768
537	.00880	.03484	.00000	.04498	.02972	.73397	.14768
560	.00880	.03484	.00000	.01047	.06423	.73397	.14768
600	.00880	.03484	.00000	.00000	.07470	.73397	.14768
		PRESSURE = 10.00 ATM					
360	.00880	.03484	.07470	.00000	.00000	.73397	.14768
400	.00880	.03484	.07470	.00000	.00000	.73397	.14768
440	.00880	.03484	.07466	.00000	.00004	.73397	.14768
480	.00880	.03484	.07438	.00000	.00032	.73397	.14768
520	.00880	.03484	.00000	.07307	.00163	.73397	.14768
537	.00880	.03484	.00000	.07181	.00289	.73397	.14768
560	.00880	.03484	.00000	.06866	.00605	.73397	.14768
600	.00880	.03484	.00000	.05613	.01857	.73397	.14768
640	.00880	.03484	.00000	.02515	.04956	.73397	.14768
680	.00880	.03484	.00000	.00000	.07470	.73397	.14768
		PRESSURE = 50.00 ATM					
360	.00880	.03484	.07470	.00000	.00000	.73397	.14768
400	.00880	.03484	.07470	.00000	.00000	.73397	.14768
440	.00880	.03484	.07469	.00000	.00001	.73397	.14768
480	.00880	.03484	.07464	.00000	.00006	.73397	.14768
520	.00880	.03484	.00000	.07438	.00033	.73397	.14768
537	.00880	.03484	.00000	.07413	.00058	.73397	.14768
560	.00880	.03484	.00000	.07350	.00120	.73397	.14768
600	.00880	.03484	.00000	.07105	.00365	.73397	.14768
640	.00880	.03484	.00000	.06520	.00950	.73397	.14768
680	.00880	.03484	.00000	.05286	.02185	.73397	.14768
720	.00880	.03484	.00000	.02907	.04563	.73397	.14768
760	.00880	.03484	.00000	.00000	.07470	.73397	.14768

TABLE 19.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.033812; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00868	.00000	.06838	.00000	.00000	.10256	.00000	.00001	.72335	.00000	.00000	.09703
1700	.00868	.00000	.06838	.00000	.00000	.10256	.00000	.00001	.72335	.00000	.00000	.09702
1800	.00868	.00000	.06838	.00000	.00000	.10256	.00000	.00002	.72334	.00000	.00000	.09702
1900	.00868	.00000	.06838	.00000	.00000	.10256	.00000	.00004	.72333	.00000	.00000	.09701
2000	.00868	.00000	.06838	.00000	.00000	.10256	.00000	.00007	.72332	.00000	.00000	.09699
2100	.00868	.00000	.06838	.00000	.00000	.10256	.00000	.00011	.72330	.00000	.00001	.09697
2200	.00868	.00000	.06838	.00000	.00000	.10255	.00000	.00017	.72327	.00000	.00001	.09694
2300	.00868	.00000	.06838	.00000	.00000	.10255	.00000	.00024	.72323	.00000	.00002	.09690
2400	.00868	.00000	.06838	.00000	.00000	.10254	.00000	.00035	.72317	.00000	.00004	.09684
2500	.00868	.00000	.06838	.00000	.00000	.10252	.00000	.00048	.72310	.00000	.00007	.09677
2600	.00868	.00000	.06838	.00000	.00000	.10249	.00000	.00065	.72300	.00001	.00013	.09667
2700	.00867	.00001	.06837	.00000	.00001	.10244	.00000	.00086	.72287	.00001	.00021	.09654
2800	.00867	.00002	.06835	.00000	.00001	.10237	.00000	.00111	.72271	.00003	.00034	.09638
2900	.00867	.00005	.06832	.00000	.00002	.10225	.00000	.00142	.72250	.00005	.00052	.09618
3000	.00867	.00010	.06826	.00001	.00005	.10209	.00000	.00177	.72224	.00010	.00078	.09594
3100	.00867	.00019	.06816	.00002	.00008	.10185	.00000	.00218	.72189	.00017	.00113	.09566
3200	.00867	.00035	.06797	.00004	.00014	.10151	.00000	.00265	.72143	.00030	.00161	.09532
3300	.00866	.00063	.06767	.00007	.00024	.10103	.00000	.00319	.72082	.00051	.00224	.09494
3400	.00866	.00107	.06718	.00014	.00038	.10037	.00000	.00378	.72001	.00083	.00305	.09452
3500	.00865	.00175	.06642	.00027	.00060	.09947	.00000	.00445	.71892	.00132	.00407	.09408
3600	.00864	.00279	.06529	.00049	.00092	.09825	.00000	.00518	.71746	.00203	.00534	.09362
3700	.00862	.00428	.06365	.00086	.00137	.09662	.00000	.00598	.71550	.00307	.00689	.09316
3800	.00859	.00634	.06138	.00147	.00197	.09448	.00000	.00684	.71290	.00454	.00874	.09273
3900	.00856	.00906	.05839	.00243	.00277	.09170	.00000	.00777	.70952	.00659	.01091	.09231
4000	.00851	.01247	.05461	.00390	.00379	.08817	.00000	.00876	.70517	.00937	.01338	.09187
4100	.00845	.01652	.05009	.00608	.00504	.08376	.00000	.00980	.69970	.01309	.01614	.09133
4200	.00838	.02108	.04495	.00919	.00650	.07838	.00000	.01088	.69299	.01798	.01910	.09056
4300	.00829	.02590	.03942	.01352	.00813	.07199	.00000	.01198	.68493	.02428	.02217	.08939
4400	.00818	.03071	.03376	.01931	.00983	.06463	.00000	.01306	.67548	.03223	.02517	.08764
4500	.00806	.03524	.02826	.02678	.01148	.05643	.00000	.01410	.66464	.04202	.02787	.08512
4600	.00792	.03927	.02313	.03603	.01289	.04766	.00000	.01504	.65253	.05381	.03004	.08168
4700	.00776	.04264	.01855	.04699	.01386	.03871	.00001	.01584	.63936	.06763	.03140	.07723
4800	.00760	.04531	.01460	.05933	.01424	.03008	.00001	.01647	.62549	.08337	.03175	.07175
4900	.00743	.04730	.01130	.07245	.01393	.02225	.00002	.01688	.61142	.10072	.03096	.06533
5000	.00727	.04870	.00861	.08561	.01297	.01564	.00002	.01705	.59769	.11920	.02909	.05815
5100	.00712	.04961	.00648	.09801	.01152	.01044	.00003	.01697	.58484	.13813	.02633	.05052
5200	.00698	.05016	.00483	.10903	.00980	.00665	.00005	.01664	.57330	.15676	.02301	.04280
5300	.00685	.05046	.00356	.11831	.00804	.00407	.00007	.01610	.56331	.17436	.01949	.03537
5400	.00675	.05059	.00261	.12581	.00642	.00241	.00010	.01537	.55497	.19030	.01608	.02858

TABLE 19.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.033812; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00001	.72335	.00000	.00000	.09702
1700	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00001	.72335	.00000	.00000	.09702
1800	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00002	.72334	.00000	.00000	.09702
1900	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00004	.72333	.00000	.00000	.09701
2000	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00007	.72332	.00000	.00000	.09699
2100	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00011	.72330	.00000	.00000	.09697
2200	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00017	.72327	.00000	.00001	.09694
2300	.00868	.00000	.06838	.00000	.00000	.00000	.10255	.00000	.00024	.72323	.00000	.00001	.09690
2400	.00868	.00000	.06838	.00000	.00000	.00000	.10255	.00000	.00035	.72318	.00000	.00002	.09685
2500	.00868	.00000	.06838	.00000	.00000	.00000	.10254	.00000	.00048	.72310	.00000	.00004	.09677
2600	.00868	.00000	.06838	.00000	.00000	.00000	.10252	.00000	.00065	.72301	.00000	.00007	.09668
2700	.00868	.00000	.06838	.00000	.00000	.00000	.10249	.00000	.00086	.72290	.00000	.00012	.09656
2800	.00868	.00001	.06837	.00000	.00000	.00000	.10245	.00000	.00111	.72276	.00001	.00019	.09642
2900	.00867	.00002	.06836	.00000	.00000	.00001	.10240	.00000	.00142	.72258	.00002	.00029	.09624
3000	.00867	.00003	.06834	.00000	.00000	.00001	.10231	.00000	.00177	.72236	.00003	.00044	.09602
3100	.00867	.00006	.06831	.00000	.00000	.00003	.10219	.00000	.00218	.72209	.00005	.00064	.09577
3200	.00867	.00011	.06825	.00001	.00000	.00005	.10202	.00000	.00266	.72177	.00010	.00091	.09547
3300	.00867	.00020	.06815	.00001	.00000	.00008	.10179	.00000	.00319	.72137	.00016	.00126	.09512
3400	.00867	.00034	.06799	.00003	.00000	.00012	.10148	.00000	.00379	.72087	.00026	.00172	.09473
3500	.00867	.00056	.06774	.00005	.00000	.00019	.10106	.00000	.00446	.72026	.00042	.00231	.09429
3600	.00866	.00091	.06736	.00009	.00000	.00030	.10052	.00000	.00519	.71949	.00064	.00304	.09380
3700	.00865	.00142	.06679	.00016	.00000	.00045	.09981	.00000	.00599	.71853	.00097	.00394	.09328
3800	.00864	.00215	.06599	.00027	.00000	.00065	.09889	.00000	.00686	.71733	.00144	.00503	.09274
3900	.00863	.00318	.06486	.00045	.00000	.00093	.09772	.00000	.00780	.71582	.00208	.00633	.09218
4000	.00862	.00458	.06333	.00073	.00000	.00131	.09625	.00000	.00880	.71394	.00296	.00786	.09163
4100	.00859	.00641	.06133	.00115	.00000	.00180	.09440	.00000	.00987	.71159	.00413	.00963	.09108
4200	.00857	.00872	.05880	.00177	.00000	.00242	.09213	.00000	.01101	.70870	.00569	.01165	.09055
4300	.00853	.01153	.05571	.00267	.00001	.00318	.08937	.00000	.01220	.70518	.00770	.01391	.09000
4400	.00849	.01483	.05207	.00394	.00001	.00410	.08606	.00000	.01344	.70096	.01029	.01641	.08940
4500	.00844	.01853	.04796	.00569	.00001	.00518	.08214	.00000	.01472	.69597	.01356	.01911	.08869
4600	.00837	.02252	.04349	.00803	.00001	.00640	.07760	.00000	.01603	.69017	.01764	.02195	.08779
4700	.00830	.02664	.03880	.01111	.00001	.00774	.07242	.00000	.01734	.68353	.02265	.02485	.08660
4800	.00822	.03072	.03407	.01505	.00001	.00916	.06662	.00000	.01864	.67605	.02870	.02772	.08503
4900	.00813	.03461	.02946	.01998	.00001	.01059	.06029	.00000	.01988	.66774	.03590	.03043	.08299
5000	.00803	.03816	.02510	.02598	.00001	.01194	.05353	.00001	.02105	.65864	.04432	.03282	.08041
5100	.00791	.04129	.02110	.03308	.00001	.01312	.04652	.00001	.02210	.64885	.05401	.03475	.07724
5200	.00780	.04393	.01752	.04126	.00001	.01403	.03946	.00002	.02301	.63847	.06495	.03607	.07347
5300	.00767	.04608	.01438	.05036	.00001	.01457	.03259	.00002	.02375	.62769	.07707	.03667	.06912
5400	.00754	.04776	.01169	.06016	.00001	.01469	.02616	.00003	.02430	.61672	.09023	.03645	.06424

TABLE 19.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.033812; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00001	.00000	.72335	.00000	.00000	.09702
1700	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00001	.00000	.72335	.00000	.00000	.09702
1800	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00002	.00000	.72334	.00000	.00000	.09701
1900	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00004	.00000	.72333	.00000	.00000	.09701
2000	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00007	.00000	.72332	.00000	.00000	.09699
2100	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00011	.00000	.72330	.00000	.00000	.09697
2200	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00017	.00000	.72327	.00000	.00000	.09694
2300	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00000	.00024	.00000	.72323	.00000	.00001	.09690
2400	.00868	.00000	.06838	.00000	.00000	.00000	.10255	.00000	.00035	.00000	.72318	.00000	.00001	.09685
2500	.00868	.00000	.06838	.00000	.00000	.00000	.10255	.00000	.00048	.00000	.72311	.00000	.00002	.09678
2600	.00868	.00000	.06838	.00000	.00000	.00000	.10254	.00000	.00065	.00000	.72302	.00000	.00004	.09669
2700	.00868	.00000	.06838	.00000	.00000	.00000	.10252	.00000	.00086	.00000	.72291	.00000	.00007	.09658
2800	.00868	.00000	.06838	.00000	.00000	.00000	.10250	.00000	.00111	.00000	.72277	.00000	.00011	.09644
2900	.00868	.00001	.06838	.00000	.00000	.00000	.10247	.00000	.00142	.00000	.72261	.00001	.00016	.09627
3000	.00867	.00001	.06837	.00000	.00000	.00000	.10242	.00000	.00177	.00000	.72241	.00001	.00025	.09607
3100	.00867	.00002	.06836	.00000	.00000	.00001	.10236	.00000	.00219	.00000	.72218	.00002	.00036	.09583
3200	.00867	.00004	.06834	.00000	.00000	.00001	.10227	.00000	.00266	.00000	.72190	.00003	.00051	.09556
3300	.00867	.00006	.06830	.00000	.00000	.00002	.10215	.00000	.00319	.00000	.72158	.00005	.00071	.09524
3400	.00867	.00011	.06825	.00000	.00000	.00004	.10199	.00000	.00379	.00001	.72119	.00008	.00097	.09488
3500	.00867	.00018	.06817	.00001	.00000	.00006	.10179	.00000	.00446	.00001	.72075	.00013	.00130	.09447
3600	.00867	.00029	.06804	.00002	.00000	.00009	.10152	.00000	.00520	.00001	.72022	.00020	.00172	.09401
3700	.00867	.00046	.06786	.00003	.00000	.00014	.10118	.00000	.00600	.00001	.71961	.00031	.00223	.09351
3800	.00866	.00070	.06759	.00005	.00000	.00021	.10075	.00000	.00688	.00001	.71888	.00045	.00286	.09296
3900	.00866	.00104	.06721	.00008	.00001	.00030	.10021	.00000	.00782	.00001	.71802	.00066	.00361	.09238
4000	.00865	.00152	.06668	.00013	.00001	.00043	.09954	.00000	.00883	.00001	.71701	.00094	.00450	.09176
4100	.00864	.00218	.06596	.00021	.00001	.00059	.09872	.00000	.00990	.00001	.71581	.00131	.00554	.09112
4200	.00863	.00305	.06501	.00032	.00001	.00081	.09772	.00000	.01105	.00001	.71439	.00180	.00674	.09046
4300	.00862	.00418	.06378	.00049	.00001	.00109	.09652	.00000	.01225	.00001	.71271	.00243	.00813	.08979
4400	.00861	.00561	.06222	.00074	.00001	.00143	.09507	.00000	.01351	.00001	.71072	.00325	.00969	.08913
4500	.00859	.00738	.06029	.00108	.00001	.00186	.09336	.00000	.01484	.00001	.70839	.00428	.01145	.08847
4600	.00856	.00949	.05799	.00155	.00001	.00238	.09134	.00000	.01621	.00001	.70567	.00558	.01339	.08781
4700	.00853	.01197	.05528	.00219	.00002	.00300	.08900	.00000	.01764	.00001	.70253	.00718	.01552	.08714
4800	.00850	.01477	.05221	.00303	.00002	.00372	.08630	.00000	.01911	.00001	.69894	.00915	.01781	.08643
4900	.00846	.01785	.04882	.00414	.00002	.00455	.08322	.00000	.02061	.00001	.69487	.01153	.02026	.08567
5000	.00841	.02114	.04516	.00556	.00002	.00548	.07976	.00000	.02213	.00001	.69031	.01439	.02283	.08479
5100	.00836	.02456	.04134	.00736	.00002	.00650	.07590	.00000	.02365	.00001	.68526	.01779	.02547	.08376
5200	.00830	.02801	.03744	.00960	.00002	.00760	.07167	.00001	.02517	.00001	.67971	.02177	.02815	.08254
5300	.00824	.03140	.03355	.01234	.00002	.00876	.06708	.00001	.02665	.00001	.67369	.02640	.03078	.08107
5400	.00817	.03463	.02978	.01564	.00002	.00993	.06217	.00001	.02808	.00001	.66721	.03171	.03331	.07932

TABLE 19.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.033812; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00001	.00000	.72335	.00000	.00000	.09702
1700	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00001	.00000	.72335	.00000	.00000	.09702
1800	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00002	.00000	.72334	.00000	.00000	.09701
1900	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00004	.00000	.72333	.00000	.00000	.09700
2000	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00007	.00000	.72332	.00000	.00000	.09699
2100	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00011	.00000	.72330	.00000	.00000	.09697
2200	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00017	.00001	.72327	.00000	.00000	.09694
2300	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00024	.00001	.72323	.00000	.00000	.09690
2400	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00035	.00001	.72318	.00000	.00001	.09684
2500	.00868	.00000	.06838	.00000	.00000	.00000	.10255	.00048	.00001	.72311	.00000	.00001	.09677
2600	.00868	.00000	.06838	.00000	.00000	.00000	.10255	.00065	.00001	.72302	.00000	.00002	.09669
2700	.00868	.00000	.06838	.00000	.00000	.00000	.10254	.00086	.00001	.72292	.00000	.00004	.09658
2800	.00868	.00000	.06838	.00000	.00000	.00000	.10253	.00111	.00001	.72278	.00000	.00006	.09644
2900	.00868	.00000	.06838	.00000	.00000	.00000	.10251	.00142	.00001	.72263	.00000	.00009	.09628
3000	.00868	.00000	.06838	.00000	.00000	.00000	.10248	.00177	.00001	.72244	.00000	.00014	.09609
3100	.00868	.00001	.06838	.00000	.00000	.00000	.10245	.00219	.00001	.72222	.00001	.00020	.09587
3200	.00867	.00001	.06837	.00000	.00000	.00000	.10240	.00266	.00001	.72196	.00001	.00029	.09561
3300	.00867	.00002	.06836	.00000	.00000	.00001	.10234	.00320	.00002	.72167	.00002	.00040	.09531
3400	.00867	.00003	.06834	.00000	.00000	.00001	.10225	.00380	.00002	.72133	.00003	.00055	.09497
3500	.00867	.00006	.06831	.00000	.00000	.00002	.10215	.00447	.00002	.72094	.00004	.00073	.09458
3600	.00867	.00009	.06827	.00000	.00001	.00003	.10201	.00520	.00002	.72051	.00006	.00097	.09416
3700	.00867	.00014	.06821	.00000	.00001	.00005	.10183	.00601	.00002	.72001	.00010	.00126	.09369
3800	.00867	.00022	.06812	.00001	.00001	.00007	.10161	.00689	.00002	.71945	.00014	.00161	.09317
3900	.00867	.00033	.06800	.00001	.00001	.00010	.10135	.00783	.00002	.71883	.00021	.00204	.09261
4000	.00867	.00049	.06782	.00002	.00001	.00014	.10102	.00885	.00002	.71812	.00030	.00255	.09200
4100	.00866	.00070	.06758	.00004	.00001	.00019	.10062	.00993	.00002	.71733	.00041	.00315	.09135
4200	.00866	.00100	.06726	.00006	.00001	.00026	.10014	.01107	.00002	.71643	.00057	.00384	.09067
4300	.00865	.00138	.06683	.00009	.00002	.00035	.09958	.01228	.00002	.71542	.00077	.00464	.08995
4400	.00865	.00189	.06628	.00013	.00002	.00047	.09891	.01355	.00002	.71427	.00103	.00556	.08921
4500	.00864	.00254	.06557	.00020	.00002	.00062	.09812	.01488	.00002	.71298	.00135	.00660	.08845
4600	.00863	.00335	.06468	.00028	.00002	.00080	.09720	.01627	.00003	.71152	.00176	.00776	.08768
4700	.00862	.00436	.06359	.00040	.00003	.00103	.09613	.01771	.00003	.70987	.00227	.00906	.08690
4800	.00861	.00558	.06227	.00057	.00003	.00130	.09490	.01919	.00003	.70802	.00289	.01050	.08612
4900	.00859	.00703	.06069	.00078	.00003	.00162	.09350	.02073	.00003	.70594	.00364	.01207	.08535
5000	.00857	.00872	.05885	.00106	.00004	.00200	.09191	.02231	.00003	.70361	.00455	.01377	.08458
5100	.00855	.01066	.05674	.00143	.00004	.00244	.09011	.02393	.00003	.70102	.00563	.01561	.08380
5200	.00853	.01283	.05438	.00189	.00004	.00295	.08810	.02558	.00003	.69816	.00690	.01757	.08303
5300	.00850	.01521	.05178	.00247	.00005	.00352	.08587	.02726	.00003	.69501	.00841	.01965	.08223
5400	.00847	.01778	.04897	.00320	.00005	.00416	.08341	.02896	.00003	.69158	.01016	.02183	.08139

TABLE 19.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.033812; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00001	.00000	.72335	.00000	.00000	.00000	.09702
1700	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00001	.00000	.72335	.00000	.00000	.00000	.09702
1800	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00002	.00001	.72334	.00000	.00000	.00000	.09701
1900	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00004	.00001	.72333	.00000	.00000	.00000	.09700
2000	.00868	.00000	.06838	.00000	.00000	.00000	.10256	.00007	.00001	.72332	.00000	.00000	.00000	.09698
2100	.00868	.00000	.06839	.00000	.00000	.00000	.10256	.00011	.00001	.72330	.00000	.00000	.00000	.09696
2200	.00868	.00000	.06839	.00000	.00000	.00000	.10256	.00017	.00001	.72327	.00000	.00000	.00000	.09693
2300	.00868	.00000	.06839	.00000	.00000	.00000	.10256	.00024	.00001	.72323	.00000	.00000	.00000	.09689
2400	.00868	.00000	.06839	.00000	.00000	.00000	.10256	.00035	.00002	.72318	.00000	.00000	.00000	.09684
2500	.00868	.00000	.06839	.00000	.00000	.00000	.10256	.00048	.00002	.72311	.00000	.00000	.00001	.09677
2600	.00868	.00000	.06839	.00000	.00000	.00000	.10255	.00065	.00002	.72302	.00000	.00000	.00002	.09668
2700	.00868	.00000	.06838	.00000	.00000	.00000	.10255	.00086	.00002	.72292	.00000	.00000	.00003	.09657
2800	.00868	.00000	.06838	.00000	.00000	.00000	.10254	.00111	.00002	.72279	.00000	.00000	.00004	.09644
2900	.00868	.00000	.06838	.00000	.00000	.00000	.10253	.00142	.00003	.72263	.00000	.00000	.00006	.09628
3000	.00868	.00000	.06838	.00000	.00000	.00000	.10251	.00177	.00003	.72245	.00000	.00000	.00009	.09609
3100	.00868	.00000	.06838	.00000	.00000	.00000	.10249	.00219	.00003	.72223	.00000	.00000	.00013	.09587
3200	.00868	.00001	.06838	.00000	.00000	.00000	.10246	.00266	.00003	.72198	.00000	.00000	.00019	.09561
3300	.00868	.00001	.06837	.00000	.00000	.00000	.10241	.00320	.00003	.72170	.00000	.00001	.00027	.09532
3400	.00867	.00002	.06836	.00000	.00001	.00001	.10236	.00380	.00004	.72137	.00000	.00001	.00037	.09499
3500	.00867	.00003	.06835	.00000	.00001	.00001	.10229	.00447	.00004	.72101	.00000	.00002	.00049	.09462
3600	.00867	.00004	.06833	.00000	.00001	.00001	.10220	.00521	.00004	.72060	.00000	.00003	.00065	.09421
3700	.00867	.00006	.06830	.00000	.00001	.00002	.10209	.00601	.00004	.72014	.00000	.00004	.00084	.09376
3800	.00867	.00010	.06826	.00000	.00001	.00003	.10195	.00689	.00004	.71964	.00000	.00006	.00108	.09326
3900	.00867	.00015	.06820	.00000	.00001	.00004	.10178	.00784	.00005	.71908	.00000	.00009	.00137	.09271
4000	.00867	.00022	.06812	.00001	.00002	.00006	.10157	.00886	.00005	.71846	.00000	.00013	.00171	.09213
4100	.00867	.00032	.06801	.00001	.00002	.00009	.10132	.00994	.00005	.71778	.00000	.00019	.00211	.09150
4200	.00867	.00045	.06786	.00002	.00002	.00012	.10102	.01109	.00005	.71703	.00000	.00025	.00258	.09083
4300	.00866	.00063	.06767	.00003	.00003	.00016	.10067	.01230	.00005	.71621	.00000	.00034	.00312	.09012
4400	.00866	.00086	.06741	.00004	.00003	.00021	.10026	.01358	.00005	.71531	.00000	.00046	.00375	.08938
4500	.00866	.00116	.06708	.00006	.00003	.00028	.09979	.01491	.00006	.71432	.00001	.00061	.00445	.08860
4600	.00865	.00154	.06666	.00009	.00004	.00037	.09923	.01630	.00006	.71323	.00001	.00079	.00525	.08780
4700	.00865	.00203	.06613	.00012	.00004	.00047	.09859	.01774	.00006	.71203	.00001	.00102	.00614	.08698
4800	.00864	.00262	.06548	.00017	.00005	.00060	.09786	.01923	.00006	.71072	.00001	.00129	.00713	.08614
4900	.00863	.00335	.06469	.00024	.00005	.00075	.09703	.02077	.00006	.70928	.00001	.00163	.00822	.08529
5000	.00862	.00423	.06374	.00033	.00006	.00094	.09610	.02236	.00006	.70769	.00001	.00203	.00941	.08444
5100	.00861	.00527	.06261	.00044	.00006	.00115	.09504	.02398	.00006	.70595	.00001	.00251	.01071	.08359
5200	.00860	.00648	.06130	.00058	.00007	.00141	.09385	.02564	.00006	.70405	.00001	.00308	.01212	.08274
5300	.00858	.00787	.05979	.00077	.00007	.00170	.09254	.02734	.00006	.70198	.00001	.00375	.01363	.08190
5400	.00857	.00945	.05808	.00100	.00008	.00204	.09108	.02907	.00007	.69972	.00001	.00453	.01524	.08106

TABLE 19C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.033812; EQUIV.RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00868	.06838	.10242	.00000	.00014	.72335	.09703
400	.00868	.06838	.09945	.00000	.00311	.72335	.09703
440	.00868	.06838	.06251	.00000	.04005	.72335	.09703
		PRESSURE = 0.10 ATM					
360	.00868	.06838	.10254	.00000	.00001	.72335	.09703
400	.00868	.06838	.10225	.00000	.00031	.72335	.09703
440	.00868	.06838	.09871	.00000	.00385	.72335	.09703
480	.00868	.06838	.07024	.00000	.03232	.72335	.09703
520	.00868	.06838	.00000	.00000	.10256	.72335	.09703
		PRESSURE = 1.00 ATM					
360	.00868	.06838	.10256	.00000	.00000	.72335	.09703
400	.00868	.06838	.10253	.00000	.00003	.72335	.09703
440	.00868	.06838	.10218	.00000	.00038	.72335	.09703
480	.00868	.06838	.09943	.00000	.00313	.72335	.09703
520	.00868	.06838	.00000	.08651	.01605	.72335	.09703
537	.00868	.06838	.00000	.07373	.02882	.72335	.09703
560	.00868	.06838	.00000	.04026	.06230	.72335	.09703
600	.00868	.06838	.00000	.00000	.10256	.72335	.09703
		PRESSURE = 10.00 ATM					
360	.00868	.06838	.10256	.00000	.00000	.72335	.09703
400	.00868	.06838	.10256	.00000	.00000	.72335	.09703
440	.00868	.06838	.10252	.00000	.00004	.72335	.09703
480	.00868	.06838	.10225	.00000	.00031	.72335	.09703
520	.00868	.06838	.00000	.10098	.00158	.72335	.09703
537	.00868	.06838	.00000	.09976	.00280	.72335	.09703
560	.00868	.06838	.00000	.09670	.00586	.72335	.09703
600	.00868	.06838	.00000	.08455	.01801	.72335	.09703
640	.00868	.06838	.00000	.05449	.04806	.72335	.09703
680	.00868	.06838	.00000	.00000	.10256	.72335	.09703
		PRESSURE = 50.00 ATM					
360	.00868	.06838	.10256	.00000	.00000	.72335	.09703
400	.00868	.06838	.10256	.00000	.00000	.72335	.09703
440	.00868	.06838	.10255	.00000	.00001	.72335	.09703
480	.00868	.06838	.10250	.00000	.00006	.72335	.09703
520	.00868	.06838	.00000	.10224	.00032	.72335	.09703
537	.00868	.06838	.00000	.10200	.00056	.72335	.09703
560	.00868	.06838	.00000	.10139	.00117	.72335	.09703
600	.00868	.06838	.00000	.09901	.00354	.72335	.09703
640	.00868	.06838	.00000	.09334	.00922	.72335	.09703
680	.00868	.06838	.00000	.08137	.02119	.72335	.09703
720	.00868	.06838	.00000	.05831	.04425	.72335	.09703
760	.00868	.06838	.00000	.01649	.08607	.72335	.09703

TABLE 20.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.050718; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00855	.00000	.10097	.00000	.00000	.12962	.00000	.00000	.71303	.00000	.00000	.04782
1700	.00855	.00000	.10097	.00000	.00000	.12962	.00000	.00001	.71303	.00000	.00000	.04782
1800	.00855	.00000	.10097	.00000	.00000	.12962	.00000	.00002	.71303	.00000	.00000	.04781
1900	.00855	.00000	.10097	.00000	.00000	.12962	.00000	.00003	.71302	.00000	.00000	.04781
2000	.00855	.00000	.10097	.00000	.00000	.12962	.00000	.00005	.71301	.00000	.00000	.04780
2100	.00855	.00000	.10097	.00000	.00000	.12962	.00000	.00008	.71300	.00000	.00000	.04778
2200	.00855	.00000	.10097	.00000	.00000	.12962	.00000	.00012	.71298	.00000	.00001	.04776
2300	.00855	.00000	.10097	.00000	.00000	.12961	.00000	.00017	.71295	.00000	.00002	.04773
2400	.00855	.00000	.10097	.00000	.00000	.12960	.00000	.00024	.71291	.00000	.00004	.04769
2500	.00855	.00000	.10096	.00000	.00000	.12958	.00000	.00034	.71285	.00000	.00007	.04764
2600	.00855	.00001	.10095	.00000	.00001	.12955	.00000	.00045	.71278	.00000	.00012	.04757
2700	.00855	.00002	.10094	.00000	.00001	.12950	.00000	.00060	.71269	.00001	.00020	.04748
2800	.00855	.00005	.10091	.00000	.00002	.12942	.00000	.00078	.71256	.00002	.00032	.04738
2900	.00855	.00011	.10084	.00000	.00004	.12930	.00000	.00099	.71239	.00004	.00049	.04725
3000	.00855	.00021	.10072	.00001	.00008	.12912	.00000	.00123	.71216	.00007	.00073	.04712
3100	.00855	.00041	.10050	.00002	.00015	.12885	.00000	.00152	.71183	.00012	.00106	.04699
3200	.00854	.00074	.10012	.00005	.00026	.12845	.00000	.00185	.71139	.00021	.00152	.04688
3300	.00854	.00131	.09949	.00010	.00043	.12788	.00000	.00222	.71075	.00036	.00211	.04682
3400	.00853	.00222	.09848	.00019	.00069	.12706	.00000	.00265	.70985	.00058	.00288	.04687
3500	.00852	.00362	.09694	.00036	.00108	.12591	.00000	.00312	.70859	.00093	.00385	.04708
3600	.00850	.00567	.09468	.00065	.00163	.12433	.00000	.00366	.70683	.00145	.00507	.04752
3700	.00847	.00854	.09151	.00115	.00240	.12218	.00000	.00427	.70443	.00221	.00658	.04826
3800	.00844	.01235	.08729	.00194	.00342	.11934	.00000	.00495	.70123	.00331	.00839	.04933
3900	.00839	.01715	.08196	.00317	.00472	.11566	.00000	.00571	.69707	.00488	.01055	.05073
4000	.00834	.02285	.07558	.00504	.00632	.11100	.00000	.00655	.69182	.00707	.01305	.05239
4100	.00826	.02927	.06831	.00776	.00822	.10523	.00000	.00747	.68536	.01008	.01587	.05415
4200	.00818	.03610	.06045	.01162	.01037	.09829	.00000	.00845	.67762	.01412	.01896	.05584
4300	.00807	.04298	.05235	.01691	.01271	.09013	.00000	.00947	.66852	.01943	.02219	.05723
4400	.00796	.04956	.04436	.02393	.01510	.08082	.00000	.01050	.65806	.02624	.02539	.05809
4500	.00782	.05552	.03681	.03293	.01735	.07054	.00000	.01149	.64626	.03475	.02834	.05819
4600	.00767	.06062	.02993	.04402	.01923	.05962	.00000	.01241	.63325	.04510	.03076	.05737
4700	.00751	.06475	.02388	.05714	.02049	.04853	.00001	.01322	.61926	.05734	.03237	.05551
4800	.00734	.06789	.01872	.07192	.02092	.03783	.00001	.01386	.60467	.07135	.03294	.05256
4900	.00716	.07012	.01444	.08771	.02041	.02812	.00001	.01430	.58997	.08686	.03232	.04858
5000	.00699	.07158	.01098	.10365	.01901	.01988	.00002	.01451	.57574	.10337	.03054	.04373
5100	.00683	.07244	.00824	.11881	.01692	.01336	.00003	.01449	.56254	.12025	.02779	.03828
5200	.00669	.07289	.00612	.13243	.01445	.00856	.00005	.01424	.55080	.13679	.02439	.03259
5300	.00657	.07305	.00450	.14403	.01192	.00527	.00007	.01378	.54077	.15232	.02072	.02700
5400	.00647	.07305	.00329	.15348	.00956	.00314	.00010	.01316	.53250	.16629	.01714	.02182

TABLE 20.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.050718; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00000	.71303	.00000	.00000	.04782
1700	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00001	.71303	.00000	.00000	.04782
1800	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00002	.71303	.00000	.00000	.04781
1900	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00003	.71302	.00000	.00000	.04781
2000	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00005	.71301	.00000	.00000	.04780
2100	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00008	.71300	.00000	.00000	.04778
2200	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00012	.71298	.00000	.00001	.04776
2300	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00017	.71295	.00000	.00001	.04773
2400	.00855	.00000	.10097	.00000	.00000	.00000	.12961	.00000	.00024	.71291	.00000	.00002	.04769
2500	.00855	.00000	.10097	.00000	.00000	.00000	.12960	.00000	.00034	.71286	.00000	.00004	.04764
2600	.00855	.00000	.10096	.00000	.00000	.00000	.12958	.00000	.00045	.71280	.00000	.00007	.04758
2700	.00855	.00001	.10096	.00000	.00000	.00000	.12956	.00000	.00060	.71271	.00000	.00011	.04750
2800	.00855	.00002	.10095	.00000	.00000	.00001	.12952	.00000	.00078	.71261	.00001	.00018	.04739
2900	.00855	.00003	.10092	.00000	.00000	.00001	.12946	.00000	.00099	.71247	.00001	.00027	.04727
3000	.00855	.00007	.10088	.00000	.00000	.00003	.12937	.00000	.00123	.71231	.00002	.00041	.04713
3100	.00855	.00013	.10081	.00000	.00000	.00005	.12924	.00000	.00152	.71209	.00004	.00060	.04697
3200	.00855	.00024	.10069	.00001	.00000	.00008	.12906	.00000	.00185	.71182	.00007	.00085	.04679
3300	.00855	.00042	.10048	.00002	.00000	.00014	.12880	.00000	.00222	.71147	.00011	.00119	.04661
3400	.00854	.00072	.10015	.00003	.00000	.00022	.12844	.00000	.00264	.71101	.00018	.00162	.04644
3500	.00854	.00119	.09963	.00006	.00000	.00035	.12796	.00000	.00310	.71041	.00029	.00218	.04629
3600	.00853	.00190	.09884	.00012	.00000	.00054	.12730	.00000	.00362	.70962	.00045	.00287	.04621
3700	.00852	.00295	.09769	.00021	.00000	.00080	.12643	.00000	.00419	.70859	.00068	.00372	.04622
3800	.00851	.00443	.09605	.00036	.00000	.00117	.12527	.00000	.00482	.70723	.00102	.00476	.04638
3900	.00849	.00647	.09382	.00060	.00000	.00166	.12378	.00000	.00551	.70546	.00148	.00601	.04671
4000	.00847	.00915	.09087	.00096	.00000	.00231	.12187	.00000	.00628	.70321	.00212	.00749	.04727
4100	.00844	.01253	.08715	.00152	.00000	.00313	.11946	.00000	.00711	.70037	.00300	.00923	.04805
4200	.00841	.01664	.08261	.00232	.00000	.00415	.11648	.00000	.00803	.69687	.00419	.01124	.04906
4300	.00836	.02142	.07730	.00348	.00000	.00537	.11287	.00000	.00903	.69265	.00576	.01352	.05025
4400	.00831	.02676	.07133	.00508	.00000	.00681	.10854	.00000	.01011	.68765	.00781	.01606	.05153
4500	.00825	.03248	.06487	.00727	.00000	.00845	.10347	.00000	.01125	.68185	.01047	.01884	.05282
4600	.00817	.03838	.05811	.01017	.00001	.01027	.09762	.00000	.01243	.67522	.01383	.02180	.05398
4700	.00809	.04423	.05129	.01395	.00001	.01222	.09100	.00000	.01365	.66776	.01803	.02486	.05490
4800	.00800	.04982	.04462	.01877	.00001	.01424	.08365	.00000	.01486	.65949	.02318	.02791	.05545
4900	.00790	.05497	.03827	.02474	.00001	.01624	.07566	.00000	.01605	.65042	.02937	.03083	.05553
5000	.00779	.05953	.03240	.03199	.00001	.01811	.06719	.00001	.01718	.64062	.03668	.03345	.05506
5100	.00767	.06343	.02710	.04055	.00001	.01971	.05842	.00001	.01821	.63015	.04516	.03561	.05399
5200	.00754	.06662	.02241	.05037	.00001	.02091	.04962	.00002	.01912	.61916	.05479	.03715	.05228
5300	.00741	.06914	.01834	.06131	.00001	.02160	.04107	.00002	.01987	.60782	.06552	.03795	.04994
5400	.00728	.07102	.01487	.07311	.00001	.02170	.03306	.00003	.02044	.59635	.07719	.03790	.04702

TABLE 20.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.050718; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00000	.00000	.71303	.00000	.00000	.04782
1700	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00001	.00000	.71303	.00000	.00000	.04782
1800	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00002	.00000	.71303	.00000	.00000	.04781
1900	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00003	.00000	.71302	.00000	.00000	.04781
2000	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00005	.00000	.71301	.00000	.00000	.04780
2100	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00008	.00000	.71300	.00000	.00000	.04778
2200	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00012	.00000	.71298	.00000	.00000	.04776
2300	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00017	.00000	.71295	.00000	.00001	.04773
2400	.00855	.00000	.10097	.00000	.00000	.00000	.12961	.00000	.00024	.00000	.71291	.00000	.00001	.04770
2500	.00855	.00000	.10097	.00000	.00000	.00000	.12961	.00000	.00034	.00000	.71286	.00000	.00002	.04765
2600	.00855	.00000	.10097	.00000	.00000	.00000	.12960	.00000	.00045	.00000	.71280	.00000	.00004	.04758
2700	.00855	.00000	.10096	.00000	.00000	.00000	.12959	.00000	.00060	.00000	.71272	.00000	.00006	.04751
2800	.00855	.00001	.10096	.00000	.00000	.00000	.12957	.00000	.00078	.00000	.71263	.00000	.00010	.04741
2900	.00855	.00001	.10095	.00000	.00000	.00000	.12953	.00000	.00099	.00000	.71251	.00000	.00015	.04729
3000	.00855	.00002	.10094	.00000	.00000	.00001	.12949	.00000	.00123	.00000	.71237	.00001	.00023	.04715
3100	.00855	.00004	.10092	.00000	.00000	.00001	.12942	.00000	.00152	.00000	.71219	.00001	.00034	.04699
3200	.00855	.00008	.10088	.00000	.00000	.00003	.12933	.00000	.00185	.00000	.71198	.00002	.00048	.04681
3300	.00855	.00013	.10081	.00000	.00000	.00004	.12921	.00000	.00222	.00000	.71173	.00004	.00067	.04660
3400	.00855	.00023	.10070	.00001	.00000	.00007	.12904	.00000	.00264	.00000	.71143	.00006	.00091	.04637
3500	.00855	.00038	.10053	.00001	.00000	.00011	.12881	.00000	.00310	.00000	.71106	.00009	.00123	.04614
3600	.00854	.00061	.10027	.00002	.00000	.00017	.12852	.00000	.00361	.00000	.71060	.00014	.00162	.04589
3700	.00854	.00096	.09988	.00004	.00000	.00026	.12813	.00000	.00417	.00000	.71005	.00022	.00210	.04566
3800	.00854	.00146	.09932	.00006	.00000	.00038	.12763	.00000	.00478	.00000	.70936	.00032	.00269	.04545
3900	.00853	.00218	.09853	.00011	.00000	.00055	.12699	.00000	.00544	.00000	.70852	.00046	.00340	.04529
4000	.00852	.00317	.09744	.00018	.00000	.00077	.12619	.00000	.00615	.00000	.70747	.00066	.00424	.04520
4100	.00851	.00450	.09599	.00028	.00000	.00107	.12518	.00000	.00693	.00000	.70618	.00092	.00523	.04521
4200	.00850	.00623	.09409	.00043	.00001	.00145	.12393	.00000	.00777	.00000	.70459	.00127	.00639	.04534
4300	.00848	.00843	.09168	.00066	.00001	.00193	.12239	.00000	.00867	.00000	.70266	.00173	.00773	.04562
4400	.00846	.01113	.08872	.00098	.00001	.00253	.12054	.00000	.00964	.00000	.70034	.00234	.00925	.04606
4500	.00843	.01435	.08519	.00143	.00001	.00325	.11833	.00000	.01069	.00000	.69759	.00311	.01098	.04665
4600	.00840	.01808	.08109	.00203	.00001	.00411	.11571	.00000	.01181	.00000	.69437	.00410	.01292	.04737
4700	.00836	.02225	.07647	.00285	.00001	.00511	.11267	.00000	.01301	.00000	.69067	.00534	.01506	.04820
4800	.00832	.02680	.07141	.00393	.00001	.00625	.10917	.00000	.01427	.00000	.68646	.00690	.01739	.04908
4900	.00827	.03161	.06603	.00533	.00001	.00753	.10520	.00000	.01559	.00000	.68175	.00881	.01991	.04996
5000	.00822	.03657	.06043	.00711	.00002	.00894	.10074	.00000	.01695	.00001	.67654	.01114	.02257	.05077
5100	.00816	.04153	.05477	.00935	.00002	.01047	.09580	.00000	.01834	.00001	.67084	.01394	.02534	.05145
5200	.00809	.04637	.04915	.01211	.00002	.01209	.09040	.00001	.01974	.00001	.66467	.01727	.02815	.05193
5300	.00802	.05098	.04370	.01548	.00002	.01376	.08456	.00001	.02113	.00001	.65805	.02117	.03095	.05217
5400	.00794	.05526	.03852	.01951	.00002	.01545	.07835	.00001	.02248	.00001	.65099	.02570	.03366	.05212

TABLE 20.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.050718; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00000	.71303	.00000	.00000	.04782
1700	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00001	.00000	.71303	.00000	.00000	.04782
1800	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00002	.00000	.71303	.00000	.00000	.04781
1900	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00003	.00000	.71302	.00000	.00000	.04781
2000	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00005	.00000	.71301	.00000	.00000	.04780
2100	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00008	.00000	.71300	.00000	.00000	.04778
2200	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00012	.00000	.71298	.00000	.00000	.04776
2300	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00017	.00000	.71295	.00000	.00000	.04773
2400	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00024	.00000	.71291	.00000	.00001	.04770
2500	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00034	.00000	.71287	.00000	.00001	.04765
2600	.00855	.00000	.10097	.00000	.00000	.00000	.12961	.00045	.00000	.71281	.00000	.00002	.04759
2700	.00855	.00000	.10097	.00000	.00000	.00000	.12960	.00060	.00000	.71273	.00000	.00004	.04751
2800	.00855	.00000	.10097	.00000	.00000	.00000	.12959	.00078	.00001	.71264	.00000	.00006	.04741
2900	.00855	.00000	.10096	.00000	.00000	.00000	.12957	.00099	.00001	.71253	.00000	.00009	.04730
3000	.00855	.00001	.10096	.00000	.00000	.00000	.12955	.00123	.00001	.71239	.00000	.00013	.04717
3100	.00855	.00001	.10095	.00000	.00000	.00000	.12951	.00152	.00001	.71223	.00000	.00019	.04701
3200	.00855	.00002	.10094	.00000	.00000	.00001	.12947	.00185	.00001	.71205	.00001	.00027	.04683
3300	.00855	.00004	.10091	.00000	.00000	.00001	.12940	.00222	.00001	.71183	.00001	.00038	.04663
3400	.00855	.00007	.10088	.00000	.00000	.00002	.12932	.00264	.00001	.71159	.00002	.00051	.04640
3500	.00855	.00012	.10082	.00000	.00000	.00004	.12920	.00310	.00001	.71130	.00003	.00069	.04614
3600	.00855	.00019	.10074	.00000	.00000	.00005	.12906	.00361	.00001	.71096	.00005	.00091	.04586
3700	.00855	.00031	.10061	.00001	.00000	.00008	.12887	.00416	.00001	.71058	.00007	.00118	.04557
3800	.00855	.00047	.10043	.00001	.00001	.00012	.12864	.00477	.00001	.71013	.00010	.00152	.04526
3900	.00854	.00070	.10016	.00002	.00001	.00018	.12834	.00542	.00001	.70961	.00015	.00192	.04494
4000	.00854	.00103	.09980	.00003	.00001	.00025	.12798	.00612	.00001	.70900	.00021	.00239	.04463
4100	.00854	.00149	.09930	.00005	.00001	.00035	.12753	.00687	.00001	.70829	.00029	.00296	.04433
4200	.00853	.00210	.09863	.00008	.00001	.00048	.12698	.00767	.00001	.70746	.00040	.00361	.04406
4300	.00852	.00290	.09774	.00012	.00001	.00064	.12631	.00852	.00001	.70648	.00054	.00437	.04383
4400	.00852	.00394	.09661	.00018	.00001	.00086	.12551	.00942	.00001	.70533	.00072	.00524	.04366
4500	.00851	.00525	.09518	.00026	.00001	.00112	.12455	.01038	.00001	.70399	.00095	.00623	.04357
4600	.00849	.00687	.09341	.00038	.00002	.00144	.12341	.01139	.00001	.70242	.00124	.00735	.04356
4700	.00848	.00883	.09127	.00054	.00002	.00184	.12208	.01247	.00001	.70061	.00161	.00860	.04366
4800	.00846	.01114	.08874	.00076	.00002	.00231	.12053	.01361	.00001	.69852	.00206	.00999	.04386
4900	.00844	.01382	.08581	.00104	.00002	.00286	.11874	.01481	.00001	.69614	.00262	.01153	.04416
5000	.00841	.01685	.08249	.00141	.00003	.00350	.11670	.01607	.00001	.69346	.00330	.01322	.04455
5100	.00839	.02020	.07880	.00188	.00003	.00423	.11439	.01740	.00001	.69047	.00412	.01506	.04501
5200	.00835	.02383	.07480	.00248	.00003	.00505	.11181	.01879	.00002	.68716	.00511	.01704	.04552
5300	.00832	.02769	.07054	.00322	.00004	.00597	.10893	.02023	.00002	.68354	.00629	.01915	.04606
5400	.00828	.03170	.06607	.00414	.00004	.00697	.10576	.02172	.00002	.67962	.00768	.02139	.04659

TABLE 20.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.050718; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00000	.00000	.71303	.00000	.00000	.00000	.04782
1700	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00001	.00000	.71303	.00000	.00000	.00000	.04782
1800	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00002	.00000	.71303	.00000	.00000	.00000	.04781
1900	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00003	.00000	.71302	.00000	.00000	.00000	.04780
2000	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00005	.00000	.71301	.00000	.00000	.00000	.04779
2100	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00008	.00000	.71300	.00000	.00000	.00000	.04778
2200	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00012	.00001	.71298	.00000	.00000	.00000	.04776
2300	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00017	.00001	.71295	.00000	.00000	.00000	.04773
2400	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00024	.00001	.71291	.00000	.00000	.00000	.04769
2500	.00855	.00000	.10097	.00000	.00000	.00000	.12962	.00034	.00001	.71287	.00000	.00000	.00001	.04764
2600	.00855	.00000	.10097	.00000	.00000	.00000	.12961	.00045	.00001	.71281	.00000	.00000	.00001	.04758
2700	.00855	.00000	.10097	.00000	.00000	.00000	.12961	.00060	.00001	.71273	.00000	.00000	.00002	.04751
2800	.00855	.00000	.10097	.00000	.00000	.00000	.12960	.00078	.00001	.71264	.00000	.00000	.00004	.04741
2900	.00855	.00000	.10097	.00000	.00000	.00000	.12959	.00099	.00001	.71253	.00000	.00000	.00006	.04730
3000	.00855	.00000	.10096	.00000	.00000	.00000	.12957	.00123	.00001	.71240	.00000	.00000	.00009	.04717
3100	.00855	.00001	.10096	.00000	.00000	.00000	.12955	.00152	.00001	.71225	.00000	.00000	.00013	.04702
3200	.00855	.00001	.10095	.00000	.00000	.00000	.12952	.00185	.00002	.71207	.00000	.00000	.00018	.04684
3300	.00855	.00002	.10094	.00000	.00000	.00001	.12948	.00222	.00002	.71187	.00000	.00001	.00025	.04664
3400	.00855	.00003	.10093	.00000	.00000	.00001	.12942	.00264	.00002	.71164	.00000	.00001	.00034	.04641
3500	.00855	.00005	.10090	.00000	.00000	.00002	.12935	.00310	.00002	.71137	.00000	.00001	.00046	.04616
3600	.00855	.00009	.10086	.00000	.00001	.00002	.12926	.00361	.00002	.71107	.00000	.00002	.00061	.04588
3700	.00855	.00014	.10080	.00000	.00001	.00004	.12915	.00417	.00002	.71074	.00000	.00003	.00079	.04557
3800	.00855	.00021	.10072	.00000	.00001	.00005	.12900	.00477	.00002	.71036	.00000	.00004	.00102	.04525
3900	.00855	.00032	.10060	.00001	.00001	.00008	.12882	.00542	.00002	.70993	.00000	.00006	.00128	.04490
4000	.00855	.00047	.10043	.00001	.00001	.00011	.12860	.00612	.00002	.70945	.00000	.00009	.00160	.04454
4100	.00854	.00067	.10020	.00002	.00001	.00016	.12833	.00686	.00002	.70890	.00000	.00013	.00198	.04417
4200	.00854	.00095	.09989	.00002	.00001	.00022	.12801	.00765	.00002	.70828	.00000	.00018	.00242	.04379
4300	.00854	.00133	.09947	.00004	.00002	.00029	.12762	.00849	.00003	.70759	.00000	.00024	.00293	.04342
4400	.00853	.00182	.09893	.00005	.00002	.00039	.12716	.00937	.00003	.70679	.00000	.00032	.00351	.04307
4500	.00853	.00245	.09824	.00008	.00002	.00051	.12661	.01029	.00003	.70589	.00000	.00042	.00418	.04274
4600	.00852	.00324	.09737	.00012	.00002	.00067	.12596	.01127	.00003	.70487	.00000	.00055	.00493	.04245
4700	.00851	.00423	.09628	.00017	.00003	.00086	.12520	.01229	.00003	.70371	.00000	.00071	.00577	.04221
4800	.00850	.00545	.09496	.00023	.00003	.00109	.12433	.01335	.00003	.70239	.00000	.00090	.00671	.04202
4900	.00849	.00690	.09337	.00032	.00003	.00136	.12331	.01447	.00003	.70089	.00000	.00114	.00776	.04190
5000	.00848	.00862	.09150	.00044	.00004	.00169	.12215	.01565	.00003	.69921	.00001	.00143	.00891	.04186
5100	.00846	.01062	.08932	.00059	.00004	.00207	.12083	.01687	.00003	.69732	.00001	.00178	.01016	.04189
5200	.00845	.01289	.08685	.00078	.00005	.00251	.11934	.01816	.00003	.69521	.00001	.00220	.01154	.04200
5300	.00843	.01543	.08407	.00102	.00005	.00301	.11767	.01949	.00003	.69289	.00001	.00269	.01302	.04218
5400	.00841	.01822	.08102	.00133	.00006	.00358	.11582	.02089	.00003	.69034	.00001	.00328	.01462	.04242

TABLE 20C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.050718; EQUIV.RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00855	.10097	.12948	.00000	.00014	.71304	.04782
400	.00855	.10097	.12661	.00000	.00301	.71304	.04782
440	.00855	.10097	.09078	.00000	.03884	.71304	.04782
		PRESSURE = 0.10 ATM					
360	.00855	.10097	.12961	.00000	.00001	.71304	.04782
400	.00855	.10097	.12932	.00000	.00030	.71304	.04782
440	.00855	.10097	.12589	.00000	.00373	.71304	.04782
480	.00855	.10097	.09827	.00000	.03135	.71304	.04782
520	.00855	.10097	.00000	.00000	.12962	.71304	.04782
		PRESSURE = 1.00 ATM					
360	.00855	.10097	.12962	.00000	.00000	.71304	.04782
400	.00855	.10097	.12959	.00000	.00003	.71304	.04782
440	.00855	.10097	.12925	.00000	.00037	.71304	.04782
480	.00855	.10097	.12659	.00000	.00304	.71304	.04782
520	.00855	.10097	.00000	.11406	.01557	.71304	.04782
537	.00855	.10097	.00000	.10167	.02796	.71304	.04782
560	.00855	.10097	.00000	.06920	.06042	.71304	.04782
600	.00855	.10097	.00000	.00000	.12962	.71304	.04782
		PRESSURE = 10.00 ATM					
360	.00855	.10097	.12962	.00000	.00000	.71304	.04782
400	.00855	.10097	.12962	.00000	.00000	.71304	.04782
440	.00855	.10097	.12958	.00000	.00004	.71304	.04782
480	.00855	.10097	.12932	.00000	.00030	.71304	.04782
520	.00855	.10097	.00000	.12809	.00153	.71304	.04782
537	.00855	.10097	.00000	.12690	.00272	.71304	.04782
560	.00855	.10097	.00000	.12393	.00569	.71304	.04782
600	.00855	.10097	.00000	.11216	.01747	.71304	.04782
640	.00855	.10097	.00000	.08301	.04662	.71304	.04782
680	.00855	.10097	.00000	.01615	.11347	.71304	.04782
		PRESSURE = 50.00 ATM					
360	.00855	.10097	.12962	.00000	.00000	.71304	.04782
400	.00855	.10097	.12962	.00000	.00000	.71304	.04782
440	.00855	.10097	.12961	.00000	.00001	.71304	.04782
480	.00855	.10097	.12956	.00000	.00006	.71304	.04782
520	.00855	.10097	.00000	.12932	.00031	.71304	.04782
537	.00855	.10097	.00000	.12908	.00054	.71304	.04782
560	.00855	.10097	.00000	.12849	.00113	.71304	.04782
600	.00855	.10097	.00000	.12618	.00344	.71304	.04782
640	.00855	.10097	.00000	.12068	.00894	.71304	.04782
680	.00855	.10097	.00000	.10907	.02055	.71304	.04782
720	.00855	.10097	.00000	.08670	.04292	.71304	.04782
760	.00855	.10097	.00000	.04614	.08348	.71304	.04782

TABLE 21.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.067624; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00843	.00000	.13264	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1700	.00843	.00000	.13264	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1800	.00843	.00000	.13264	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1900	.00843	.00000	.13263	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2000	.00843	.00000	.13263	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2100	.00843	.00000	.13263	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2200	.00843	.00001	.13262	.00000	.00001	.15591	.00000	.00000	.70300	.00000	.00000	.00001
2300	.00843	.00003	.13260	.00000	.00002	.15590	.00000	.00000	.70299	.00000	.00000	.00002
2400	.00843	.00006	.13257	.00000	.00004	.15587	.00000	.00001	.70297	.00000	.00001	.00004
2500	.00843	.00012	.13251	.00000	.00007	.15583	.00000	.00001	.70294	.00000	.00002	.00008
2600	.00843	.00022	.13239	.00000	.00011	.15577	.00000	.00003	.70287	.00000	.00003	.00015
2700	.00843	.00040	.13219	.00000	.00018	.15566	.00000	.00004	.70277	.00000	.00006	.00026
2800	.00843	.00069	.13188	.00001	.00029	.15550	.00000	.00007	.70261	.00000	.00011	.00043
2900	.00842	.00114	.13138	.00001	.00044	.15525	.00000	.00012	.70235	.00000	.00019	.00069
3000	.00842	.00182	.13064	.00003	.00066	.15488	.00000	.00018	.70197	.00001	.00031	.00107
3100	.00841	.00281	.12955	.00006	.00096	.15436	.00000	.00028	.70142	.00002	.00050	.00162
3200	.00841	.00422	.12801	.00011	.00136	.15363	.00000	.00041	.70063	.00005	.00079	.00239
3300	.00839	.00614	.12590	.00020	.00189	.15263	.00000	.00060	.69954	.00010	.00120	.00342
3400	.00838	.00869	.12309	.00037	.00258	.15127	.00000	.00084	.69806	.00019	.00177	.00477
3500	.00836	.01200	.11944	.00064	.00345	.14947	.00000	.00115	.69609	.00035	.00256	.00650
3600	.00833	.01614	.11485	.00109	.00454	.14711	.00000	.00155	.69354	.00062	.00360	.00863
3700	.00829	.02118	.10925	.00179	.00588	.14408	.00000	.00203	.69029	.00107	.00496	.01119
3800	.00825	.02711	.10261	.00287	.00749	.14023	.00000	.00262	.68623	.00178	.00666	.01416
3900	.00819	.03386	.09498	.00448	.00941	.13544	.00000	.00331	.68124	.00287	.00874	.01748
4000	.00812	.04126	.08652	.00684	.01163	.12955	.00000	.00410	.67521	.00448	.01122	.02105
4100	.00804	.04908	.07743	.01019	.01414	.12245	.00000	.00499	.66805	.00681	.01408	.02474
4200	.00795	.05700	.06802	.01483	.01690	.11404	.00000	.00594	.65968	.01006	.01724	.02835
4300	.00784	.06469	.05860	.02109	.01978	.10432	.00000	.00695	.65003	.01445	.02059	.03166
4400	.00771	.07181	.04951	.02930	.02265	.09335	.00000	.00797	.63906	.02021	.02395	.03447
4500	.00757	.07808	.04103	.03972	.02525	.08136	.00000	.00897	.62682	.02754	.02710	.03656
4600	.00742	.08331	.03336	.05248	.02733	.06871	.00000	.00991	.61341	.03658	.02974	.03775
4700	.00725	.08740	.02663	.06749	.02859	.05593	.00001	.01074	.59907	.04738	.03159	.03791
4800	.00707	.09040	.02090	.08437	.02879	.04366	.00001	.01142	.58419	.05983	.03240	.03696
4900	.00690	.09239	.01614	.10243	.02784	.03252	.00001	.01191	.56926	.07366	.03201	.03493
5000	.00673	.09357	.01227	.12073	.02579	.02306	.00002	.01218	.55488	.08839	.03042	.03197
5100	.00657	.09413	.00921	.13824	.02291	.01555	.00003	.01223	.54161	.10341	.02780	.02831
5200	.00643	.09428	.00683	.15409	.01957	.01001	.00005	.01205	.52988	.11806	.02449	.02427
5300	.00631	.09418	.00502	.16770	.01616	.00618	.00007	.01168	.51994	.13171	.02087	.02018
5400	.00621	.09396	.00367	.17889	.01299	.00369	.00010	.01116	.51181	.14390	.01729	.01634

TABLE 21.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.067624; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1700	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1800	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1900	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2000	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2100	.00843	.00000	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2200	.00843	.00001	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2300	.00843	.00001	.13262	.00000	.00000	.00001	.15591	.00000	.00000	.70300	.00000	.00000	.00001
2400	.00843	.00003	.13260	.00000	.00000	.00002	.15590	.00000	.00000	.70299	.00000	.00000	.00002
2500	.00843	.00006	.13257	.00000	.00000	.00003	.15588	.00000	.00001	.70297	.00000	.00001	.00004
2600	.00843	.00010	.13252	.00000	.00000	.00005	.15585	.00000	.00002	.70294	.00000	.00001	.00007
2700	.00843	.00019	.13243	.00000	.00000	.00009	.15580	.00000	.00003	.70289	.00000	.00003	.00012
2800	.00843	.00032	.13228	.00000	.00000	.00014	.15572	.00000	.00005	.70281	.00000	.00005	.00019
2900	.00843	.00054	.13205	.00000	.00000	.00021	.15561	.00000	.00008	.70269	.00000	.00009	.00031
3000	.00843	.00086	.13169	.00001	.00000	.00031	.15544	.00000	.00012	.70251	.00000	.00014	.00049
3100	.00842	.00133	.13117	.00001	.00000	.00045	.15520	.00000	.00019	.70224	.00000	.00023	.00074
3200	.00842	.00201	.13044	.00002	.00000	.00064	.15486	.00000	.00028	.70186	.00001	.00037	.00109
3300	.00841	.00294	.12942	.00004	.00000	.00089	.15440	.00000	.00040	.70133	.00002	.00056	.00158
3400	.00841	.00420	.12804	.00008	.00000	.00122	.15378	.00000	.00057	.70062	.00004	.00083	.00221
3500	.00840	.00586	.12622	.00014	.00000	.00163	.15297	.00000	.00079	.69967	.00007	.00120	.00305
3600	.00838	.00799	.12389	.00024	.00000	.00215	.15190	.00000	.00107	.69844	.00013	.00171	.00410
3700	.00837	.01067	.12094	.00039	.00000	.00279	.15054	.00000	.00142	.69686	.00023	.00237	.00541
3800	.00835	.01395	.11733	.00063	.00000	.00358	.14882	.00000	.00185	.69488	.00039	.00323	.00699
3900	.00832	.01789	.11298	.00098	.00000	.00452	.14667	.00000	.00238	.69244	.00065	.00432	.00886
4000	.00829	.02249	.10787	.00151	.00000	.00565	.14402	.00000	.00300	.68947	.00103	.00566	.01102
4100	.00825	.02774	.10202	.00226	.00000	.00698	.14079	.00000	.00372	.68591	.00159	.00729	.01344
4200	.00820	.03358	.09547	.00333	.00000	.00851	.13692	.00000	.00455	.68172	.00240	.00922	.01610
4300	.00815	.03989	.08832	.00480	.00000	.01027	.13232	.00000	.00548	.67685	.00353	.01146	.01891
4400	.00809	.04654	.08071	.00681	.00000	.01224	.12695	.00000	.00650	.67126	.00508	.01401	.02180
4500	.00802	.05334	.07282	.00949	.00000	.01442	.12073	.00000	.00759	.66492	.00715	.01682	.02468
4600	.00794	.06009	.06484	.01300	.00000	.01678	.11366	.00000	.00875	.65781	.00986	.01986	.02741
4700	.00785	.06658	.05698	.01751	.00000	.01924	.10574	.00000	.00994	.64992	.01331	.02302	.02990
4800	.00776	.07261	.04943	.02318	.00000	.02174	.09703	.00000	.01114	.64125	.01762	.02621	.03203
4900	.00765	.07804	.04233	.03017	.00001	.02415	.08763	.00000	.01233	.63183	.02288	.02928	.03371
5000	.00754	.08274	.03582	.03858	.00001	.02633	.07771	.00001	.01346	.62170	.02918	.03208	.03484
5100	.00741	.08667	.02997	.04845	.00001	.02814	.06752	.00001	.01451	.61094	.03655	.03444	.03537
5200	.00729	.08980	.02480	.05974	.00001	.02942	.05733	.00002	.01545	.59969	.04500	.03619	.03526
5300	.00715	.09217	.02032	.07229	.00001	.03003	.04747	.00002	.01625	.58812	.05446	.03719	.03451
5400	.00702	.09385	.01650	.08582	.00001	.02990	.03824	.00003	.01687	.57645	.06481	.03735	.03315

TABLE 21.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.067624; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1700	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1800	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1900	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2000	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2100	.00843	.00000	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2200	.00843	.00000	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2300	.00843	.00001	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2400	.00843	.00001	.13262	.00000	.00000	.00001	.15591	.00000	.00000	.70300	.00000	.00000	.00001
2500	.00843	.00003	.13261	.00000	.00000	.00001	.15590	.00000	.00001	.70299	.00000	.00000	.00002
2600	.00843	.00005	.13258	.00000	.00000	.00002	.15589	.00000	.00001	.70298	.00000	.00001	.00003
2700	.00843	.00009	.13254	.00000	.00000	.00004	.15587	.00000	.00002	.70295	.00000	.00001	.00005
2800	.00843	.00015	.13247	.00000	.00000	.00006	.15583	.00000	.00003	.70291	.00000	.00002	.00009
2900	.00843	.00025	.13236	.00000	.00000	.00010	.15577	.00000	.00005	.70285	.00000	.00004	.00014
3000	.00843	.00041	.13219	.00000	.00000	.00015	.15570	.00000	.00008	.70276	.00000	.00007	.00022
3100	.00843	.00063	.13194	.00000	.00000	.00021	.15558	.00000	.00013	.70263	.00000	.00011	.00033
3200	.00843	.00095	.13159	.00001	.00000	.00030	.15543	.00000	.00019	.70244	.00000	.00017	.00049
3300	.00842	.00140	.13110	.00001	.00000	.00042	.15521	.00000	.00027	.70218	.00000	.00026	.00071
3400	.00842	.00201	.13044	.00002	.00000	.00058	.15493	.00000	.00039	.70183	.00001	.00038	.00100
3500	.00841	.00282	.12956	.00003	.00000	.00077	.15455	.00000	.00053	.70136	.00002	.00056	.00139
3600	.00841	.00387	.12841	.00005	.00000	.00102	.15406	.00000	.00073	.70075	.00003	.00080	.00188
3700	.00840	.00521	.12695	.00009	.00000	.00132	.15343	.00000	.00097	.69997	.00005	.00111	.00250
3800	.00839	.00688	.12511	.00014	.00000	.00170	.15264	.00000	.00127	.69899	.00009	.00152	.00327
3900	.00838	.00894	.12286	.00021	.00000	.00215	.15166	.00000	.00164	.69777	.00014	.00205	.00419
4000	.00836	.01142	.12014	.00033	.00000	.00269	.15045	.00000	.00209	.69628	.00023	.00271	.00530
4100	.00834	.01435	.11692	.00049	.00000	.00333	.14898	.00000	.00262	.69448	.00035	.00353	.00660
4200	.00832	.01776	.11317	.00073	.00000	.00408	.14720	.00000	.00325	.69234	.00054	.00453	.00808
4300	.00830	.02165	.10887	.00106	.00000	.00496	.14509	.00000	.00397	.68983	.00080	.00572	.00975
4400	.00827	.02601	.10404	.00150	.00000	.00596	.14260	.00000	.00479	.68692	.00117	.00713	.01160
4500	.00823	.03081	.09870	.00211	.00000	.00711	.13970	.00000	.00571	.68358	.00168	.00877	.01359
4600	.00819	.03597	.09292	.00291	.00000	.00841	.13634	.00000	.00673	.67981	.00236	.01064	.01571
4700	.00815	.04144	.08676	.00396	.00001	.00986	.13250	.00000	.00784	.67559	.00326	.01275	.01790
4800	.00810	.04710	.08033	.00532	.00001	.01146	.12814	.00000	.00903	.67091	.00441	.01508	.02011
4900	.00805	.05285	.07373	.00706	.00001	.01321	.12326	.00000	.01029	.66576	.00588	.01761	.02229
5000	.00799	.05857	.06708	.00924	.00001	.01509	.11783	.00000	.01160	.66016	.00772	.02032	.02439
5100	.00792	.06413	.06050	.01194	.00001	.01709	.11187	.00000	.01296	.65411	.00997	.02316	.02633
5200	.00785	.06943	.05411	.01525	.00001	.01917	.10539	.00001	.01433	.64762	.01270	.02607	.02807
5300	.00778	.07437	.04799	.01924	.00001	.02128	.09844	.00001	.01569	.64069	.01594	.02898	.02956
5400	.00770	.07887	.04224	.02400	.00001	.02337	.09108	.00001	.01704	.63336	.01974	.03181	.03076

TABLE 21.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.067624; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1700	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1800	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1900	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2000	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2100	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2200	.00843	.00000	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2300	.00843	.00000	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2400	.00843	.00001	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2500	.00843	.00001	.13262	.00000	.00000	.00001	.15591	.00000	.00000	.70300	.00000	.00000	.00001
2600	.00843	.00002	.13261	.00000	.00000	.00001	.15591	.00001	.00000	.70299	.00000	.00000	.00001
2700	.00843	.00004	.13259	.00000	.00000	.00002	.15590	.00001	.00000	.70298	.00000	.00001	.00002
2800	.00843	.00007	.13256	.00000	.00000	.00003	.15588	.00002	.00000	.70296	.00000	.00001	.00004
2900	.00843	.00012	.13250	.00000	.00000	.00005	.15585	.00004	.00000	.70293	.00000	.00002	.00006
3000	.00843	.00019	.13242	.00000	.00000	.00007	.15582	.00006	.00000	.70288	.00000	.00003	.00010
3100	.00843	.00030	.13231	.00000	.00000	.00010	.15576	.00008	.00000	.70282	.00000	.00005	.00015
3200	.00843	.00046	.13214	.00000	.00000	.00014	.15569	.00013	.00000	.70272	.00000	.00008	.00022
3300	.00843	.00067	.13190	.00000	.00000	.00020	.15559	.00018	.00000	.70259	.00000	.00012	.00032
3400	.00843	.00096	.13159	.00000	.00000	.00027	.15545	.00026	.00000	.70241	.00000	.00018	.00045
3500	.00842	.00135	.13116	.00001	.00000	.00037	.15528	.00036	.00000	.70218	.00000	.00026	.00062
3600	.00842	.00186	.13060	.00001	.00000	.00049	.15505	.00048	.00000	.70187	.00001	.00037	.00084
3700	.00842	.00252	.12989	.00002	.00000	.00063	.15476	.00065	.00000	.70148	.00001	.00051	.00112
3800	.00841	.00334	.12899	.00003	.00000	.00081	.15439	.00085	.00000	.70098	.00002	.00071	.00147
3900	.00841	.00437	.12787	.00005	.00000	.00103	.15393	.00111	.00000	.70036	.00003	.00095	.00190
4000	.00840	.00562	.12650	.00007	.00000	.00128	.15337	.00142	.00000	.69960	.00005	.00126	.00242
4100	.00839	.00714	.12485	.00011	.00000	.00159	.15269	.00179	.00000	.69867	.00008	.00166	.00304
4200	.00838	.00893	.12289	.00016	.00000	.00195	.15186	.00223	.00000	.69757	.00012	.00214	.00377
4300	.00837	.01103	.12059	.00023	.00000	.00237	.15088	.00274	.00000	.69627	.00017	.00272	.00461
4400	.00835	.01345	.11794	.00033	.00000	.00286	.14973	.00334	.00000	.69474	.00026	.00342	.00558
4500	.00834	.01621	.11492	.00046	.00000	.00341	.14837	.00403	.00000	.69298	.00037	.00425	.00666
4600	.00832	.01930	.11151	.00064	.00000	.00405	.14680	.00480	.00000	.69096	.00053	.00522	.00786
4700	.00829	.02273	.10774	.00087	.00001	.00476	.14500	.00567	.00000	.68868	.00074	.00634	.00917
4800	.00827	.02648	.10360	.00117	.00001	.00557	.14294	.00662	.00000	.68612	.00101	.00763	.01058
4900	.00824	.03052	.09912	.00156	.00001	.00647	.14060	.00767	.00000	.68327	.00137	.00908	.01208
5000	.00821	.03481	.09434	.00205	.00001	.00747	.13798	.00881	.00000	.68014	.00183	.01070	.01365
5100	.00818	.03932	.08930	.00267	.00001	.00857	.13505	.01003	.00001	.67671	.00240	.01248	.01526
5200	.00814	.04398	.08406	.00344	.00002	.00977	.13180	.01133	.00001	.67300	.00311	.01444	.01689
5300	.00810	.04873	.07869	.00439	.00002	.01108	.12824	.01269	.00001	.66902	.00399	.01654	.01851
5400	.00806	.05351	.07324	.00555	.00002	.01249	.12434	.01411	.00001	.66476	.00505	.01879	.02009

TABLE 21.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.067624; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1700	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1800	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
1900	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2000	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2100	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2200	.00843	.00000	.13264	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2300	.00843	.00000	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2400	.00843	.00000	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70301	.00000	.00000	.00000
2500	.00843	.00001	.13263	.00000	.00000	.00000	.15592	.00000	.00000	.70300	.00000	.00000	.00000
2600	.00843	.00001	.13262	.00000	.00000	.00001	.15591	.00001	.00000	.70300	.00000	.00000	.00001
2700	.00843	.00003	.13261	.00000	.00000	.00001	.15591	.00001	.00000	.70299	.00000	.00000	.00001
2800	.00843	.00004	.13259	.00000	.00000	.00002	.15590	.00002	.00000	.70298	.00000	.00001	.00002
2900	.00843	.00007	.13256	.00000	.00000	.00003	.15588	.00003	.00000	.70296	.00000	.00001	.00003
3000	.00843	.00012	.13251	.00000	.00000	.00004	.15586	.00004	.00000	.70293	.00000	.00002	.00005
3100	.00843	.00018	.13244	.00000	.00000	.00006	.15583	.00006	.00000	.70289	.00000	.00003	.00008
3200	.00843	.00027	.13234	.00000	.00000	.00009	.15578	.00009	.00000	.70283	.00000	.00004	.00012
3300	.00843	.00040	.13220	.00000	.00000	.00012	.15572	.00014	.00000	.70275	.00000	.00007	.00018
3400	.00843	.00058	.13201	.00000	.00000	.00016	.15564	.00019	.00000	.70264	.00000	.00010	.00025
3500	.00843	.00081	.13175	.00000	.00000	.00022	.15554	.00027	.00000	.70249	.00000	.00015	.00035
3600	.00843	.00112	.13142	.00000	.00000	.00029	.15540	.00036	.00000	.70229	.00000	.00021	.00047
3700	.00842	.00152	.13098	.00001	.00000	.00038	.15523	.00049	.00000	.70204	.00000	.00030	.00063
3800	.00842	.00202	.13044	.00001	.00000	.00048	.15502	.00064	.00000	.70173	.00001	.00041	.00083
3900	.00842	.00264	.12976	.00002	.00000	.00061	.15475	.00083	.00000	.70134	.00001	.00055	.00107
4000	.00841	.00341	.12892	.00002	.00000	.00077	.15441	.00107	.00000	.70086	.00002	.00074	.00137
4100	.00841	.00434	.12791	.00004	.00000	.00095	.15401	.00135	.00000	.70028	.00003	.00096	.00173
4200	.00840	.00545	.12669	.00006	.00000	.00117	.15353	.00168	.00000	.69958	.00004	.00125	.00215
4300	.00839	.00677	.12526	.00008	.00000	.00142	.15295	.00208	.00000	.69875	.00006	.00159	.00264
4400	.00838	.00830	.12359	.00011	.00000	.00171	.15227	.00254	.00000	.69778	.00009	.00201	.00321
4500	.00837	.01007	.12165	.00016	.00000	.00204	.15147	.00308	.00000	.69664	.00013	.00251	.00386
4600	.00836	.01209	.11945	.00022	.00001	.00243	.15055	.00368	.00000	.69534	.00018	.00309	.00460
4700	.00835	.01436	.11696	.00030	.00001	.00286	.14948	.00437	.00000	.69386	.00025	.00378	.00542
4800	.00833	.01689	.11419	.00041	.00001	.00334	.14826	.00514	.00000	.69219	.00035	.00457	.00632
4900	.00832	.01968	.11113	.00054	.00001	.00389	.14687	.00600	.00001	.69031	.00048	.00547	.00730
5000	.00830	.02273	.10778	.00071	.00001	.00450	.14531	.00694	.00001	.68823	.00064	.00649	.00836
5100	.00827	.02601	.10416	.00093	.00002	.00517	.14356	.00796	.00001	.68594	.00085	.00764	.00949
5200	.00825	.02952	.10028	.00120	.00002	.00591	.14161	.00907	.00001	.68343	.00111	.00892	.01067
5300	.00823	.03322	.09618	.00153	.00002	.00672	.13946	.01026	.00001	.68071	.00143	.01033	.01190
5400	.00820	.03709	.09187	.00194	.00003	.00761	.13709	.01153	.00001	.67778	.00183	.01187	.01316

TABLE 21C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.067624; EQUIV.RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2
		PRESSURE = 0.01 ATM				
360	.00843	.13264	.15579	.00000	.00013	.70301
400	.00843	.13264	.15300	.00000	.00292	.70301
440	.00843	.13264	.11826	.00000	.03767	.70301
		PRESSURE = 0.10 ATM				
360	.00843	.13264	.15591	.00000	.00001	.70301
400	.00843	.13264	.15563	.00000	.00029	.70301
440	.00843	.13264	.15230	.00000	.00362	.70301
480	.00843	.13264	.12552	.00000	.03040	.70301
520	.00843	.13264	.00000	.00000	.15592	.70301
		PRESSURE = 1.00 ATM				
360	.00843	.13264	.15592	.00000	.00000	.70301
400	.00843	.13264	.15589	.00000	.00003	.70301
440	.00843	.13264	.15556	.00000	.00036	.70301
480	.00843	.13264	.15298	.00000	.00294	.70301
520	.00843	.13264	.00000	.14083	.01509	.70301
537	.00843	.13264	.00000	.12881	.02711	.70301
560	.00843	.13264	.00000	.09733	.05859	.70301
600	.00843	.13264	.00000	.00000	.15592	.70301
		PRESSURE = 10.00 ATM				
360	.00843	.13264	.15592	.00000	.00000	.70301
400	.00843	.13264	.15592	.00000	.00000	.70301
440	.00843	.13264	.15589	.00000	.00004	.70301
480	.00843	.13264	.15563	.00000	.00029	.70301
520	.00843	.13264	.00000	.15444	.00149	.70301
537	.00843	.13264	.00000	.15329	.00263	.70301
560	.00843	.13264	.00000	.15041	.00551	.70301
600	.00843	.13264	.00000	.13898	.01694	.70301
640	.00843	.13264	.00000	.11072	.04521	.70301
680	.00843	.13264	.00000	.04588	.11004	.70301
		PRESSURE = 50.00 ATM				
360	.00843	.13264	.15592	.00000	.00000	.70301
400	.00843	.13264	.15592	.00000	.00000	.70301
440	.00843	.13264	.15592	.00000	.00001	.70301
480	.00843	.13264	.15586	.00000	.00006	.70301
520	.00843	.13264	.00000	.15563	.00030	.70301
537	.00843	.13264	.00000	.15540	.00053	.70301
560	.00843	.13264	.00000	.15483	.00110	.70301
600	.00843	.13264	.00000	.15259	.00333	.70301
640	.00843	.13264	.00000	.14725	.00867	.70301
680	.00843	.13264	.00000	.13599	.01993	.70301
720	.00843	.13264	.00000	.11430	.04162	.70301
760	.00843	.13264	.00000	.07497	.08095	.70301

TABLE 22.1D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
380	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
400	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
420	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
440	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
460	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
480	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
500	.00831	.02325	.00000	.14018	.00000	.00001	.13499	.00000	.00000	.00000	.69326	.00000	.00000	.00000
520	.00831	.02324	.00000	.14018	.00000	.00001	.13499	.00000	.00000	.00000	.69326	.00000	.00000	.00000
537	.00831	.02324	.00000	.14018	.00000	.00002	.13498	.00000	.00000	.00000	.69325	.00000	.00000	.00000
540	.00831	.02324	.00000	.14018	.00000	.00003	.13498	.00000	.00000	.00000	.69325	.00000	.00000	.00000
560	.00831	.02323	.00000	.14019	.00000	.00005	.13497	.00000	.00000	.00000	.69324	.00000	.00000	.00000
580	.00831	.02322	.00000	.14019	.00000	.00009	.13495	.00000	.00000	.00000	.69323	.00000	.00000	.00000
600	.00831	.02321	.00000	.14020	.00000	.00014	.13492	.00000	.00000	.00000	.69321	.00000	.00000	.00000
620	.00831	.02319	.00000	.14022	.00000	.00024	.13486	.00000	.00000	.00000	.69318	.00000	.00000	.00000
640	.00831	.02315	.00000	.14024	.00000	.00037	.13479	.00000	.00000	.00000	.69313	.00000	.00000	.00000
660	.00831	.02310	.00000	.14028	.00000	.00057	.13467	.00000	.00000	.00000	.69306	.00000	.00000	.00000
680	.00831	.02302	.00000	.14033	.00000	.00086	.13451	.00000	.00000	.00000	.69296	.00000	.00000	.00000
700	.00831	.02292	.00000	.14040	.00000	.00126	.13428	.00000	.00000	.00000	.69283	.00000	.00000	.00000
720	.00831	.02277	.00000	.14050	.00000	.00180	.13397	.00000	.00000	.00000	.69264	.00000	.00000	.00000
740	.00830	.02258	.00000	.14063	.00000	.00254	.13356	.00000	.00000	.00000	.69238	.00000	.00000	.00000
760	.00830	.02233	.00000	.14081	.00000	.00351	.13301	.00000	.00000	.00000	.69204	.00000	.00000	.00000
780	.00829	.02200	.00001	.14103	.00000	.00476	.13230	.00000	.00001	.00000	.69161	.00000	.00000	.00000
800	.00829	.02158	.00001	.14131	.00000	.00636	.13139	.00000	.00001	.00000	.69105	.00000	.00000	.00000
820	.00828	.02105	.00003	.14166	.00000	.00836	.13026	.00000	.00001	.00000	.69035	.00000	.00000	.00000
840	.00827	.02040	.00004	.14209	.00000	.01083	.12887	.00000	.00001	.00000	.68949	.00000	.00000	.00000
860	.00826	.01962	.00007	.14260	.00000	.01380	.12719	.00000	.00001	.00000	.68845	.00000	.00000	.00000
880	.00824	.01868	.00012	.14320	.00000	.01733	.12521	.00000	.00001	.00000	.68721	.00000	.00000	.00000
900	.00822	.01759	.00018	.14389	.00000	.02144	.12290	.00000	.00001	.00000	.68576	.00000	.00000	.00000
920	.00820	.01633	.00028	.14465	.00000	.02614	.12028	.00000	.00001	.00000	.68410	.00000	.00000	.00000
940	.00818	.01492	.00042	.14548	.00000	.03140	.11736	.00000	.00001	.00000	.68223	.00000	.00000	.00000
960	.00816	.01336	.00063	.14635	.00000	.03716	.11418	.00000	.00001	.00000	.68016	.00000	.00000	.00000
980	.00813	.01168	.00091	.14722	.00000	.04330	.11081	.00000	.00001	.00000	.67793	.00000	.00000	.00000
1000	.00810	.00991	.00129	.14806	.00000	.04967	.10736	.00000	.00001	.00000	.67559	.00000	.00000	.00000
1020	.00807	.00811	.00178	.14880	.00000	.05605	.10395	.00000	.00001	.00000	.67321	.00000	.00000	.00000
1040	.00805	.00635	.00241	.14939	.00000	.06217	.10075	.00000	.00001	.00000	.67087	.00000	.00000	.00000
1060	.00802	.00471	.00315	.14978	.00000	.06771	.09793	.00000	.00001	.00000	.66870	.00000	.00000	.00000
1080	.00800	.00327	.00400	.14992	.00000	.07235	.09566	.00000	.00001	.00000	.66679	.00000	.00000	.00000
1100	.00798	.00212	.00490	.14980	.00000	.07583	.09408	.00000	.00001	.00000	.66527	.00000	.00000	.00000
1120	.00797	.00129	.00583	.14945	.00000	.07809	.09320	.00000	.00001	.00000	.66417	.00000	.00000	.00000
1140	.00796	.00075	.00674	.14891	.00000	.07927	.09293	.00000	.00000	.00000	.66345	.00000	.00000	.00000

TABLE 22.1D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00795	.00042	.00763	.14825	.00000	.07963	.09311	.00000	.00000	.00000	.66301	.00000	.00000	.00000
1180	.00795	.00023	.00851	.14750	.00000	.07947	.09358	.00000	.00000	.00000	.66276	.00000	.00000	.00000
1200	.00795	.00013	.00939	.14669	.00000	.07898	.09424	.00000	.00000	.00000	.66263	.00000	.00000	.00000
1220	.00795	.00007	.01028	.14584	.00000	.07831	.09500	.00000	.00000	.00000	.66255	.00000	.00000	.00000
1240	.00795	.00004	.01118	.14496	.00000	.07753	.09583	.00000	.00000	.00000	.66251	.00000	.00000	.00000
1260	.00795	.00002	.01209	.14406	.00000	.07668	.09671	.00000	.00000	.00000	.66249	.00000	.00000	.00000
1280	.00795	.00001	.01302	.14313	.00000	.07579	.09762	.00000	.00000	.00000	.66248	.00000	.00000	.00000
1300	.00795	.00001	.01396	.14220	.00000	.07487	.09855	.00000	.00000	.00000	.66247	.00000	.00000	.00000
1320	.00795	.00000	.01492	.14125	.00000	.07393	.09950	.00000	.00000	.00000	.66247	.00000	.00000	.00000
1340	.00795	.00000	.01587	.14029	.00000	.07297	.10045	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1360	.00795	.00000	.01684	.13932	.00000	.07201	.10142	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1380	.00795	.00000	.01781	.13835	.00000	.07105	.10238	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1400	.00795	.00000	.01878	.13739	.00000	.07008	.10335	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1420	.00795	.00000	.01975	.13642	.00000	.06911	.10432	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1440	.00795	.00000	.02071	.13545	.00000	.06815	.10528	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1460	.00795	.00000	.02167	.13449	.00000	.06719	.10624	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1480	.00795	.00000	.02263	.13354	.00000	.06623	.10720	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1500	.00795	.00000	.02357	.13259	.00000	.06529	.10814	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1520	.00795	.00000	.02451	.13165	.00000	.06435	.10908	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1540	.00795	.00000	.02544	.13073	.00000	.06342	.11001	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1560	.00795	.00000	.02635	.12981	.00000	.06251	.11092	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1580	.00795	.00000	.02725	.12891	.00000	.06160	.11183	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1600	.00795	.00000	.02815	.12802	.00000	.06071	.11272	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1620	.00795	.00000	.02902	.12714	.00000	.05984	.11359	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1640	.00795	.00000	.02989	.12628	.00000	.05897	.11446	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1660	.00795	.00000	.03073	.12543	.00000	.05812	.11531	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1680	.00795	.00000	.03157	.12459	.00000	.05729	.11614	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1700	.00795	.00000	.03239	.12378	.00000	.05647	.11696	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1720	.00795	.00000	.03319	.12297	.00000	.05567	.11776	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1740	.00795	.00000	.03398	.12218	.00000	.05488	.11855	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1760	.00795	.00000	.03475	.12141	.00000	.05410	.11933	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1780	.00795	.00000	.03551	.12065	.00000	.05335	.12008	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1800	.00795	.00000	.03625	.11991	.00000	.05260	.12083	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1900	.00795	.00000	.03974	.11642	.00000	.04912	.12431	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2000	.00795	.00000	.04287	.11330	.00000	.04599	.12744	.00000	.00000	.00000	.66246	.00000	.00000	.00000
210J	.00795	.00000	.04565	.11051	.00000	.04320	.13023	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2200	.00795	.00000	.04814	.10802	.00000	.04072	.13272	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2300	.00795	.00000	.05036	.10580	.00000	.03849	.13494	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2400	.00795	.00000	.05235	.10382	.00000	.03651	.13692	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2500	.00795	.00000	.05412	.10204	.00001	.03474	.13869	.00000	.00000	.00000	.66246	.00000	.00000	.00000

TABLE 22.1D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00795	.00000	.05571	.10045	.00002	.03314	.14028	.00000	.00000	.00000	.66245	.00000	.00000	.00000
2700	.00795	.00000	.05713	.09903	.00003	.03171	.14170	.00000	.00000	.00000	.66245	.00000	.00000	.00000
2800	.00794	.00000	.05841	.09774	.00006	.03042	.14297	.00000	.00000	.00000	.66244	.00000	.00001	.00000
2900	.00794	.00000	.05957	.09659	.00010	.02925	.14411	.00000	.00000	.00000	.66242	.00000	.00002	.00000
3000	.00794	.00000	.06061	.09554	.00018	.02818	.14512	.00000	.00000	.00000	.66238	.00000	.00004	.00000
3100	.00794	.00000	.06155	.09459	.00030	.02720	.14600	.00000	.00000	.00001	.66232	.00000	.00009	.00000
3200	.00794	.00000	.06240	.09371	.00048	.02631	.14674	.00000	.00000	.00002	.66222	.00000	.00017	.00001
3300	.00794	.00000	.06319	.09289	.00075	.02549	.14731	.00000	.00000	.00004	.66206	.00001	.00032	.00002
3400	.00794	.00000	.06394	.09207	.00114	.02474	.14767	.00000	.00000	.00008	.66178	.00002	.00056	.00005
3500	.00793	.00000	.06472	.09119	.00170	.02409	.14774	.00000	.00000	.00016	.66133	.00005	.00096	.00013
3600	.00792	.00000	.06566	.09010	.00248	.02357	.14737	.00000	.00000	.00029	.66058	.00012	.00158	.00032
3700	.00791	.00000	.06694	.08855	.00357	.02328	.14636	.00000	.00000	.00051	.65935	.00027	.00253	.00074
3800	.00789	.00000	.06885	.08621	.00507	.02332	.14441	.00000	.00000	.00085	.65737	.00059	.00389	.00155
3900	.00786	.00000	.07171	.08270	.00714	.02386	.14119	.00000	.00000	.00133	.65435	.00118	.00572	.00295
4000	.00781	.00000	.07567	.07780	.01002	.02498	.13641	.00000	.00000	.00197	.65002	.00220	.00807	.00506
4100	.00774	.00000	.08062	.07156	.01399	.02667	.12991	.00000	.00000	.00275	.64421	.00383	.01088	.00783
4200	.00766	.00000	.08625	.06431	.01937	.02884	.12164	.00000	.00000	.00365	.63685	.00629	.01407	.01107
4300	.00756	.00000	.09212	.05646	.02653	.03130	.11167	.00000	.00000	.00462	.62795	.00978	.01752	.01449
4400	.00744	.00000	.09778	.04845	.03580	.03381	.10018	.00000	.00000	.00563	.61754	.01453	.02103	.01781
4500	.00730	.00000	.10288	.04069	.04746	.03606	.08746	.00000	.00000	.00664	.60569	.02073	.02437	.02071
4600	.00715	.00000	.10713	.03346	.06165	.03772	.07396	.00000	.00000	.00760	.59258	.02853	.02725	.02296
4700	.00699	.00000	.11040	.02696	.07827	.03845	.06029	.00001	.00000	.00846	.57848	.03798	.02936	.02435
4800	.00682	.00000	.11267	.02132	.09691	.03799	.04713	.00001	.00000	.00918	.56380	.04896	.03046	.02475
4900	.00664	.00000	.11403	.01655	.11686	.03623	.03518	.00001	.00000	.00972	.54906	.06122	.03035	.02413
5000	.00648	.00000	.11464	.01264	.13712	.03327	.02500	.00002	.00000	.01005	.53487	.07429	.02904	.02259
5100	.00632	.00000	.11470	.00950	.15660	.02940	.01690	.00003	.00000	.01016	.52179	.08759	.02668	.02031
5200	.00618	.00000	.11442	.00706	.17434	.02505	.01090	.00005	.00000	.01007	.51028	.10049	.02358	.01759
5300	.00606	.00000	.11397	.00519	.18968	.02067	.00675	.00007	.00000	.00978	.50056	.11242	.02014	.01471
5400	.00597	.00000	.11346	.00378	.20239	.01663	.00404	.00010	.00000	.00936	.49265	.12298	.01671	.01193

TABLE 22.2D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
380	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
400	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
420	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
440	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
460	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
480	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
500	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
520	.00831	.02325	.00000	.14018	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
537	.00831	.02325	.00000	.14018	.00000	.00001	.13499	.00000	.00000	.00000	.69326	.00000	.00000	.00000
540	.00831	.02324	.00000	.14018	.00000	.00001	.13499	.00000	.00000	.00000	.69326	.00000	.00000	.00000
560	.00831	.02324	.00000	.14018	.00000	.00002	.13499	.00000	.00000	.00000	.69326	.00000	.00000	.00000
580	.00831	.02324	.00000	.14018	.00000	.00003	.13498	.00000	.00000	.00000	.69325	.00000	.00000	.00000
600	.00831	.02323	.00000	.14019	.00000	.00005	.13497	.00000	.00000	.00000	.69324	.00000	.00000	.00000
620	.00831	.02323	.00000	.14019	.00000	.00007	.13495	.00000	.00000	.00000	.69323	.00000	.00000	.00000
640	.00831	.02322	.00000	.14020	.00000	.00012	.13493	.00000	.00000	.00000	.69322	.00000	.00000	.00000
660	.00831	.02320	.00000	.14021	.00000	.00018	.13489	.00000	.00000	.00000	.69320	.00000	.00000	.00000
680	.00831	.02317	.00000	.14023	.00000	.00027	.13484	.00000	.00001	.00000	.69317	.00000	.00000	.00000
700	.00831	.02314	.00000	.14025	.00000	.00040	.13477	.00000	.00001	.00000	.69312	.00000	.00000	.00000
720	.00831	.02309	.00000	.14028	.00000	.00057	.13467	.00000	.00001	.00000	.69306	.00000	.00000	.00000
740	.00831	.02303	.00000	.14033	.00000	.00081	.13453	.00000	.00001	.00000	.69298	.00000	.00000	.00000
760	.00831	.02295	.00000	.14038	.00000	.00112	.13436	.00000	.00001	.00000	.69287	.00000	.00000	.00000
780	.00831	.02284	.00000	.14045	.00000	.00153	.13412	.00000	.00001	.00000	.69273	.00000	.00000	.00000
800	.00831	.02270	.00000	.14055	.00000	.00206	.13382	.00000	.00001	.00000	.69254	.00000	.00000	.00000
820	.00830	.02253	.00001	.14067	.00000	.00273	.13345	.00000	.00001	.00000	.69231	.00000	.00000	.00000
840	.00830	.02231	.00001	.14081	.00000	.00356	.13297	.00000	.00001	.00000	.69202	.00000	.00000	.00000
860	.00830	.02203	.00002	.14099	.00000	.00460	.13239	.00000	.00001	.00000	.69166	.00000	.00000	.00000
880	.00829	.02170	.00004	.14121	.00000	.00586	.13168	.00000	.00002	.00000	.69121	.00000	.00000	.00000
900	.00828	.02130	.00006	.14146	.00000	.00737	.13083	.00000	.00002	.00000	.69068	.00000	.00000	.00000
920	.00828	.02082	.00009	.14176	.00000	.00917	.12982	.00000	.00002	.00000	.69005	.00000	.00000	.00000
940	.00827	.02025	.00014	.14210	.00000	.01129	.12864	.00000	.00002	.00000	.68929	.00000	.00000	.00000
960	.00826	.01959	.00020	.14249	.00000	.01374	.12727	.00000	.00002	.00000	.68842	.00000	.00000	.00000
980	.00824	.01883	.00030	.14292	.00000	.01656	.12572	.00000	.00002	.00000	.68741	.00000	.00000	.00000
1000	.00823	.01796	.00043	.14339	.00000	.01974	.12397	.00000	.00002	.00000	.68626	.00000	.00000	.00000
1020	.00822	.01698	.00061	.14388	.00000	.02330	.12203	.00000	.00002	.00000	.68497	.00000	.00000	.00000
1040	.00820	.01590	.00086	.14438	.00000	.02721	.11991	.00000	.00002	.00000	.68352	.00000	.00000	.00000
1060	.00818	.01470	.00118	.14488	.00000	.03146	.11764	.00000	.00002	.00000	.68194	.00000	.00000	.00000
1080	.00816	.01340	.00160	.14535	.00000	.03600	.11524	.00000	.00002	.00000	.68022	.00000	.00000	.00000
1100	.00814	.01201	.00214	.14577	.00000	.04077	.11277	.00000	.00002	.00000	.67838	.00000	.00000	.00000
1120	.00811	.01055	.00282	.14610	.00000	.04568	.11028	.00000	.00002	.00000	.67644	.00000	.00000	.00000
1140	.00809	.00904	.00364	.14631	.00000	.05062	.10783	.00000	.00002	.00000	.67445	.00000	.00000	.00000

TABLE 22.2D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00806	.00753	.00463	.14637	.00000	.05544	.10552	.00000	.00002	.00000	.67243	.00000	.00000	.00000
1180	.00804	.00604	.00576	.14625	.00000	.05997	.10344	.00000	.00002	.00000	.67047	.00000	.00000	.00000
1200	.00802	.00466	.00702	.14595	.00000	.06402	.10169	.00000	.00002	.00000	.66863	.00000	.00000	.00000
1220	.00800	.00342	.00835	.14546	.00000	.06740	.10035	.00000	.00002	.00000	.66700	.00000	.00000	.00000
1240	.00798	.00239	.00971	.14481	.00000	.06998	.09947	.00000	.00002	.00000	.66563	.00000	.00000	.00000
1260	.00797	.00159	.01104	.14403	.00000	.07171	.09907	.00000	.00001	.00000	.66457	.00000	.00000	.00000
1280	.00796	.00102	.01230	.14316	.00000	.07264	.09909	.00000	.00001	.00000	.66381	.00000	.00000	.00000
1300	.00796	.00063	.01349	.14224	.00000	.07293	.09944	.00000	.00001	.00000	.66330	.00000	.00000	.00000
1320	.00795	.00039	.01461	.14129	.00000	.07275	.10002	.00000	.00001	.00000	.66298	.00000	.00000	.00000
1340	.00795	.00024	.01568	.14033	.00000	.07227	.10076	.00000	.00001	.00000	.66277	.00000	.00000	.00000
1360	.00795	.00014	.01671	.13935	.00000	.07159	.10160	.00000	.00001	.00000	.66265	.00000	.00000	.00000
1380	.00795	.00009	.01773	.13838	.00000	.07079	.10249	.00000	.00001	.00000	.66258	.00000	.00000	.00000
1400	.00795	.00005	.01873	.13740	.00000	.06992	.10341	.00000	.00001	.00000	.66253	.00000	.00000	.00000
1420	.00795	.00003	.01971	.13643	.00000	.06901	.10436	.00000	.00001	.00000	.66250	.00000	.00000	.00000
1440	.00795	.00002	.02069	.13546	.00000	.06808	.10531	.00000	.00000	.00000	.66249	.00000	.00000	.00000
1460	.00795	.00001	.02166	.13450	.00000	.06715	.10626	.00000	.00000	.00000	.66248	.00000	.00000	.00000
1480	.00795	.00001	.02262	.13354	.00000	.06621	.10721	.00000	.00000	.00000	.66247	.00000	.00000	.00000
1500	.00795	.00001	.02357	.13260	.00000	.06527	.10815	.00000	.00000	.00000	.66247	.00000	.00000	.00000
1520	.00795	.00000	.02450	.13166	.00000	.06434	.10908	.00000	.00000	.00000	.66247	.00000	.00000	.00000
1540	.00795	.00000	.02543	.13073	.00000	.06341	.11001	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1560	.00795	.00000	.02635	.12981	.00000	.06250	.11092	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1580	.00795	.00000	.02725	.12891	.00000	.06160	.11183	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1600	.00795	.00000	.02814	.12802	.00000	.06071	.11272	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1620	.00795	.00000	.02902	.12714	.00000	.05983	.11359	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1640	.00795	.00000	.02989	.12628	.00000	.05897	.11446	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1660	.00795	.00000	.03073	.12543	.00000	.05812	.11531	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1680	.00795	.00000	.03157	.12460	.00000	.05729	.11614	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1700	.00795	.00000	.03239	.12378	.00000	.05647	.11696	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1720	.00795	.00000	.03319	.12297	.00000	.05567	.11776	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1740	.00795	.00000	.03398	.12218	.00000	.05488	.11855	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1760	.00795	.00000	.03475	.12141	.00000	.05410	.11933	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1780	.00795	.00000	.03551	.12065	.00000	.05335	.12008	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1800	.00795	.00000	.03625	.11991	.00000	.05260	.12083	.00000	.00000	.00000	.66246	.00000	.00000	.00000
1900	.00795	.00000	.03974	.11642	.00000	.04912	.12431	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2000	.00795	.00000	.04287	.11330	.00000	.04599	.12744	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2100	.00795	.00000	.04565	.11051	.00000	.04320	.13023	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2200	.00795	.00000	.04814	.10802	.00000	.04072	.13272	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2300	.00795	.00000	.05036	.10580	.00000	.03849	.13494	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2400	.00795	.00000	.05235	.10382	.00000	.03651	.13692	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2500	.00795	.00000	.05412	.10204	.00000	.03474	.13869	.00000	.00000	.00000	.66246	.00000	.00000	.00000

TABLE 22.2D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00795	.00000	.05571	.10045	.00001	.03315	.14028	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2700	.00795	.00000	.05714	.09903	.00001	.03172	.14171	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2800	.00795	.00000	.05842	.09774	.00002	.03043	.14299	.00000	.00000	.00000	.66245	.00000	.00000	.00000
2900	.00795	.00000	.05958	.09658	.00003	.02926	.14415	.00000	.00000	.00000	.66245	.00000	.00001	.00000
3000	.00794	.00000	.06063	.09553	.00006	.02821	.14518	.00000	.00000	.00000	.66244	.00000	.00001	.00000
3100	.00794	.00000	.06158	.09457	.00009	.02724	.14611	.00000	.00000	.00000	.66242	.00000	.00003	.00000
3200	.00794	.00000	.06244	.09371	.00015	.02637	.14694	.00000	.00000	.00001	.66239	.00000	.00005	.00000
3300	.00794	.00000	.06323	.09291	.00024	.02556	.14767	.00000	.00000	.00001	.66234	.00000	.00010	.00000
3400	.00794	.00000	.06395	.09217	.00036	.02483	.14828	.00000	.00000	.00003	.66226	.00000	.00018	.00000
3500	.00794	.00000	.06463	.09146	.00054	.02415	.14878	.00000	.00000	.00005	.66213	.00000	.00030	.00001
3600	.00794	.00000	.06528	.09077	.00078	.02354	.14911	.00000	.00000	.00009	.66193	.00001	.00051	.00003
3700	.00794	.00000	.06595	.09003	.00112	.02300	.14925	.00000	.00000	.00017	.66161	.00003	.00082	.00008
3800	.00793	.00000	.06670	.08918	.00158	.02256	.14913	.00000	.00000	.00029	.66111	.00006	.00129	.00018
3900	.00792	.00000	.06763	.08809	.00218	.02224	.14863	.00000	.00000	.00048	.66035	.00013	.00197	.00038
4000	.00791	.00000	.06889	.08659	.00298	.02211	.14761	.00000	.00000	.00077	.65918	.00027	.00293	.00076
4100	.00789	.00000	.07066	.08446	.00404	.02224	.14590	.00000	.00000	.00119	.65745	.00052	.00423	.00142
4200	.00787	.00000	.07312	.08149	.00544	.02273	.14330	.00000	.00000	.00175	.65499	.00094	.00591	.00247
4300	.00783	.00000	.07635	.07756	.00729	.02362	.13967	.00000	.00000	.00247	.65164	.00162	.00798	.00398
4400	.00778	.00000	.08032	.07267	.00972	.02494	.13489	.00000	.00000	.00333	.64733	.00265	.01043	.00594
4500	.00773	.00000	.08487	.06698	.01290	.02664	.12894	.00000	.00000	.00431	.64202	.00414	.01322	.00825
4600	.00766	.00000	.08975	.06074	.01700	.02867	.12183	.00000	.00000	.00539	.63571	.00618	.01628	.01078
4700	.00758	.00000	.09470	.05422	.02219	.03091	.11362	.00000	.00000	.00654	.62845	.00890	.01952	.01338
4800	.00749	.00000	.09946	.04767	.02866	.03322	.10443	.00000	.00000	.00772	.62026	.01240	.02282	.01588
4900	.00738	.00000	.10381	.04131	.03656	.03546	.09441	.00000	.00000	.00889	.61119	.01678	.02603	.01814
5000	.00727	.00000	.10761	.03533	.04600	.03745	.08379	.00001	.00000	.01004	.60134	.02212	.02901	.02003
5100	.00715	.00000	.11076	.02982	.05703	.03899	.07284	.00001	.00000	.01111	.59080	.02846	.03157	.02145
5200	.00703	.00000	.11321	.02488	.06958	.03991	.06188	.00002	.00000	.01209	.57973	.03581	.03354	.02233
5300	.00689	.00000	.11497	.02053	.08350	.04006	.05127	.00002	.00000	.01293	.56831	.04410	.03478	.02263
5400	.00676	.00000	.11610	.01676	.09848	.03937	.04135	.00003	.00000	.01361	.55679	.05321	.03519	.02234

TABLE 22.3D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
380	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
400	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
420	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
440	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
460	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
480	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
500	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
520	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
537	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
540	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.00000	.69326	.00000	.00000	.00000
560	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13499	.00000	.00000	.00000	.69326	.00000	.00000	.00000
580	.00831	.02324	.00000	.14018	.00000	.00000	.00001	.13499	.00000	.00000	.00000	.69326	.00000	.00000	.00000
600	.00831	.02324	.00000	.14018	.00000	.00000	.00001	.13499	.00000	.00000	.00000	.69325	.00000	.00000	.00000
620	.00831	.02324	.00000	.14018	.00000	.00000	.00002	.13498	.00000	.00001	.00000	.69325	.00000	.00000	.00000
640	.00831	.02324	.00000	.14019	.00000	.00000	.00004	.13497	.00000	.00001	.00000	.69325	.00000	.00000	.00000
660	.00831	.02323	.00000	.14019	.00000	.00000	.00006	.13496	.00000	.00001	.00000	.69324	.00000	.00000	.00000
680	.00831	.02322	.00000	.14020	.00000	.00000	.00009	.13494	.00000	.00001	.00000	.69323	.00000	.00000	.00000
700	.00831	.02321	.00000	.14020	.00000	.00000	.00013	.13492	.00000	.00001	.00000	.69321	.00000	.00000	.00000
720	.00831	.02320	.00000	.14021	.00000	.00000	.00018	.13489	.00000	.00001	.00000	.69319	.00000	.00000	.00000
740	.00831	.02318	.00000	.14023	.00000	.00000	.00026	.13484	.00000	.00001	.00000	.69317	.00000	.00000	.00000
760	.00831	.02315	.00000	.14025	.00000	.00000	.00036	.13479	.00000	.00002	.00000	.69313	.00000	.00000	.00000
780	.00831	.02311	.00000	.14027	.00000	.00000	.00049	.13471	.00000	.00002	.00000	.69309	.00000	.00000	.00000
800	.00831	.02307	.00000	.14030	.00000	.00000	.00066	.13461	.00000	.00002	.00000	.69303	.00000	.00000	.00000
820	.00831	.02301	.00000	.14034	.00000	.00000	.00087	.13449	.00000	.00002	.00000	.69295	.00000	.00000	.00000
840	.00831	.02294	.00000	.14039	.00000	.00000	.00114	.13434	.00000	.00002	.00000	.69286	.00000	.00000	.00000
860	.00831	.02285	.00001	.14045	.00000	.00000	.00148	.13414	.00000	.00003	.00000	.69274	.00000	.00000	.00000
880	.00831	.02274	.00001	.14052	.00000	.00000	.00189	.13391	.00000	.00003	.00000	.69259	.00000	.00000	.00000
900	.00830	.02260	.00002	.14061	.00000	.00000	.00239	.13363	.00000	.00003	.00000	.69241	.00000	.00000	.00000
920	.00830	.02244	.00003	.14071	.00000	.00000	.00300	.13328	.00000	.00003	.00000	.69220	.00000	.00000	.00000
940	.00830	.02225	.00004	.14083	.00000	.00000	.00372	.13288	.00000	.00004	.00000	.69194	.00000	.00000	.00000
960	.00830	.02202	.00006	.14096	.00000	.00000	.00458	.13240	.00000	.00004	.00000	.69164	.00000	.00000	.00000
980	.00829	.02175	.00009	.14112	.00000	.00000	.00558	.13185	.00000	.00004	.00000	.69128	.00000	.00000	.00000
1000	.00829	.02143	.00014	.14130	.00000	.00000	.00674	.13120	.00000	.00004	.00000	.69086	.00000	.00000	.00000
1020	.00828	.02107	.00019	.14149	.00000	.00000	.00807	.13047	.00000	.00005	.00000	.69038	.00000	.00000	.00000
1040	.00827	.02065	.00027	.14170	.00000	.00000	.00960	.12964	.00000	.00005	.00000	.68982	.00000	.00000	.00000
1060	.00827	.02017	.00038	.14192	.00000	.00000	.01132	.12870	.00000	.00005	.00000	.68919	.00000	.00000	.00000
1080	.00826	.01962	.00052	.14216	.00000	.00000	.01326	.12766	.00000	.00005	.00000	.68847	.00000	.00000	.00000
1100	.00825	.01901	.00070	.14239	.00000	.00000	.01541	.12652	.00000	.00006	.00000	.68766	.00000	.00000	.00000
1120	.00824	.01833	.00094	.14263	.00000	.00000	.01778	.12527	.00000	.00006	.00000	.68675	.00000	.00000	.00000
1140	.00822	.01757	.00125	.14285	.00000	.00000	.02038	.12393	.00000	.00006	.00000	.68575	.00000	.00000	.00000

TABLE 22.3D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00821	.01673	.00163	.14304	.00000	.00000	.02320	.12250	.00000	.00006	.00000	.68464	.00000	.00000	.00000
1180	.00820	.01581	.00211	.14319	.00000	.00000	.02622	.12099	.00000	.00006	.00000	.68342	.00000	.00000	.00000
1200	.00818	.01482	.00270	.14329	.00000	.00000	.02944	.11942	.00000	.00006	.00000	.68210	.00000	.00000	.00000
1220	.00816	.01375	.00341	.14331	.00000	.00000	.03282	.11781	.00000	.00006	.00000	.68068	.00000	.00000	.00000
1240	.00815	.01260	.00427	.14324	.00000	.00000	.03634	.11618	.00000	.00006	.00000	.67917	.00000	.00000	.00000
1260	.00813	.01139	.00528	.14306	.00000	.00000	.03994	.11457	.00000	.00006	.00000	.67757	.00000	.00000	.00000
1280	.00811	.01013	.00645	.14275	.00000	.00000	.04358	.11301	.00000	.00006	.00000	.67590	.00000	.00000	.00000
1300	.00809	.00884	.00778	.14231	.00000	.00000	.04719	.11154	.00000	.00006	.00000	.67419	.00000	.00000	.00000
1320	.00807	.00755	.00926	.14172	.00000	.00000	.05067	.11021	.00000	.00006	.00000	.67247	.00000	.00000	.00000
1340	.00805	.00627	.01086	.14100	.00000	.00000	.05393	.10905	.00000	.00006	.00000	.67078	.00000	.00000	.00000
1360	.00803	.00506	.01255	.14014	.00000	.00000	.05688	.10811	.00000	.00005	.00000	.66918	.00000	.00000	.00000
1380	.00801	.00395	.01427	.13918	.00000	.00000	.05940	.10743	.00000	.00005	.00000	.66771	.00000	.00000	.00000
1400	.00799	.00298	.01598	.13814	.00000	.00000	.06141	.10703	.00000	.00005	.00000	.66642	.00000	.00000	.00000
1420	.00798	.00218	.01761	.13706	.00000	.00000	.06287	.10691	.00000	.00004	.00000	.66535	.00000	.00000	.00000
1440	.00797	.00154	.01914	.13597	.00000	.00000	.06378	.10705	.00000	.00004	.00000	.66451	.00000	.00000	.00000
1460	.00796	.00106	.02054	.13489	.00000	.00000	.06421	.10742	.00000	.00004	.00000	.66387	.00000	.00000	.00000
1480	.00796	.00072	.02183	.13384	.00000	.00000	.06423	.10797	.00000	.00003	.00000	.66342	.00000	.00000	.00000
1500	.00795	.00048	.02302	.13281	.00000	.00000	.06396	.10864	.00000	.00003	.00000	.66310	.00000	.00000	.00000
1520	.00795	.00032	.02413	.13182	.00000	.00000	.06347	.10940	.00000	.00003	.00000	.66289	.00000	.00000	.00000
1540	.00795	.00021	.02518	.13084	.00000	.00000	.06284	.11021	.00000	.00002	.00000	.66275	.00000	.00000	.00000
1560	.00795	.00014	.02617	.12990	.00000	.00000	.06212	.11105	.00000	.00002	.00000	.66265	.00000	.00000	.00000
1580	.00795	.00009	.02713	.12897	.00000	.00000	.06134	.11191	.00000	.00002	.00000	.66259	.00000	.00000	.00000
1600	.00795	.00006	.02806	.12806	.00000	.00000	.06053	.11277	.00000	.00002	.00000	.66255	.00000	.00000	.00000
1620	.00795	.00004	.02896	.12717	.00000	.00000	.05971	.11363	.00000	.00001	.00000	.66252	.00000	.00000	.00000
1640	.00795	.00003	.02984	.12630	.00000	.00000	.05889	.11448	.00000	.00001	.00000	.66250	.00000	.00000	.00000
1660	.00795	.00002	.03070	.12545	.00000	.00000	.05806	.11532	.00000	.00001	.00000	.66249	.00000	.00000	.00000
1680	.00795	.00001	.03155	.12461	.00000	.00000	.05725	.11615	.00000	.00001	.00000	.66248	.00000	.00000	.00000
1700	.00795	.00001	.03237	.12379	.00000	.00000	.05644	.11696	.00000	.00001	.00000	.66247	.00000	.00000	.00000
1720	.00795	.00001	.03318	.12298	.00000	.00000	.05564	.11777	.00000	.00001	.00000	.66247	.00000	.00000	.00000
1740	.00795	.00000	.03397	.12219	.00000	.00000	.05486	.11855	.00000	.00001	.00000	.66247	.00000	.00000	.00000
1760	.00795	.00000	.03475	.12142	.00000	.00000	.05409	.11933	.00000	.00001	.00000	.66247	.00000	.00000	.00000
1780	.00795	.00000	.03551	.12066	.00000	.00000	.05333	.12008	.00000	.00001	.00000	.66246	.00000	.00000	.00000
1800	.00795	.00000	.03625	.11991	.00000	.00000	.05259	.12083	.00000	.00001	.00000	.66246	.00000	.00000	.00000
1900	.00795	.00000	.03974	.11642	.00000	.00000	.04911	.12431	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2000	.00795	.00000	.04286	.11330	.00000	.00000	.04599	.12744	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2100	.00795	.00000	.04565	.11051	.00000	.00000	.04320	.13023	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2200	.00795	.00000	.04814	.10802	.00000	.00000	.04071	.13272	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2300	.00795	.00000	.05036	.10580	.00000	.00000	.03849	.13494	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2400	.00795	.00000	.05235	.10382	.00000	.00000	.03651	.13692	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2500	.00795	.00000	.05412	.10204	.00000	.00000	.03474	.13869	.00000	.00000	.00000	.66246	.00000	.00000	.00000

TABLE 22.3D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00795	.00000	.05571	.10045	.00000	.00000	.03315	.14028	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2700	.00795	.00000	.05714	.09902	.00000	.00000	.03172	.14171	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2800	.00795	.00000	.05843	.09774	.00001	.00000	.03043	.14300	.00000	.00000	.00000	.66246	.00000	.00000	.00000
2900	.00795	.00000	.05959	.09658	.00001	.00000	.02927	.14416	.00000	.00000	.00000	.66246	.00000	.00000	.00000
3000	.00795	.00000	.06064	.09552	.00002	.00000	.02821	.14520	.00000	.00000	.00000	.66245	.00000	.00000	.00000
3100	.00795	.00000	.06159	.09457	.00003	.00000	.02726	.14615	.00000	.00000	.00000	.66245	.00000	.00001	.00000
3200	.00794	.00000	.06246	.09370	.00005	.00000	.02639	.14701	.00000	.00000	.00000	.66244	.00000	.00002	.00000
3300	.00794	.00000	.06325	.09291	.00007	.00000	.02559	.14778	.00000	.00000	.00000	.66242	.00000	.00003	.00000
3400	.00794	.00000	.06397	.09218	.00011	.00000	.02486	.14847	.00000	.00000	.00001	.66240	.00000	.00006	.00000
3500	.00794	.00000	.06463	.09151	.00017	.00000	.02419	.14908	.00000	.00000	.00002	.66236	.00000	.00010	.00000
3600	.00794	.00000	.06525	.09088	.00025	.00000	.02358	.14961	.00000	.00000	.00003	.66230	.00000	.00016	.00000
3700	.00794	.00000	.06583	.09028	.00035	.00000	.02302	.15004	.00000	.00000	.00005	.66221	.00000	.00026	.00001
3800	.00794	.00000	.06639	.08969	.00050	.00000	.02251	.15037	.00000	.00000	.00009	.66207	.00001	.00041	.00002
3900	.00794	.00000	.06696	.08908	.00069	.00000	.02205	.15058	.00000	.00000	.00015	.66186	.00001	.00063	.00004
4000	.00794	.00000	.06755	.08843	.00093	.00000	.02166	.15062	.00000	.00000	.00025	.66155	.00003	.00096	.00008
4100	.00793	.00000	.06823	.08766	.00125	.00000	.02134	.15046	.00000	.00000	.00040	.66110	.00006	.00141	.00016
4200	.00792	.00000	.06905	.08671	.00166	.00000	.02112	.15002	.00000	.00000	.00063	.66044	.00011	.00203	.00031
4300	.00792	.00000	.07011	.08546	.00217	.00000	.02103	.14923	.00000	.00000	.00094	.65950	.00019	.00286	.00057
4400	.00790	.00000	.07152	.08380	.00283	.00000	.02112	.14799	.00000	.00000	.00137	.65819	.00034	.00393	.00100
4500	.00788	.00000	.07336	.08161	.00366	.00000	.02143	.14619	.00000	.00000	.00194	.65641	.00058	.00528	.00164
4600	.00786	.00000	.07572	.07878	.00471	.00000	.02201	.14375	.00000	.00000	.00266	.65408	.00095	.00693	.00255
4700	.00783	.00000	.07862	.07528	.00604	.00000	.02287	.14060	.00000	.00000	.00352	.65113	.00149	.00888	.00374
4800	.00779	.00000	.08201	.07117	.00771	.00000	.02402	.13669	.00000	.00000	.00451	.64754	.00225	.01111	.00521
4900	.00775	.00000	.08579	.06652	.00979	.00000	.02545	.13201	.00000	.00000	.00562	.64331	.00327	.01359	.00689
5000	.00770	.00000	.08981	.06150	.01238	.00000	.02712	.12659	.00000	.00000	.00682	.63846	.00461	.01629	.00872
5100	.00764	.00000	.09392	.05625	.01555	.00001	.02898	.12045	.00000	.00000	.00809	.63301	.00633	.01915	.01061
5200	.00758	.00000	.09798	.05094	.01939	.00001	.03098	.11365	.00001	.00000	.00940	.62701	.00847	.02211	.01249
5300	.00751	.00000	.10185	.04568	.02398	.00001	.03305	.10625	.00001	.00000	.01073	.62047	.01108	.02510	.01428
5400	.00743	.00000	.10542	.04061	.02940	.00001	.03509	.09836	.00001	.00000	.01206	.61345	.01420	.02804	.01591

TABLE 22.4D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
380	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
400	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
420	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
440	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
460	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
480	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
500	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
520	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
537	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
540	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
560	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13499	.00001	.00000	.69326	.00000	.00000	.00000
580	.00831	.02324	.00000	.14018	.00000	.00000	.00000	.13499	.00001	.00000	.69326	.00000	.00000	.00000
600	.00831	.02324	.00000	.14018	.00000	.00000	.00000	.13499	.00001	.00000	.69326	.00000	.00000	.00000
620	.00831	.02324	.00000	.14018	.00000	.00000	.00001	.13499	.00001	.00000	.69326	.00000	.00000	.00000
640	.00831	.02324	.00000	.14018	.00000	.00000	.00001	.13498	.00001	.00000	.69325	.00000	.00000	.00000
660	.00831	.02324	.00000	.14019	.00000	.00000	.00002	.13498	.00001	.00000	.69325	.00000	.00000	.00000
680	.00831	.02323	.00000	.14019	.00000	.00000	.00003	.13497	.00002	.00000	.69325	.00000	.00000	.00000
700	.00831	.02323	.00000	.14019	.00000	.00000	.00004	.13496	.00002	.00000	.69324	.00000	.00000	.00000
720	.00831	.02322	.00000	.14020	.00000	.00000	.00006	.13495	.00002	.00000	.69323	.00000	.00000	.00000
740	.00831	.02322	.00000	.14020	.00000	.00000	.00008	.13494	.00002	.00000	.69323	.00000	.00000	.00000
760	.00831	.02321	.00000	.14021	.00000	.00000	.00011	.13492	.00003	.00000	.69321	.00000	.00000	.00000
780	.00831	.02320	.00000	.14022	.00000	.00000	.00015	.13489	.00003	.00000	.69320	.00000	.00000	.00000
800	.00831	.02318	.00000	.14023	.00000	.00000	.00021	.13486	.00004	.00000	.69318	.00000	.00000	.00000
820	.00831	.02316	.00000	.14024	.00000	.00000	.00028	.13482	.00004	.00000	.69315	.00000	.00000	.00000
840	.00831	.02314	.00000	.14026	.00000	.00000	.00036	.13476	.00004	.00000	.69312	.00000	.00000	.00000
860	.00831	.02311	.00000	.14028	.00000	.00000	.00047	.13470	.00005	.00000	.69308	.00000	.00000	.00000
880	.00831	.02307	.00000	.14030	.00000	.00000	.00060	.13462	.00005	.00000	.69303	.00000	.00000	.00000
900	.00831	.02303	.00001	.14033	.00000	.00000	.00076	.13453	.00006	.00000	.69298	.00000	.00000	.00000
920	.00831	.02297	.00001	.14037	.00000	.00000	.00096	.13442	.00006	.00000	.69291	.00000	.00000	.00000
940	.00831	.02291	.00001	.14041	.00000	.00000	.00119	.13428	.00007	.00000	.69282	.00000	.00000	.00000
960	.00831	.02283	.00002	.14045	.00000	.00000	.00147	.13412	.00007	.00000	.69272	.00000	.00000	.00000
980	.00831	.02274	.00003	.14051	.00000	.00000	.00180	.13394	.00008	.00000	.69260	.00000	.00000	.00000
1000	.00831	.02264	.00004	.14057	.00000	.00000	.00218	.13372	.00008	.00000	.69246	.00000	.00000	.00000
1020	.00830	.02251	.00006	.14063	.00000	.00000	.00263	.13347	.00009	.00000	.69230	.00000	.00000	.00000
1040	.00830	.02237	.00009	.14071	.00000	.00000	.00314	.13319	.00009	.00000	.69211	.00000	.00000	.00000
1060	.00830	.02220	.00012	.14079	.00000	.00000	.00373	.13286	.00010	.00000	.69189	.00000	.00000	.00000
1080	.00830	.02201	.00017	.14088	.00000	.00000	.00440	.13250	.00010	.00000	.69164	.00000	.00000	.00000
1100	.00829	.02180	.00022	.14097	.00000	.00000	.00516	.13209	.00011	.00000	.69136	.00000	.00000	.00000
1120	.00829	.02155	.00030	.14106	.00000	.00000	.00602	.13163	.00011	.00000	.69103	.00000	.00000	.00000
1140	.00828	.02127	.00040	.14115	.00000	.00000	.00698	.13113	.00012	.00000	.69067	.00000	.00000	.00000

TABLE 22.4D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00828	.02096	.00052	.14124	.00000	.00000	.00804	.13058	.00012	.00000	.69025	.00000	.00000	.00000
1180	.00827	.02061	.00068	.14133	.00000	.00000	.00921	.12997	.00013	.00000	.68979	.00000	.00000	.00000
1200	.00827	.02022	.00088	.14140	.00000	.00000	.01050	.12932	.00013	.00000	.68927	.00000	.00000	.00000
1220	.00826	.01979	.00112	.14146	.00000	.00000	.01192	.12862	.00014	.00000	.68870	.00000	.00000	.00000
1240	.00825	.01930	.00142	.14149	.00000	.00000	.01345	.12788	.00014	.00000	.68806	.00000	.00000	.00000
1260	.00824	.01877	.00178	.14149	.00000	.00000	.01511	.12709	.00015	.00000	.68736	.00000	.00000	.00000
1280	.00824	.01819	.00222	.14146	.00000	.00000	.01690	.12626	.00015	.00000	.68659	.00000	.00000	.00000
1300	.00823	.01755	.00274	.14138	.00000	.00000	.01881	.12540	.00015	.00000	.68574	.00000	.00000	.00000
1320	.00821	.01686	.00336	.14124	.00000	.00000	.02084	.12451	.00016	.00000	.68482	.00000	.00000	.00000
1340	.00820	.01611	.00408	.14103	.00000	.00000	.02298	.12361	.00016	.00000	.68383	.00000	.00000	.00000
1360	.00819	.01530	.00493	.14074	.00000	.00000	.02523	.12269	.00016	.00000	.68275	.00000	.00000	.00000
1380	.00818	.01443	.00590	.14037	.00000	.00000	.02758	.12178	.00016	.00000	.68160	.00000	.00000	.00000
1400	.00816	.01351	.00700	.13990	.00000	.00000	.03001	.12088	.00016	.00000	.68038	.00000	.00000	.00000
1420	.00815	.01253	.00824	.13933	.00000	.00000	.03249	.12001	.00016	.00000	.67909	.00000	.00000	.00000
1440	.00813	.01151	.00962	.13865	.00000	.00000	.03502	.11917	.00016	.00000	.67773	.00000	.00000	.00000
1460	.00811	.01045	.01114	.13786	.00000	.00000	.03755	.11839	.00016	.00000	.67633	.00000	.00000	.00000
1480	.00810	.00936	.01278	.13696	.00000	.00000	.04006	.11768	.00016	.00000	.67489	.00000	.00000	.00000
1500	.00808	.00827	.01454	.13597	.00000	.00000	.04250	.11706	.00016	.00000	.67344	.00000	.00000	.00000
1520	.00806	.00718	.01637	.13488	.00000	.00000	.04482	.11653	.00015	.00000	.67200	.00000	.00000	.00000
1540	.00804	.00612	.01826	.13372	.00000	.00000	.04699	.11612	.00015	.00000	.67060	.00000	.00000	.00000
1560	.00803	.00512	.02016	.13250	.00000	.00000	.04894	.11584	.00014	.00000	.66926	.00000	.00000	.00000
1580	.00801	.00418	.02205	.13126	.00000	.00000	.05063	.11570	.00014	.00000	.66802	.00000	.00000	.00000
1600	.00800	.00335	.02386	.13002	.00000	.00000	.05202	.11570	.00013	.00000	.66691	.00000	.00000	.00000
1620	.00799	.00262	.02558	.12880	.00000	.00000	.05310	.11584	.00012	.00000	.66595	.00000	.00000	.00000
1640	.00798	.00201	.02718	.12762	.00000	.00000	.05384	.11612	.00011	.00000	.66514	.00000	.00000	.00000
1660	.00797	.00151	.02865	.12649	.00000	.00000	.05428	.11651	.00011	.00000	.66448	.00000	.00000	.00000
1680	.00796	.00112	.02998	.12542	.00000	.00000	.05445	.11700	.00010	.00000	.66396	.00000	.00000	.00000
1700	.00796	.00082	.03120	.12442	.00000	.00000	.05439	.11756	.00009	.00000	.66357	.00000	.00000	.00000
1720	.00796	.00060	.03230	.12346	.00000	.00000	.05415	.11818	.00008	.00000	.66327	.00000	.00000	.00000
1740	.00795	.00043	.03332	.12256	.00000	.00000	.05377	.11884	.00008	.00000	.66305	.00000	.00000	.00000
1760	.00795	.00031	.03426	.12170	.00000	.00000	.05330	.11952	.00007	.00000	.66289	.00000	.00000	.00000
1780	.00795	.00023	.03514	.12087	.00000	.00000	.05276	.12022	.00006	.00000	.66277	.00000	.00000	.00000
1800	.00795	.00017	.03598	.12008	.00000	.00000	.05217	.12091	.00006	.00000	.66269	.00000	.00000	.00000
1900	.00795	.00004	.03967	.11648	.00000	.00000	.04901	.12432	.00004	.00000	.66251	.00000	.00000	.00000
2000	.00795	.00001	.04284	.11332	.00000	.00000	.04595	.12743	.00002	.00000	.66248	.00000	.00000	.00000
2100	.00795	.00000	.04564	.11052	.00000	.00000	.04318	.13022	.00002	.00000	.66247	.00000	.00000	.00000
2200	.00795	.00000	.04814	.10803	.00000	.00000	.04070	.13271	.00001	.00000	.66246	.00000	.00000	.00000
2300	.00795	.00000	.05036	.10581	.00000	.00000	.03849	.13493	.00001	.00000	.66246	.00000	.00000	.00000
2400	.00795	.00000	.05234	.10382	.00000	.00000	.03651	.13692	.00001	.00000	.66246	.00000	.00000	.00000
2500	.00795	.00000	.05412	.10205	.00000	.00000	.03473	.13869	.00000	.00000	.66246	.00000	.00000	.00000

TABLE 22.4D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00795	.00000	.05571	.10046	.00000	.00000	.03314	.14028	.00000	.00000	.66246	.00000	.00000	.00000
2700	.00795	.00000	.05714	.09903	.00000	.00000	.03172	.14171	.00000	.00000	.66246	.00000	.00000	.00000
2800	.00795	.00000	.05842	.09774	.00000	.00000	.03043	.14300	.00000	.00000	.66246	.00000	.00000	.00000
2900	.00795	.00000	.05959	.09658	.00000	.00000	.02927	.14416	.00000	.00000	.66246	.00000	.00000	.00000
3000	.00795	.00000	.06064	.09552	.00001	.00000	.02822	.14521	.00000	.00000	.66246	.00000	.00000	.00000
3100	.00795	.00000	.06159	.09457	.00001	.00000	.02726	.14616	.00000	.00000	.66246	.00000	.00000	.00000
3200	.00795	.00000	.06246	.09370	.00002	.00000	.02639	.14703	.00000	.00000	.66245	.00000	.00001	.00000
3300	.00795	.00000	.06325	.09291	.00002	.00000	.02560	.14781	.00000	.00000	.66245	.00000	.00001	.00000
3400	.00794	.00000	.06398	.09218	.00004	.00000	.02487	.14853	.00000	.00000	.66244	.00000	.00002	.00000
3500	.00794	.00000	.06464	.09152	.00005	.00000	.02421	.14917	.00000	.00001	.66243	.00000	.00003	.00000
3600	.00794	.00000	.06525	.09090	.00008	.00000	.02360	.14976	.00000	.00001	.66241	.00000	.00005	.00000
3700	.00794	.00000	.06582	.09033	.00011	.00000	.02304	.15028	.00000	.00002	.66238	.00000	.00008	.00000
3800	.00794	.00000	.06634	.08980	.00016	.00000	.02252	.15074	.00000	.00003	.66234	.00000	.00013	.00000
3900	.00794	.00000	.06684	.08929	.00022	.00000	.02205	.15113	.00000	.00005	.66228	.00000	.00020	.00000
4000	.00794	.00000	.06732	.08879	.00029	.00000	.02162	.15145	.00000	.00008	.66219	.00000	.00030	.00001
4100	.00794	.00000	.06779	.08830	.00039	.00000	.02122	.15170	.00000	.00013	.66206	.00001	.00045	.00002
4200	.00794	.00000	.06827	.08778	.00052	.00000	.02087	.15184	.00000	.00020	.66187	.00001	.00065	.00003
4300	.00794	.00000	.06877	.08723	.00068	.00000	.02057	.15187	.00000	.00031	.66161	.00002	.00093	.00006
4400	.00793	.00000	.06934	.08659	.00088	.00000	.02033	.15176	.00000	.00046	.66125	.00004	.00130	.00011
4500	.00793	.00000	.07000	.08584	.00112	.00000	.02015	.15147	.00000	.00068	.66076	.00006	.00179	.00020
4600	.00792	.00000	.07081	.08491	.00142	.00000	.02005	.15097	.00000	.00097	.66008	.00011	.00241	.00034
4700	.00791	.00000	.07181	.08374	.00179	.00000	.02006	.15020	.00000	.00136	.65919	.00018	.00320	.00056
4800	.00790	.00000	.07307	.08226	.00223	.00000	.02020	.14911	.00000	.00187	.65801	.00029	.00418	.00088
4900	.00789	.00000	.07464	.08041	.00278	.00000	.02049	.14764	.00000	.00250	.65651	.00045	.00536	.00133
5000	.00787	.00000	.07656	.07815	.00344	.00000	.02095	.14577	.00000	.00326	.65464	.00069	.00675	.00194
5100	.00785	.00000	.07883	.07545	.00424	.00000	.02160	.14343	.00000	.00415	.65237	.00101	.00835	.00271
5200	.00782	.00000	.08144	.07232	.00522	.00001	.02244	.14063	.00000	.00517	.64969	.00145	.01016	.00365
5300	.00779	.00000	.08435	.06882	.00639	.00001	.02348	.13734	.00000	.00630	.64660	.00202	.01217	.00473
5400	.00776	.00000	.08748	.06501	.00780	.00001	.02470	.13357	.00000	.00753	.64311	.00274	.01435	.00592

TABLE 22.5D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
380	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
400	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
420	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
440	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
460	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
480	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
500	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00000	.00000	.69326	.00000	.00000	.00000
520	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13500	.00001	.00000	.69326	.00000	.00000	.00000
537	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13499	.00001	.00000	.69326	.00000	.00000	.00000
540	.00831	.02325	.00000	.14018	.00000	.00000	.00000	.13499	.00001	.00000	.69326	.00000	.00000	.00000
560	.00831	.02324	.00000	.14018	.00000	.00000	.00000	.13499	.00001	.00000	.69326	.00000	.00000	.00000
580	.00831	.02324	.00000	.14018	.00000	.00000	.00000	.13499	.00001	.00000	.69326	.00000	.00000	.00000
600	.00831	.02324	.00000	.14018	.00000	.00000	.00000	.13499	.00001	.00000	.69326	.00000	.00000	.00000
620	.00831	.02324	.00000	.14018	.00000	.00000	.00000	.13499	.00002	.00000	.69326	.00000	.00000	.00000
640	.00831	.02324	.00000	.14019	.00000	.00000	.00001	.13498	.00002	.00000	.69325	.00000	.00000	.00000
660	.00831	.02324	.00000	.14019	.00000	.00000	.00001	.13498	.00002	.00000	.69325	.00000	.00000	.00000
680	.00831	.02324	.00000	.14019	.00000	.00000	.00001	.13497	.00002	.00000	.69325	.00000	.00000	.00000
700	.00831	.02323	.00000	.14019	.00000	.00000	.00002	.13497	.00003	.00000	.69325	.00000	.00000	.00000
720	.00831	.02323	.00000	.14020	.00000	.00000	.00003	.13496	.00003	.00000	.69324	.00000	.00000	.00000
740	.00831	.02322	.00000	.14020	.00000	.00000	.00004	.13495	.00004	.00000	.69324	.00000	.00000	.00000
760	.00831	.02322	.00000	.14020	.00000	.00000	.00005	.13494	.00004	.00000	.69323	.00000	.00000	.00000
780	.00831	.02321	.00000	.14021	.00000	.00000	.00007	.13493	.00005	.00000	.69322	.00000	.00000	.00000
800	.00831	.02320	.00000	.14022	.00000	.00000	.00009	.13491	.00005	.00000	.69321	.00000	.00000	.00000
820	.00831	.02319	.00000	.14022	.00000	.00000	.00012	.13489	.00006	.00000	.69320	.00000	.00000	.00000
840	.00831	.02318	.00000	.14023	.00000	.00000	.00016	.13486	.00006	.00000	.69318	.00000	.00000	.00000
860	.00831	.02317	.00000	.14024	.00000	.00000	.00021	.13483	.00007	.00000	.69316	.00000	.00000	.00000
880	.00831	.02315	.00000	.14026	.00000	.00000	.00027	.13479	.00008	.00000	.69314	.00000	.00000	.00000
900	.00831	.02313	.00000	.14027	.00000	.00000	.00034	.13475	.00008	.00000	.69311	.00000	.00000	.00000
920	.00831	.02310	.00000	.14029	.00000	.00000	.00043	.13469	.00009	.00000	.69308	.00000	.00000	.00000
940	.00831	.02307	.00001	.14031	.00000	.00000	.00054	.13463	.00010	.00000	.69304	.00000	.00000	.00000
960	.00831	.02303	.00001	.14033	.00000	.00000	.00066	.13455	.00011	.00000	.69299	.00000	.00000	.00000
980	.00831	.02299	.00001	.14036	.00000	.00000	.00081	.13446	.00011	.00000	.69294	.00000	.00000	.00000
1000	.00831	.02294	.00002	.14039	.00000	.00000	.00098	.13436	.00012	.00000	.69287	.00000	.00000	.00000
1020	.00831	.02288	.00003	.14042	.00000	.00000	.00118	.13425	.00013	.00000	.69280	.00000	.00000	.00000
1040	.00831	.02282	.00004	.14046	.00000	.00000	.00142	.13411	.00014	.00000	.69271	.00000	.00000	.00000
1060	.00831	.02274	.00005	.14050	.00000	.00000	.00169	.13396	.00015	.00000	.69261	.00000	.00000	.00000
1080	.00831	.02265	.00007	.14054	.00000	.00000	.00199	.13379	.00016	.00000	.69249	.00000	.00000	.00000
1100	.00830	.02255	.00010	.14058	.00000	.00000	.00234	.13359	.00016	.00000	.69236	.00000	.00000	.00000
1120	.00830	.02243	.00013	.14063	.00000	.00000	.00274	.13338	.00017	.00000	.69221	.00000	.00000	.00000
1140	.00830	.02230	.00018	.14068	.00000	.00000	.00318	.13314	.00018	.00000	.69204	.00000	.00000	.00000

TABLE 22.5D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00830	.02215	.00023	.14073	.00000	.00000	.00368	.13288	.00019	.00000	.69184	.00000	.00000	.00000
1180	.00830	.02199	.00031	.14077	.00000	.00000	.00423	.13259	.00020	.00000	.69162	.00000	.00000	.00000
1200	.00829	.02180	.00039	.14081	.00000	.00000	.00485	.13227	.00021	.00000	.69138	.00000	.00000	.00000
1220	.00829	.02159	.00050	.14085	.00000	.00000	.00552	.13193	.00022	.00000	.69110	.00000	.00000	.00000
1240	.00829	.02136	.00064	.14087	.00000	.00000	.00627	.13156	.00023	.00000	.69079	.00000	.00000	.00000
1260	.00828	.02110	.00080	.14089	.00000	.00000	.00708	.13116	.00023	.00000	.69045	.00000	.00000	.00000
1280	.00828	.02081	.00101	.14088	.00000	.00000	.00796	.13074	.00024	.00000	.69007	.00000	.00000	.00000
1300	.00827	.02049	.00125	.14086	.00000	.00000	.00892	.13030	.00025	.00000	.68965	.00000	.00000	.00000
1320	.00827	.02015	.00153	.14082	.00000	.00000	.00996	.12983	.00026	.00000	.68919	.00000	.00000	.00000
1340	.00826	.01976	.00188	.14074	.00000	.00000	.01107	.12934	.00027	.00000	.68869	.00000	.00000	.00000
1360	.00825	.01934	.00228	.14063	.00000	.00000	.01226	.12883	.00027	.00000	.68813	.00000	.00000	.00000
1380	.00825	.01888	.00275	.14047	.00000	.00000	.01354	.12830	.00028	.00000	.68752	.00000	.00000	.00000
1400	.00824	.01838	.00330	.14027	.00000	.00000	.01489	.12777	.00029	.00000	.68686	.00000	.00000	.00000
1420	.00823	.01784	.00393	.14002	.00000	.00000	.01632	.12722	.00029	.00000	.68615	.00000	.00000	.00000
1440	.00822	.01726	.00465	.13970	.00000	.00000	.01783	.12667	.00030	.00000	.68537	.00000	.00000	.00000
1460	.00821	.01663	.00546	.13931	.00000	.00000	.01942	.12613	.00030	.00000	.68454	.00000	.00000	.00000
1480	.00820	.01595	.00639	.13885	.00000	.00000	.02107	.12559	.00031	.00000	.68364	.00000	.00000	.00000
1500	.00819	.01523	.00742	.13832	.00000	.00000	.02279	.12506	.00031	.00000	.68269	.00000	.00000	.00000
1520	.00818	.01446	.00857	.13770	.00000	.00000	.02456	.12454	.00031	.00000	.68168	.00000	.00000	.00000
1540	.00816	.01366	.00983	.13699	.00000	.00000	.02638	.12405	.00032	.00000	.68060	.00000	.00000	.00000
1560	.00815	.01281	.01121	.13619	.00000	.00000	.02824	.12359	.00032	.00000	.67948	.00000	.00000	.00000
1580	.00814	.01193	.01270	.13531	.00000	.00000	.03013	.12317	.00032	.00000	.67831	.00000	.00000	.00000
1600	.00812	.01101	.01430	.13434	.00000	.00000	.03202	.12279	.00032	.00000	.67710	.00000	.00000	.00000
1620	.00811	.01008	.01599	.13329	.00000	.00000	.03390	.12245	.00032	.00000	.67586	.00000	.00000	.00000
1640	.00809	.00913	.01777	.13217	.00000	.00000	.03575	.12217	.00031	.00000	.67461	.00000	.00000	.00000
1660	.00808	.00818	.01961	.13098	.00000	.00000	.03755	.12195	.00031	.00000	.67335	.00000	.00000	.00000
1680	.00806	.00724	.02149	.12974	.00000	.00000	.03927	.12179	.00030	.00000	.67210	.00000	.00000	.00000
1700	.00805	.00632	.02339	.12847	.00000	.00000	.04088	.12170	.00030	.00000	.67089	.00000	.00000	.00000
1720	.00803	.00545	.02528	.12719	.00000	.00000	.04235	.12169	.00029	.00000	.66972	.00000	.00000	.00000
1740	.00802	.00462	.02713	.12590	.00000	.00000	.04367	.12175	.00028	.00000	.66863	.00000	.00000	.00000
1760	.00801	.00386	.02892	.12463	.00000	.00000	.04480	.12189	.00027	.00000	.66762	.00000	.00000	.00000
1780	.00800	.00318	.03062	.12340	.00000	.00000	.04573	.12211	.00025	.00000	.66672	.00000	.00000	.00000
1800	.00799	.00258	.03221	.12222	.00000	.00000	.04645	.12240	.00024	.00000	.66592	.00000	.00000	.00000
1900	.00796	.00076	.03842	.11725	.00000	.00000	.04728	.12466	.00017	.00000	.66350	.00000	.00000	.00000
2000	.00795	.00020	.04246	.11358	.00000	.00000	.04546	.12748	.00012	.00000	.66275	.00000	.00000	.00000
2100	.00795	.00006	.04551	.11063	.00000	.00000	.04302	.13021	.00008	.00000	.66255	.00000	.00000	.00000
2200	.00795	.00002	.04808	.10808	.00000	.00000	.04063	.13269	.00006	.00000	.66249	.00000	.00000	.00000
2300	.00795	.00001	.05033	.10584	.00000	.00000	.03845	.13492	.00004	.00000	.66247	.00000	.00000	.00000
2400	.00795	.00000	.05232	.10384	.00000	.00000	.03648	.13690	.00003	.00000	.66247	.00000	.00000	.00000
2500	.00795	.00000	.05410	.10206	.00000	.00000	.03472	.13868	.00002	.00000	.66247	.00000	.00000	.00000

TABLE 22.5D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00795	.00000	.05570	.10047	.00000	.00000	.03313	.14027	.00002	.00000	.66246	.00000	.00000	.00000
2700	.00795	.00000	.05713	.09904	.00000	.00000	.03171	.14170	.00001	.00000	.66246	.00000	.00000	.00000
2800	.00795	.00000	.05842	.09775	.00000	.00000	.03042	.14299	.00001	.00000	.66246	.00000	.00000	.00000
2900	.00795	.00000	.05958	.09658	.00000	.00000	.02926	.14415	.00001	.00000	.66246	.00000	.00000	.00000
3000	.00795	.00000	.06063	.09553	.00000	.00000	.02821	.14521	.00001	.00000	.66246	.00000	.00000	.00000
3100	.00795	.00000	.06159	.09457	.00000	.00000	.02726	.14616	.00001	.00000	.66246	.00000	.00000	.00000
3200	.00795	.00000	.06246	.09370	.00001	.00000	.02639	.14703	.00001	.00000	.66246	.00000	.00000	.00000
3300	.00795	.00000	.06325	.09291	.00001	.00000	.02560	.14782	.00000	.00000	.66246	.00000	.00000	.00000
3400	.00795	.00000	.06398	.09219	.00002	.00000	.02487	.14854	.00000	.00000	.66245	.00000	.00001	.00000
3500	.00795	.00000	.06464	.09152	.00002	.00000	.02421	.14919	.00000	.00000	.66245	.00000	.00001	.00000
3600	.00794	.00000	.06525	.09091	.00004	.00000	.02360	.14979	.00000	.00000	.66244	.00000	.00002	.00000
3700	.00794	.00000	.06581	.09035	.00005	.00000	.02304	.15033	.00000	.00001	.66243	.00000	.00004	.00000
3800	.00794	.00000	.06633	.08982	.00007	.00000	.02252	.15083	.00000	.00001	.66241	.00000	.00006	.00000
3900	.00794	.00000	.06682	.08933	.00010	.00000	.02205	.15127	.00000	.00002	.66238	.00000	.00009	.00000
4000	.00794	.00000	.06727	.08887	.00013	.00000	.02161	.15166	.00000	.00004	.66234	.00000	.00014	.00000
4100	.00794	.00000	.06771	.08842	.00018	.00000	.02121	.15199	.00000	.00006	.66228	.00000	.00020	.00000
4200	.00794	.00000	.06812	.08799	.00023	.00000	.02084	.15227	.00000	.00009	.66220	.00000	.00029	.00001
4300	.00794	.00000	.06854	.08756	.00030	.00000	.02051	.15248	.00000	.00014	.66209	.00000	.00042	.00001
4400	.00794	.00000	.06896	.08711	.00039	.00000	.02021	.15262	.00000	.00021	.66194	.00001	.00059	.00002
4500	.00794	.00000	.06940	.08663	.00050	.00000	.01995	.15268	.00000	.00031	.66173	.00001	.00081	.00004
4600	.00794	.00000	.06987	.08611	.00063	.00000	.01973	.15263	.00000	.00045	.66145	.00002	.00110	.00007
4700	.00793	.00000	.07042	.08550	.00079	.00000	.01956	.15246	.00000	.00064	.66108	.00004	.00147	.00012
4800	.00793	.00000	.07105	.08478	.00098	.00000	.01944	.15215	.00000	.00089	.66058	.00006	.00194	.00020
4900	.00792	.00000	.07180	.08391	.00121	.00000	.01940	.15166	.00000	.00121	.65994	.00010	.00253	.00031
5000	.00791	.00000	.07271	.08285	.00148	.00000	.01944	.15097	.00000	.00163	.65912	.00015	.00324	.00048
5100	.00791	.00000	.07382	.08156	.00181	.00000	.01957	.15004	.00000	.00215	.65808	.00023	.00410	.00072
5200	.00789	.00000	.07516	.08000	.00219	.00000	.01982	.14883	.00000	.00279	.65680	.00035	.00512	.00105
5300	.00788	.00000	.07675	.07813	.00265	.00000	.02019	.14734	.00000	.00354	.65524	.00050	.00630	.00147
5400	.00786	.00000	.07861	.07594	.00319	.00001	.02070	.14552	.00000	.00442	.65340	.00071	.00764	.00200

TABLE 22.1E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00795	.04443	.00000	.00000	.11173	.00000	.17331	.00012	.00000	.66246
400	.00795	.04443	.00000	.00000	.11173	.00000	.17072	.00271	.00000	.66246
440	.00795	.04439	.00002	.00000	.11176	.00000	.13849	.03491	.00000	.66249
480	.00796	.04254	.00099	.00000	.11294	.00000	.00000	.17180	.00000	.66377
520	.00797	.04127	.00165	.00000	.11376	.00001	.00000	.17069	.00000	.66465
537	.00798	.04061	.00199	.00000	.11418	.00002	.00000	.17012	.00000	.66510
560	.00799	.03957	.00253	.00000	.11485	.00003	.00000	.16921	.00000	.66582
600	.00800	.03749	.00360	.00000	.11620	.00010	.00000	.16737	.00000	.66723
640	.00802	.03506	.00483	.00000	.11778	.00028	.00000	.16517	.00000	.66885
680	.00804	.03234	.00614	.00000	.11960	.00069	.00000	.16258	.00000	.67060
720	.00806	.02936	.00749	.00000	.12166	.00152	.00000	.15953	.00000	.67238
760	.00808	.02616	.00876	.00000	.12398	.00306	.00000	.15589	.00000	.67406
800	.00810	.02274	.00985	.00001	.12664	.00571	.00000	.15144	.00001	.67551
840	.00811	.01912	.01064	.00003	.12970	.00992	.00000	.14592	.00001	.67656
880	.00812	.01527	.01100	.00009	.13324	.01617	.00000	.13907	.00001	.67704
920	.00812	.01116	.01086	.00023	.13730	.02479	.00000	.13068	.00001	.67685
960	.00811	.00675	.01019	.00056	.14186	.03586	.00000	.12072	.00001	.67596
1000	.00809	.00193	.00907	.00124	.14676	.04909	.00000	.10934	.00001	.67448
1040	.00805	.00000	.00635	.00241	.14939	.06217	.00000	.10075	.00001	.67087
1080	.00800	.00000	.00327	.00400	.14992	.07235	.00000	.09566	.00001	.66679
1120	.00797	.00000	.00129	.00583	.14945	.07809	.00000	.09320	.00001	.66417
1160	.00795	.00000	.00042	.00763	.14825	.07963	.00000	.09311	.00000	.66301
1200	.00795	.00000	.00013	.00939	.14669	.07898	.00000	.09424	.00000	.66263
1240	.00795	.00000	.00004	.01118	.14496	.07753	.00000	.09583	.00000	.66251
1280	.00795	.00000	.00001	.01302	.14313	.07579	.00000	.09762	.00000	.66248
1320	.00795	.00000	.00000	.01492	.14125	.07393	.00000	.09950	.00000	.66247
1360	.00795	.00000	.00000	.01684	.13932	.07201	.00000	.10142	.00000	.66246
1400	.00795	.00000	.00000	.01878	.13739	.07008	.00000	.10335	.00000	.66246

TABLE 22.2E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00795	.04443	.00000	.00000	.11173	.00000	.17342	.00000	.00001	.00000	.66246
400	.00795	.04443	.00000	.00000	.11173	.00000	.17316	.00000	.00027	.00000	.66246
440	.00795	.04443	.00000	.00000	.11173	.00000	.17008	.00000	.00336	.00000	.66246
480	.00795	.04438	.00003	.00000	.11177	.00000	.14521	.00000	.02817	.00000	.66250
520	.00797	.04137	.00160	.00000	.11370	.00000	.00000	.00286	.16792	.00000	.66458
537	.00798	.04061	.00199	.00000	.11418	.00000	.00000	.00000	.17013	.00000	.66510
560	.00799	.03958	.00253	.00000	.11484	.00001	.00000	.00000	.16923	.00000	.66582
600	.00800	.03752	.00361	.00000	.11616	.00003	.00000	.00000	.16743	.00000	.66724
640	.00802	.03513	.00484	.00000	.11770	.00009	.00000	.00000	.16534	.00000	.66887
680	.00804	.03250	.00619	.00000	.11941	.00022	.00000	.00000	.16298	.00000	.67066
720	.00807	.02968	.00759	.00000	.12127	.00048	.00000	.00000	.16039	.00001	.67252
760	.00809	.02673	.00900	.00000	.12324	.00098	.00000	.00000	.15756	.00001	.67439
800	.00811	.02371	.01035	.00000	.12533	.00185	.00000	.00000	.15445	.00001	.67618
840	.00813	.02064	.01158	.00001	.12755	.00327	.00000	.00000	.15099	.00001	.67781
880	.00815	.01755	.01262	.00003	.12991	.00547	.00000	.00000	.14708	.00001	.67919
920	.00816	.01443	.01340	.00007	.13245	.00869	.00000	.00000	.14257	.00002	.68021
960	.00817	.01129	.01384	.00017	.13519	.01319	.00000	.00000	.13734	.00002	.68080
1000	.00817	.00810	.01389	.00038	.13813	.01915	.00000	.00000	.13129	.00002	.68087
1040	.00816	.00480	.01353	.00079	.14127	.02670	.00000	.00000	.12433	.00002	.68040
1080	.00815	.00130	.01278	.00157	.14451	.03580	.00000	.00000	.11647	.00002	.67940
1120	.00811	.00000	.01055	.00282	.14610	.04568	.00000	.00000	.11028	.00002	.67644
1160	.00806	.00000	.00753	.00463	.14637	.05544	.00000	.00000	.10552	.00002	.67243
1200	.00802	.00000	.00466	.00702	.14595	.06402	.00000	.00000	.10169	.00002	.66863
1240	.00798	.00000	.00239	.00971	.14481	.06998	.00000	.00000	.09947	.00002	.66563
1280	.00796	.00000	.00102	.01230	.14316	.07264	.00000	.00000	.09909	.00001	.66381
1320	.00795	.00000	.00039	.01461	.14129	.07275	.00000	.00000	.10002	.00001	.66298
1360	.00795	.00000	.00014	.01671	.13935	.07159	.00000	.00000	.10160	.00001	.66265
1400	.00795	.00000	.00005	.01873	.13740	.06992	.00000	.00000	.10341	.00001	.66253

TABLE 22.3E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00795	.04443	.00000	.00000	.11173	.00000	.17343	.00000	.00000	.00000	.66246
400	.00795	.04443	.00000	.00000	.11173	.00000	.17340	.00000	.00003	.00000	.66246
440	.00795	.04443	.00000	.00000	.11173	.00000	.17310	.00000	.00033	.00000	.66246
480	.00795	.04443	.00000	.00000	.11173	.00000	.17070	.00000	.00273	.00000	.66246
520	.00795	.04441	.00001	.00000	.11175	.00000	.00000	.15942	.01399	.00000	.66248
537	.00795	.04434	.00004	.00000	.11179	.00000	.00000	.14823	.02513	.00000	.66252
560	.00795	.04392	.00027	.00000	.11206	.00000	.00000	.11863	.05436	.00000	.66282
600	.00800	.03753	.00361	.00000	.11616	.00001	.00000	.00000	.16745	.00000	.66724
640	.00802	.03516	.00484	.00000	.11768	.00003	.00000	.00000	.16539	.00000	.66888
680	.00804	.03255	.00620	.00000	.11936	.00007	.00000	.00000	.16311	.00001	.67067
720	.00807	.02978	.00762	.00000	.12115	.00015	.00000	.00000	.16066	.00001	.67256
760	.00809	.02691	.00908	.00000	.12301	.00031	.00000	.00000	.15809	.00001	.67449
800	.00811	.02402	.01052	.00000	.12491	.00059	.00000	.00000	.15543	.00002	.67640
840	.00813	.02113	.01191	.00000	.12684	.00105	.00000	.00000	.15267	.00002	.67824
880	.00816	.01828	.01321	.00001	.12880	.00177	.00000	.00000	.14979	.00003	.67996
920	.00817	.01549	.01438	.00002	.13077	.00285	.00000	.00000	.14677	.00003	.68152
960	.00819	.01277	.01539	.00005	.13277	.00439	.00000	.00000	.14355	.00004	.68286
1000	.00820	.01011	.01620	.00012	.13480	.00653	.00000	.00000	.14006	.00004	.68393
1040	.00821	.00752	.01678	.00025	.13687	.00939	.00000	.00000	.13625	.00005	.68469
1080	.00822	.00496	.01709	.00048	.13898	.01306	.00000	.00000	.13205	.00005	.68511
1120	.00822	.00240	.01712	.00091	.14110	.01766	.00000	.00000	.12741	.00006	.68515
1160	.00821	.00000	.01673	.00163	.14304	.02320	.00000	.00000	.12250	.00006	.68464
1200	.00818	.00000	.01482	.00270	.14329	.02944	.00000	.00000	.11942	.00006	.68210
1240	.00815	.00000	.01260	.00427	.14324	.03634	.00000	.00000	.11618	.00006	.67917
1280	.00811	.00000	.01013	.00645	.14275	.04358	.00000	.00000	.11301	.00006	.67590
1320	.00807	.00000	.00755	.00926	.14172	.05067	.00000	.00000	.11021	.00006	.67247
1360	.00803	.00000	.00506	.01255	.14014	.05688	.00000	.00000	.10811	.00005	.66918
1400	.00799	.00000	.00298	.01598	.13814	.06141	.00000	.00000	.10703	.00005	.66642

TABLE 22.4E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00795	.04443	.00000	.00000	.11173	.00000	.17343	.00000	.00000	.00000	.66246
400	.00795	.04443	.00000	.00000	.11173	.00000	.17343	.00000	.00000	.00000	.66246
440	.00795	.04443	.00000	.00000	.11173	.00000	.17340	.00000	.00003	.00000	.66246
480	.00795	.04443	.00000	.00000	.11173	.00000	.17316	.00000	.00027	.00000	.66246
520	.00795	.04443	.00000	.00000	.11173	.00000	.00000	.17205	.00138	.00000	.66246
537	.00795	.04443	.00000	.00000	.11173	.00000	.00000	.17099	.00244	.00000	.66246
560	.00795	.04442	.00000	.00000	.11174	.00000	.00000	.16832	.00511	.00000	.66246
600	.00795	.04437	.00003	.00000	.11177	.00000	.00000	.15768	.01570	.00000	.66250
640	.00795	.04380	.00033	.00000	.11214	.00000	.00000	.13093	.04195	.00000	.66289
680	.00799	.03950	.00258	.00000	.11490	.00001	.00000	.06599	.10316	.00001	.66587
720	.00807	.02980	.00763	.00000	.12111	.00005	.00000	.00000	.16074	.00002	.67258
760	.00809	.02697	.00910	.00000	.12294	.00010	.00000	.00000	.15826	.00002	.67452
800	.00811	.02411	.01057	.00000	.12479	.00019	.00000	.00000	.15573	.00003	.67647
840	.00814	.02128	.01201	.00000	.12663	.00033	.00000	.00000	.15319	.00004	.67838
880	.00816	.01851	.01340	.00000	.12845	.00056	.00000	.00000	.15066	.00005	.68022
920	.00818	.01582	.01471	.00001	.13023	.00091	.00000	.00000	.14813	.00006	.68196
960	.00820	.01323	.01593	.00002	.13198	.00141	.00000	.00000	.14560	.00007	.68357
1000	.00822	.01073	.01704	.00004	.13369	.00212	.00000	.00000	.14304	.00008	.68505
1040	.00823	.00835	.01802	.00008	.13536	.00308	.00000	.00000	.14044	.00009	.68635
1080	.00825	.00605	.01887	.00015	.13700	.00434	.00000	.00000	.13777	.00010	.68748
1120	.00826	.00385	.01956	.00028	.13860	.00596	.00000	.00000	.13499	.00011	.68839
1160	.00827	.00171	.02008	.00051	.14016	.00801	.00000	.00000	.13207	.00012	.68909
1200	.00827	.00000	.02022	.00088	.14140	.01050	.00000	.00000	.12932	.00013	.68927
1240	.00825	.00000	.01930	.00142	.14149	.01345	.00000	.00000	.12788	.00014	.68806
1280	.00824	.00000	.01819	.00222	.14146	.01690	.00000	.00000	.12626	.00015	.68659
1320	.00821	.00000	.01686	.00336	.14124	.02084	.00000	.00000	.12451	.00016	.68482
1360	.00819	.00000	.01530	.00493	.14074	.02523	.00000	.00000	.12269	.00016	.68275
1400	.00816	.00000	.01351	.00700	.13990	.03001	.00000	.00000	.12088	.00016	.68038

TABLE 22.5E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 1.700; F/A = 0.084530; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00795	.04443	.00000	.00000	.11173	.00000	.17343	.00000	.00000	.00000	.66246
400	.00795	.04443	.00000	.00000	.11173	.00000	.17343	.00000	.00000	.00000	.66246
440	.00795	.04443	.00000	.00000	.11173	.00000	.17342	.00000	.00001	.00000	.66246
480	.00795	.04443	.00000	.00000	.11173	.00000	.17338	.00000	.00005	.00000	.66246
520	.00795	.04443	.00000	.00000	.11173	.00000	.00000	.17316	.00027	.00000	.66246
537	.00795	.04443	.00000	.00000	.11173	.00000	.00000	.17294	.00049	.00000	.66246
560	.00795	.04443	.00000	.00000	.11173	.00000	.00000	.17241	.00102	.00000	.66246
600	.00795	.04443	.00000	.00000	.11174	.00000	.00000	.17034	.00309	.00000	.66246
640	.00795	.04441	.00001	.00000	.11175	.00000	.00000	.16538	.00803	.00000	.66248
680	.00795	.04427	.00008	.00000	.11184	.00000	.00000	.15481	.01847	.00000	.66257
720	.00795	.04352	.00048	.00000	.11232	.00000	.00000	.13398	.03865	.00000	.66309
760	.00798	.04013	.00224	.00000	.11450	.00002	.00000	.09390	.07579	.00001	.66543
800	.00809	.02659	.00930	.00000	.12318	.00008	.00000	.01281	.14512	.00004	.67479
840	.00814	.02132	.01203	.00000	.12658	.00015	.00000	.00000	.15331	.00006	.67841
880	.00816	.01856	.01344	.00000	.12837	.00025	.00000	.00000	.15086	.00007	.68028
920	.00818	.01590	.01479	.00000	.13010	.00041	.00000	.00000	.14846	.00009	.68207
960	.00820	.01334	.01606	.00001	.13179	.00063	.00000	.00000	.14611	.00010	.68376
1000	.00822	.01089	.01725	.00002	.13341	.00095	.00000	.00000	.14380	.00012	.68534
1040	.00824	.00855	.01835	.00003	.13498	.00139	.00000	.00000	.14152	.00013	.68680
1080	.00825	.00632	.01935	.00007	.13649	.00196	.00000	.00000	.13927	.00015	.68813
1120	.00827	.00419	.02025	.00013	.13795	.00271	.00000	.00000	.13702	.00017	.68931
1160	.00828	.00216	.02103	.00023	.13934	.00366	.00000	.00000	.13475	.00019	.69035
1200	.00829	.00021	.02169	.00039	.14068	.00484	.00000	.00000	.13245	.00021	.69123
1240	.00829	.00000	.02136	.00064	.14087	.00627	.00000	.00000	.13156	.00023	.69079
1280	.00828	.00000	.02081	.00101	.14088	.00796	.00000	.00000	.13074	.00024	.69007
1320	.00827	.00000	.02015	.00153	.14082	.00996	.00000	.00000	.12983	.00026	.68919
1360	.00825	.00000	.01934	.00228	.14063	.01226	.00000	.00000	.12883	.00027	.68813
1400	.00824	.00000	.01838	.00330	.14027	.01489	.00000	.00000	.12777	.00029	.68686

TABLE 23.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016415; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00879	.00000	.03306	.00000	.00000	.07802	.00000	.00001	.73270	.00000	.00000	.14742
1700	.00879	.00000	.03306	.00000	.00000	.07802	.00000	.00002	.73270	.00000	.00000	.14742
1800	.00879	.00000	.03306	.00000	.00000	.07802	.00000	.00003	.73269	.00000	.00000	.14741
1900	.00879	.00000	.03306	.00000	.00000	.07802	.00000	.00005	.73268	.00000	.00000	.14740
2000	.00879	.00000	.03306	.00000	.00000	.07802	.00000	.00008	.73267	.00000	.00000	.14738
2100	.00879	.00000	.03306	.00000	.00000	.07802	.00000	.00013	.73264	.00000	.00000	.14735
2200	.00879	.00000	.03306	.00000	.00000	.07802	.00000	.00021	.73260	.00000	.00001	.14732
2300	.00879	.00000	.03306	.00000	.00000	.07801	.00000	.00030	.73255	.00000	.00002	.14726
2400	.00879	.00000	.03306	.00000	.00000	.07800	.00000	.00043	.73248	.00000	.00004	.14719
2500	.00879	.00000	.03306	.00000	.00000	.07798	.00000	.00060	.73239	.00000	.00007	.14710
2600	.00879	.00000	.03306	.00000	.00000	.07796	.00000	.00081	.73228	.00001	.00012	.14698
2700	.00879	.00000	.03305	.00000	.00000	.07791	.00000	.00107	.73213	.00002	.00020	.14682
2800	.00879	.00001	.03305	.00000	.00001	.07784	.00000	.00138	.73194	.00003	.00033	.14663
2900	.00879	.00002	.03303	.00000	.00002	.07774	.00000	.00176	.73170	.00006	.00050	.14638
3000	.00879	.00004	.03301	.00001	.00003	.07759	.00000	.00220	.73140	.00012	.00075	.14607
3100	.00878	.00008	.03297	.00001	.00005	.07738	.00000	.00271	.73102	.00021	.00110	.14569
3200	.00878	.00014	.03290	.00003	.00009	.07709	.00000	.00330	.73054	.00037	.00156	.14521
3300	.00878	.00025	.03278	.00006	.00015	.07668	.00000	.00396	.72993	.00063	.00217	.14464
3400	.00877	.00042	.03259	.00011	.00024	.07613	.00000	.00470	.72914	.00102	.00295	.14393
3500	.00877	.00069	.03229	.00021	.00037	.07538	.00000	.00552	.72813	.00162	.00394	.14308
3600	.00876	.00110	.03184	.00038	.00057	.07440	.00000	.00642	.72681	.00251	.00516	.14206
3700	.00874	.00170	.03118	.00068	.00084	.07310	.00000	.00740	.72510	.00378	.00665	.14083
3800	.00872	.00255	.03026	.00116	.00122	.07142	.00000	.00844	.72289	.00557	.00842	.13935
3900	.00869	.00369	.02902	.00191	.00171	.06927	.00000	.00956	.72003	.00804	.01048	.13759
4000	.00866	.00515	.02741	.00308	.00236	.06655	.00000	.01072	.71639	.01138	.01281	.13549
4100	.00861	.00695	.02543	.00481	.00315	.06318	.00000	.01193	.71179	.01580	.01540	.13295
4200	.00855	.00905	.02311	.00729	.00409	.05908	.00000	.01316	.70609	.02154	.01815	.12989
4300	.00847	.01135	.02052	.01076	.00515	.05420	.00000	.01438	.69915	.02885	.02097	.12619
4400	.00838	.01373	.01779	.01542	.00627	.04857	.00000	.01557	.69087	.03798	.02368	.12173
4500	.00827	.01606	.01505	.02144	.00736	.04230	.00000	.01669	.68122	.04914	.02610	.11637
4600	.00814	.01820	.01244	.02890	.00829	.03559	.00000	.01769	.67027	.06246	.02797	.11004
4700	.00801	.02006	.01006	.03772	.00893	.02876	.00001	.01853	.65820	.07799	.02906	.10269
4800	.00785	.02158	.00797	.04758	.00916	.02219	.00001	.01918	.64533	.09560	.02920	.09435
4900	.00770	.02276	.00620	.05800	.00893	.01628	.00002	.01959	.63211	.11498	.02829	.08513
5000	.00754	.02362	.00475	.06833	.00826	.01133	.00002	.01974	.61906	.13562	.02642	.07528
5100	.00739	.02422	.00359	.07795	.00728	.00750	.00003	.01962	.60668	.15683	.02378	.06512
5200	.00726	.02461	.00269	.08640	.00615	.00474	.00005	.01923	.59538	.17778	.02068	.05504
5300	.00713	.02485	.00199	.09343	.00502	.00288	.00007	.01860	.58544	.19767	.01745	.04546
5400	.00703	.02498	.00146	.09907	.00398	.00170	.00010	.01777	.57699	.21581	.01436	.03675

TABLE 23.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016415; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00001	.73270	.00000	.00000	.14742
1700	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00002	.73270	.00000	.00000	.14741
1800	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00003	.73269	.00000	.00000	.14741
1900	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00005	.73268	.00000	.00000	.14740
2000	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00008	.73267	.00000	.00000	.14738
2100	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00013	.73264	.00000	.00000	.14735
2200	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00021	.73260	.00000	.00001	.14732
2300	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00030	.73255	.00000	.00001	.14727
2400	.00879	.00000	.03306	.00000	.00000	.00000	.07801	.00000	.00043	.73249	.00000	.00002	.14720
2500	.00879	.00000	.03306	.00000	.00000	.00000	.07800	.00000	.00060	.73240	.00000	.00004	.14711
2600	.00879	.00000	.03306	.00000	.00000	.00000	.07798	.00000	.00081	.73229	.00000	.00007	.14700
2700	.00879	.00000	.03306	.00000	.00000	.00000	.07796	.00000	.00107	.73215	.00000	.00012	.14685
2800	.00879	.00000	.03306	.00000	.00000	.00000	.07792	.00000	.00138	.73198	.00001	.00018	.14667
2900	.00879	.00001	.03305	.00000	.00000	.00000	.07787	.00000	.00176	.73177	.00002	.00028	.14645
3000	.00879	.00001	.03304	.00000	.00000	.00001	.07779	.00000	.00220	.73151	.00004	.00042	.14619
3100	.00879	.00002	.03303	.00000	.00000	.00002	.07768	.00000	.00271	.73120	.00007	.00062	.14587
3200	.00878	.00004	.03301	.00000	.00000	.00003	.07753	.00000	.00330	.73082	.00012	.00088	.14548
3300	.00878	.00008	.03297	.00001	.00000	.00005	.07732	.00000	.00396	.73038	.00020	.00122	.14503
3400	.00878	.00013	.03290	.00002	.00000	.00008	.07705	.00000	.00471	.72984	.00032	.00167	.14449
3500	.00878	.00022	.03280	.00004	.00000	.00012	.07669	.00000	.00554	.72919	.00051	.00224	.14386
3600	.00877	.00036	.03266	.00007	.00000	.00018	.07622	.00000	.00645	.72842	.00080	.00294	.14313
3700	.00877	.00056	.03243	.00012	.00000	.00027	.07562	.00000	.00745	.72747	.00120	.00381	.14228
3800	.00876	.00085	.03212	.00021	.00000	.00040	.07486	.00000	.00852	.72633	.00177	.00486	.14131
3900	.00875	.00126	.03167	.00035	.00000	.00057	.07390	.00000	.00968	.72494	.00257	.00611	.14018
4000	.00874	.00182	.03106	.00057	.00000	.00080	.07272	.00000	.01091	.72326	.00364	.00758	.13890
4100	.00872	.00257	.03024	.00090	.00000	.00110	.07125	.00000	.01221	.72120	.00508	.00927	.13743
4200	.00870	.00354	.02920	.00139	.00001	.00149	.06947	.00000	.01357	.71872	.00696	.01119	.13576
4300	.00867	.00474	.02790	.00210	.00001	.00196	.06733	.00000	.01499	.71572	.00940	.01334	.13385
4400	.00864	.00618	.02633	.00310	.00001	.00254	.06477	.00000	.01644	.71214	.01249	.01568	.13168
4500	.00860	.00784	.02450	.00449	.00001	.00322	.06176	.00000	.01792	.70789	.01637	.01820	.12918
4600	.00855	.00970	.02246	.00635	.00001	.00401	.05828	.00000	.01941	.70292	.02116	.02083	.12632
4700	.00849	.01167	.02026	.00881	.00001	.00487	.05432	.00000	.02088	.69717	.02699	.02350	.12303
4800	.00842	.01369	.01798	.01197	.00001	.00579	.04989	.00000	.02231	.69061	.03399	.02611	.11925
4900	.00834	.01567	.01569	.01592	.00001	.00672	.04506	.00001	.02367	.68322	.04225	.02853	.11492
5000	.00825	.01753	.01349	.02074	.00001	.00761	.03990	.00001	.02492	.67503	.05185	.03065	.11002
5100	.00815	.01922	.01142	.02644	.00001	.00838	.03456	.00001	.02605	.66610	.06283	.03231	.10452
5200	.00804	.02069	.00955	.03298	.00001	.00897	.02920	.00002	.02701	.65654	.07518	.03338	.09844
5300	.00792	.02192	.00788	.04025	.00001	.00931	.02400	.00002	.02778	.64651	.08882	.03377	.09180
5400	.00780	.02291	.00644	.04804	.00001	.00937	.01915	.00003	.02833	.63621	.10359	.03342	.08468

TABLE 23.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016415; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00001	.00000	.73270	.00000	.00000	.14742
1700	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00002	.00000	.73270	.00000	.00000	.14741
1800	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00003	.00000	.73269	.00000	.00000	.14741
1900	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00005	.00000	.73268	.00000	.00000	.14740
2000	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00008	.00000	.73267	.00000	.00000	.14738
2100	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00013	.00000	.73264	.00000	.00000	.14735
2200	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00021	.00000	.73260	.00000	.00000	.14732
2300	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00030	.00000	.73256	.00000	.00001	.14727
2400	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00000	.00043	.00000	.73249	.00000	.00001	.14720
2500	.00879	.00000	.03306	.00000	.00000	.00000	.07801	.00000	.00060	.00000	.73240	.00000	.00002	.14711
2600	.00879	.00000	.03306	.00000	.00000	.00000	.07800	.00000	.00081	.00000	.73230	.00000	.00004	.14700
2700	.00879	.00000	.03306	.00000	.00000	.00000	.07799	.00000	.00107	.00000	.73216	.00000	.00006	.14687
2800	.00879	.00000	.03306	.00000	.00000	.00000	.07797	.00000	.00138	.00001	.73200	.00000	.00010	.14670
2900	.00879	.00000	.03306	.00000	.00000	.00000	.07794	.00000	.00176	.00001	.73180	.00001	.00016	.14649
3000	.00879	.00000	.03305	.00000	.00000	.00000	.07789	.00000	.00220	.00001	.73156	.00001	.00024	.14624
3100	.00879	.00001	.03305	.00000	.00000	.00001	.07783	.00000	.00271	.00001	.73127	.00002	.00035	.14595
3200	.00879	.00001	.03304	.00000	.00000	.00001	.07775	.00000	.00330	.00001	.73094	.00004	.00049	.14561
3300	.00879	.00002	.03303	.00000	.00000	.00001	.07764	.00000	.00397	.00001	.73056	.00006	.00069	.14521
3400	.00878	.00004	.03301	.00000	.00000	.00002	.07750	.00000	.00472	.00001	.73011	.00010	.00094	.14476
3500	.00878	.00007	.03297	.00001	.00000	.00004	.07731	.00000	.00555	.00001	.72960	.00016	.00126	.14423
3600	.00878	.00011	.03293	.00001	.00000	.00006	.07707	.00000	.00647	.00001	.72901	.00025	.00167	.14363
3700	.00878	.00018	.03285	.00002	.00000	.00009	.07677	.00000	.00747	.00001	.72833	.00038	.00216	.14295
3800	.00878	.00027	.03275	.00004	.00001	.00013	.07639	.00000	.00856	.00001	.72755	.00056	.00277	.14219
3900	.00877	.00041	.03260	.00006	.00001	.00019	.07593	.00000	.00973	.00001	.72665	.00081	.00349	.14134
4000	.00877	.00060	.03239	.00010	.00001	.00026	.07536	.00000	.01099	.00001	.72562	.00116	.00435	.14038
4100	.00876	.00086	.03211	.00016	.00001	.00036	.07467	.00000	.01232	.00001	.72444	.00162	.00536	.13933
4200	.00875	.00120	.03173	.00025	.00001	.00050	.07384	.00000	.01373	.00001	.72307	.00222	.00652	.13816
4300	.00874	.00166	.03124	.00039	.00001	.00066	.07285	.00000	.01522	.00001	.72150	.00300	.00785	.13687
4400	.00873	.00224	.03061	.00058	.00001	.00088	.07168	.00000	.01676	.00001	.71969	.00401	.00934	.13545
4500	.00872	.00297	.02983	.00084	.00001	.00114	.07031	.00000	.01837	.00001	.71761	.00527	.01102	.13390
4600	.00870	.00385	.02887	.00121	.00002	.00146	.06872	.00000	.02003	.00001	.71522	.00685	.01287	.13220
4700	.00868	.00491	.02773	.00171	.00002	.00184	.06688	.00000	.02172	.00001	.71249	.00879	.01488	.13034
4800	.00865	.00613	.02641	.00238	.00002	.00229	.06478	.00000	.02345	.00001	.70938	.01115	.01704	.12831
4900	.00862	.00751	.02491	.00326	.00002	.00281	.06240	.00000	.02520	.00001	.70587	.01399	.01932	.12608
5000	.00858	.00902	.02326	.00438	.00002	.00340	.05973	.00000	.02694	.00001	.70194	.01738	.02171	.12363
5100	.00854	.01063	.02149	.00581	.00002	.00405	.05677	.00000	.02867	.00001	.69755	.02137	.02415	.12093
5200	.00849	.01230	.01964	.00759	.00003	.00475	.05353	.00001	.03037	.00001	.69270	.02603	.02660	.11797
5300	.00844	.01397	.01776	.00977	.00003	.00549	.05002	.00001	.03202	.00001	.68738	.03140	.02899	.11471
5400	.00838	.01562	.01590	.01241	.00003	.00625	.04627	.00001	.03360	.00001	.68160	.03753	.03126	.11114

TABLE 23.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016415; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00001	.00000	.73270	.00000	.00000	.00000	.14742
1700	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00002	.00000	.73270	.00000	.00000	.00000	.14741
1800	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00003	.00000	.73269	.00000	.00000	.00000	.14740
1900	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00005	.00000	.73268	.00000	.00000	.00000	.14739
2000	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00008	.00001	.73267	.00000	.00000	.00000	.14737
2100	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00013	.00001	.73264	.00000	.00000	.00000	.14735
2200	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00021	.00001	.73260	.00000	.00000	.00000	.14731
2300	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00030	.00001	.73255	.00000	.00000	.00000	.14726
2400	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00043	.00001	.73249	.00000	.00000	.00001	.14720
2500	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00060	.00001	.73241	.00000	.00000	.00001	.14711
2600	.00879	.00000	.03306	.00000	.00000	.00000	.07801	.00081	.00001	.73230	.00000	.00000	.00002	.14700
2700	.00879	.00000	.03306	.00000	.00000	.00000	.07800	.00107	.00001	.73217	.00000	.00000	.00004	.14686
2800	.00879	.00000	.03306	.00000	.00000	.00000	.07799	.00138	.00002	.73200	.00000	.00000	.00006	.14670
2900	.00879	.00000	.03306	.00000	.00000	.00000	.07797	.00176	.00002	.73181	.00000	.00000	.00009	.14650
3000	.00879	.00000	.03306	.00000	.00000	.00000	.07795	.00220	.00002	.73158	.00000	.00000	.00013	.14626
3100	.00879	.00000	.03306	.00000	.00000	.00000	.07792	.00271	.00002	.73131	.00000	.00001	.00020	.14599
3200	.00879	.00000	.03305	.00000	.00000	.00000	.07787	.00330	.00002	.73100	.00000	.00001	.00028	.14567
3300	.00879	.00001	.03305	.00000	.00000	.00000	.07781	.00397	.00002	.73064	.00000	.00002	.00039	.14530
3400	.00879	.00001	.03304	.00000	.00000	.00001	.07774	.00472	.00002	.73023	.00000	.00003	.00053	.14488
3500	.00879	.00002	.03303	.00000	.00001	.00001	.07763	.00555	.00003	.72977	.00000	.00005	.00071	.14440
3600	.00879	.00004	.03301	.00000	.00001	.00002	.07751	.00647	.00003	.72925	.00000	.00008	.00094	.14386
3700	.00878	.00006	.03299	.00000	.00001	.00003	.07735	.00748	.00003	.72866	.00000	.00012	.00122	.14327
3800	.00878	.00009	.03296	.00001	.00001	.00004	.07715	.00857	.00003	.72802	.00000	.00018	.00156	.14261
3900	.00878	.00013	.03291	.00001	.00001	.00006	.07691	.00975	.00003	.72730	.00000	.00026	.00198	.14188
4000	.00878	.00019	.03284	.00002	.00001	.00008	.07661	.01102	.00003	.72650	.00000	.00037	.00247	.14107
4100	.00878	.00028	.03274	.00003	.00002	.00012	.07626	.01237	.00003	.72561	.00000	.00051	.00305	.14020
4200	.00877	.00039	.03262	.00005	.00002	.00016	.07585	.01380	.00004	.72464	.00000	.00071	.00372	.13924
4300	.00877	.00054	.03245	.00007	.00002	.00022	.07535	.01531	.00004	.72356	.00000	.00095	.00450	.13821
4400	.00877	.00074	.03223	.00010	.00002	.00029	.07478	.01690	.00004	.72237	.00000	.00127	.00538	.13710
4500	.00876	.00100	.03196	.00015	.00003	.00038	.07411	.01855	.00004	.72106	.00000	.00168	.00639	.13590
4600	.00875	.00132	.03161	.00022	.00003	.00049	.07334	.02027	.00004	.71961	.00000	.00218	.00751	.13462
4700	.00874	.00173	.03117	.00032	.00003	.00062	.07246	.02205	.00004	.71801	.00000	.00281	.00876	.13326
4800	.00873	.00222	.03064	.00044	.00004	.00079	.07145	.02388	.00004	.71626	.00000	.00357	.01013	.13180
4900	.00872	.00281	.03000	.00061	.00004	.00099	.07031	.02576	.00004	.71432	.00000	.00450	.01163	.13026
5000	.00871	.00352	.02924	.00083	.00004	.00122	.06903	.02768	.00004	.71220	.00000	.00561	.01325	.12862
5100	.00869	.00433	.02837	.00111	.00005	.00149	.06760	.02963	.00004	.70986	.00000	.00692	.01500	.12689
5200	.00867	.00526	.02737	.00148	.00005	.00180	.06601	.03160	.00004	.70732	.00000	.00847	.01685	.12506
5300	.00865	.00630	.02625	.00194	.00006	.00215	.06426	.03359	.00004	.70454	.00001	.01029	.01881	.12312
5400	.00863	.00744	.02501	.00251	.00006	.00255	.06234	.03557	.00004	.70152	.00001	.01239	.02085	.12107

TABLE 23.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016415; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00001	.00001	.73270	.00000	.00000	.00000	.14741
1700	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00002	.00001	.73270	.00000	.00000	.00000	.14741
1800	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00003	.00001	.73269	.00000	.00000	.00000	.14740
1900	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00005	.00001	.73268	.00000	.00000	.00000	.14739
2000	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00008	.00001	.73266	.00000	.00000	.00000	.14737
2100	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00013	.00002	.73264	.00000	.00000	.00000	.14734
2200	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00021	.00002	.73260	.00000	.00000	.00000	.14730
2300	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00030	.00002	.73255	.00000	.00000	.00000	.14725
2400	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00043	.00002	.73249	.00000	.00000	.00000	.14718
2500	.00879	.00000	.03306	.00000	.00000	.00000	.07802	.00060	.00003	.73240	.00000	.00000	.00001	.14710
2600	.00879	.00000	.03306	.00000	.00000	.00000	.07801	.00081	.00003	.73230	.00000	.00000	.00001	.14699
2700	.00879	.00000	.03306	.00000	.00000	.00000	.07801	.00107	.00003	.73217	.00000	.00000	.00002	.14685
2800	.00879	.00000	.03306	.00000	.00000	.00000	.07800	.00138	.00004	.73200	.00000	.00000	.00004	.14669
2900	.00879	.00000	.03306	.00000	.00000	.00000	.07799	.00176	.00004	.73181	.00000	.00000	.00006	.14649
3000	.00879	.00000	.03306	.00000	.00000	.00000	.07798	.00220	.00004	.73158	.00000	.00000	.00009	.14626
3100	.00879	.00000	.03306	.00000	.00000	.00000	.07795	.00271	.00005	.73132	.00000	.00000	.00013	.14598
3200	.00879	.00000	.03306	.00000	.00000	.00000	.07792	.00330	.00005	.73101	.00000	.00001	.00019	.14567
3300	.00879	.00000	.03305	.00000	.00000	.00000	.07788	.00397	.00005	.73066	.00000	.00001	.00026	.14531
3400	.00879	.00001	.03305	.00000	.00001	.00000	.07783	.00472	.00005	.73027	.00000	.00001	.00036	.14490
3500	.00879	.00001	.03305	.00000	.00001	.00001	.07777	.00555	.00006	.72982	.00000	.00002	.00048	.14444
3600	.00879	.00002	.03304	.00000	.00001	.00001	.07768	.00647	.00006	.72933	.00000	.00004	.00063	.14393
3700	.00879	.00003	.03303	.00000	.00001	.00001	.07758	.00748	.00006	.72878	.00000	.00005	.00082	.14336
3800	.00879	.00004	.03301	.00000	.00001	.00002	.07745	.00858	.00007	.72817	.00000	.00008	.00105	.14274
3900	.00878	.00006	.03299	.00000	.00002	.00003	.07729	.00976	.00007	.72750	.00000	.00012	.00133	.14205
4000	.00878	.00009	.03296	.00001	.00002	.00004	.07710	.01103	.00007	.72677	.00000	.00016	.00166	.14131
4100	.00878	.00012	.03291	.00001	.00002	.00005	.07688	.01239	.00008	.72598	.00000	.00023	.00205	.14050
4200	.00878	.00018	.03286	.00001	.00003	.00007	.07661	.01383	.00008	.72511	.00000	.00032	.00250	.13962
4300	.00878	.00024	.03278	.00002	.00003	.00010	.07630	.01534	.00008	.72418	.00001	.00043	.00303	.13869
4400	.00878	.00034	.03268	.00003	.00004	.00013	.07593	.01694	.00008	.72317	.00001	.00057	.00363	.13768
4500	.00877	.00045	.03255	.00005	.00004	.00017	.07551	.01861	.00009	.72207	.00001	.00075	.00432	.13661
4600	.00877	.00060	.03238	.00007	.00005	.00022	.07503	.02035	.00009	.72089	.00001	.00098	.00509	.13547
4700	.00876	.00079	.03218	.00010	.00005	.00029	.07448	.02216	.00009	.71962	.00001	.00126	.00595	.13426
4800	.00876	.00103	.03192	.00013	.00006	.00036	.07386	.02402	.00009	.71825	.00001	.00161	.00690	.13299
4900	.00875	.00132	.03161	.00019	.00006	.00046	.07316	.02594	.00009	.71678	.00001	.00202	.00795	.13166
5000	.00875	.00167	.03123	.00025	.00007	.00057	.07237	.02791	.00010	.71519	.00001	.00252	.00910	.13025
5100	.00874	.00209	.03078	.00034	.00008	.00070	.07149	.02993	.00010	.71349	.00001	.00312	.01035	.12879
5200	.00873	.00258	.03026	.00045	.00008	.00085	.07052	.03198	.00010	.71166	.00001	.00382	.01170	.12726
5300	.00872	.00315	.02964	.00060	.00009	.00103	.06945	.03406	.00010	.70970	.00001	.00465	.01314	.12566
5400	.00870	.00381	.02894	.00078	.00010	.00123	.06827	.03616	.00010	.70761	.00001	.00561	.01468	.12401

TABLE 23C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.016415; EQUIV.RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00879	.03306	.07787	.00000	.00015	.73271	.14742
400	.00879	.03306	.07483	.00000	.00319	.73271	.14742
440	.00879	.03306	.03688	.00000	.04114	.73271	.14742
		PRESSURE = 0.10 ATM					
360	.00879	.03306	.07801	.00000	.00001	.73271	.14742
400	.00879	.03306	.07770	.00000	.00032	.73271	.14742
440	.00879	.03306	.07407	.00000	.00396	.73271	.14742
480	.00879	.03306	.04482	.00000	.03321	.73271	.14742
520	.00879	.03306	.00000	.00000	.07802	.73271	.14742
		PRESSURE = 1.00 ATM					
360	.00879	.03306	.07802	.00000	.00000	.73271	.14742
400	.00879	.03306	.07799	.00000	.00003	.73271	.14742
440	.00879	.03306	.07763	.00000	.00039	.73271	.14742
480	.00879	.03306	.07481	.00000	.00322	.73271	.14742
520	.00879	.03306	.00000	.06153	.01649	.73271	.14742
537	.00879	.03306	.00000	.04841	.02961	.73271	.14742
560	.00879	.03306	.00000	.01402	.06400	.73271	.14742
600	.00879	.03306	.00000	.00000	.07802	.73271	.14742
		PRESSURE = 10.00 ATM					
360	.00879	.03306	.07802	.00000	.00000	.73271	.14742
400	.00879	.03306	.07802	.00000	.00000	.73271	.14742
440	.00879	.03306	.07798	.00000	.00004	.73271	.14742
480	.00879	.03306	.07770	.00000	.00032	.73271	.14742
520	.00879	.03306	.00000	.07640	.00162	.73271	.14742
537	.00879	.03306	.00000	.07514	.00288	.73271	.14742
560	.00879	.03306	.00000	.07200	.00602	.73271	.14742
600	.00879	.03306	.00000	.05952	.01850	.73271	.14742
640	.00879	.03306	.00000	.02864	.04938	.73271	.14742
680	.00879	.03306	.00000	.00000	.07802	.73271	.14742
		PRESSURE = 50.00 ATM					
360	.00879	.03306	.07802	.00000	.00000	.73271	.14742
400	.00879	.03306	.07802	.00000	.00000	.73271	.14742
440	.00879	.03306	.07801	.00000	.00001	.73271	.14742
480	.00879	.03306	.07796	.00000	.00006	.73271	.14742
520	.00879	.03306	.00000	.07770	.00032	.73271	.14742
537	.00879	.03306	.00000	.07745	.00057	.73271	.14742
560	.00879	.03306	.00000	.07682	.00120	.73271	.14742
600	.00879	.03306	.00000	.07438	.00364	.73271	.14742
640	.00879	.03306	.00000	.06855	.00947	.73271	.14742
680	.00879	.03306	.00000	.05625	.02177	.73271	.14742
720	.00879	.03306	.00000	.03256	.04546	.73271	.14742
760	.00879	.03306	.00000	.00000	.07802	.73271	.14742

TABLE 24.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.032829; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00865	.00000	.06476	.00000	.00000	.10900	.00000	.00001	.72090	.00000	.00000	.09670
1700	.00865	.00000	.06476	.00000	.00000	.10900	.00000	.00001	.72089	.00000	.00000	.09669
1800	.00865	.00000	.06476	.00000	.00000	.10900	.00000	.00002	.72089	.00000	.00000	.09669
1900	.00865	.00000	.06476	.00000	.00000	.10900	.00000	.00004	.72088	.00000	.00000	.09668
2000	.00865	.00000	.06476	.00000	.00000	.10900	.00000	.00007	.72087	.00000	.00000	.09666
2100	.00865	.00000	.06476	.00000	.00000	.10899	.00000	.00011	.72084	.00000	.00001	.09664
2200	.00865	.00000	.06476	.00000	.00000	.10899	.00000	.00017	.72081	.00000	.00001	.09661
2300	.00865	.00000	.06476	.00000	.00000	.10898	.00000	.00024	.72077	.00000	.00002	.09657
2400	.00865	.00000	.06476	.00000	.00000	.10897	.00000	.00035	.72072	.00000	.00004	.09651
2500	.00865	.00000	.06476	.00000	.00000	.10895	.00000	.00048	.72064	.00000	.00008	.09644
2600	.00865	.00000	.06475	.00000	.00000	.10892	.00000	.00065	.72055	.00001	.00013	.09634
2700	.00865	.00001	.06475	.00000	.00001	.10887	.00000	.00086	.72042	.00001	.00022	.09621
2800	.00865	.00002	.06473	.00000	.00001	.10880	.00000	.00111	.72026	.00003	.00035	.09605
2900	.00864	.00005	.06470	.00000	.00003	.10868	.00000	.00141	.72005	.00005	.00053	.09585
3000	.00864	.00010	.06464	.00001	.00005	.10851	.00000	.00176	.71978	.00010	.00080	.09561
3100	.00864	.00018	.06454	.00002	.00009	.10826	.00000	.00218	.71943	.00017	.00117	.09532
3200	.00864	.00034	.06437	.00004	.00015	.10791	.00000	.00264	.71897	.00030	.00166	.09498
3300	.00863	.00059	.06408	.00007	.00025	.10741	.00000	.00318	.71837	.00051	.00230	.09460
3400	.00863	.00101	.06362	.00015	.00041	.10672	.00000	.00377	.71756	.00083	.00314	.09417
3500	.00862	.00166	.06290	.00028	.00064	.10578	.00000	.00443	.71647	.00131	.00420	.09370
3600	.00861	.00264	.06182	.00051	.00098	.10451	.00000	.00516	.71502	.00203	.00551	.09322
3700	.00859	.00406	.06027	.00089	.00146	.10281	.00000	.00595	.71307	.00307	.00710	.09274
3800	.00856	.00601	.05812	.00152	.00210	.10057	.00000	.00681	.71049	.00453	.00901	.09227
3900	.00853	.00860	.05527	.00252	.00296	.09766	.00000	.00774	.70711	.00657	.01124	.09181
4000	.00848	.01184	.05169	.00404	.00405	.09395	.00000	.00872	.70278	.00934	.01379	.09132
4100	.00842	.01569	.04739	.00629	.00539	.08932	.00000	.00976	.69733	.01305	.01664	.09073
4200	.00835	.02001	.04252	.00952	.00696	.08367	.00000	.01083	.69061	.01792	.01970	.08992
4300	.00826	.02458	.03727	.01400	.00872	.07694	.00000	.01192	.68253	.02419	.02288	.08872
4400	.00815	.02914	.03191	.02001	.01057	.06918	.00000	.01299	.67302	.03210	.02598	.08696
4500	.00802	.03342	.02669	.02778	.01236	.06051	.00000	.01401	.66209	.04186	.02881	.08445
4600	.00788	.03721	.02183	.03743	.01390	.05122	.00000	.01495	.64984	.05360	.03108	.08104
4700	.00773	.04038	.01750	.04888	.01500	.04172	.00001	.01575	.63648	.06737	.03254	.07664
4800	.00756	.04288	.01376	.06180	.01545	.03252	.00001	.01637	.62239	.08307	.03295	.07124
4900	.00739	.04473	.01065	.07560	.01516	.02414	.00001	.01678	.60805	.10039	.03220	.06490
5000	.00723	.04601	.00811	.08948	.01417	.01703	.00002	.01695	.59403	.11884	.03031	.05780
5100	.00707	.04684	.00610	.10263	.01263	.01142	.00003	.01687	.58090	.13777	.02750	.05025
5200	.00692	.04733	.00454	.11436	.01078	.00730	.00005	.01654	.56910	.15640	.02408	.04260
5300	.00680	.04758	.00335	.12429	.00888	.00448	.00007	.01600	.55889	.17400	.02043	.03523
5400	.00669	.04767	.00246	.13232	.00711	.00266	.00010	.01528	.55036	.18997	.01688	.02848

TABLE 24.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.032829; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00001	.72090	.00000	.00000	.09670
1700	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00001	.72089	.00000	.00000	.09669
1800	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00002	.72089	.00000	.00000	.09669
1900	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00004	.72088	.00000	.00000	.09668
2000	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00007	.72087	.00000	.00000	.09666
2100	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00011	.72084	.00000	.00000	.09664
2200	.00865	.00000	.06476	.00000	.00000	.00000	.10899	.00000	.00017	.72082	.00000	.00001	.09661
2300	.00865	.00000	.06476	.00000	.00000	.00000	.10899	.00000	.00024	.72078	.00000	.00001	.09657
2400	.00865	.00000	.06476	.00000	.00000	.00000	.10898	.00000	.00035	.72072	.00000	.00002	.09652
2500	.00865	.00000	.06476	.00000	.00000	.00000	.10897	.00000	.00048	.72065	.00000	.00004	.09645
2600	.00865	.00000	.06476	.00000	.00000	.00000	.10896	.00000	.00065	.72056	.00000	.00007	.09635
2700	.00865	.00000	.06475	.00000	.00000	.00000	.10893	.00000	.00086	.72045	.00000	.00012	.09623
2800	.00865	.00001	.06475	.00000	.00000	.00000	.10889	.00000	.00111	.72030	.00001	.00020	.09609
2900	.00865	.00002	.06474	.00000	.00000	.00001	.10883	.00000	.00141	.72012	.00002	.00030	.09591
3000	.00864	.00003	.06472	.00000	.00000	.00002	.10874	.00000	.00177	.71991	.00003	.00045	.09569
3100	.00864	.00006	.06469	.00000	.00000	.00003	.10861	.00000	.00218	.71964	.00005	.00066	.09544
3200	.00864	.00011	.06463	.00001	.00000	.00005	.10844	.00000	.00265	.71931	.00010	.00093	.09513
3300	.00864	.00019	.06454	.00001	.00000	.00008	.10820	.00000	.00318	.71891	.00016	.00130	.09479
3400	.00864	.00032	.06438	.00003	.00000	.00013	.10788	.00000	.00378	.71842	.00026	.00178	.09439
3500	.00864	.00054	.06415	.00005	.00000	.00021	.10744	.00000	.00444	.71781	.00042	.00238	.09394
3600	.00863	.00086	.06378	.00009	.00000	.00032	.10688	.00000	.00517	.71704	.00064	.00313	.09345
3700	.00862	.00135	.06325	.00016	.00000	.00048	.10613	.00000	.00597	.71609	.00097	.00406	.09291
3800	.00862	.00204	.06248	.00028	.00000	.00070	.10518	.00000	.00684	.71489	.00143	.00518	.09236
3900	.00860	.00302	.06141	.00046	.00000	.00100	.10396	.00000	.00777	.71339	.00208	.00652	.09178
4000	.00859	.00435	.05997	.00075	.00000	.00140	.10242	.00000	.00877	.71152	.00295	.00810	.09120
4100	.00856	.00608	.05807	.00119	.00000	.00192	.10050	.00000	.00983	.70918	.00412	.00992	.09062
4200	.00854	.00828	.05566	.00183	.00000	.00258	.09812	.00000	.01096	.70631	.00567	.01200	.09004
4300	.00850	.01095	.05273	.00276	.00001	.00340	.09523	.00000	.01214	.70281	.00768	.01434	.08945
4400	.00846	.01408	.04928	.00408	.00001	.00439	.09175	.00000	.01337	.69861	.01026	.01692	.08880
4500	.00841	.01760	.04537	.00588	.00001	.00554	.08764	.00000	.01465	.69363	.01352	.01970	.08805
4600	.00835	.02138	.04113	.00831	.00001	.00686	.08286	.00000	.01594	.68784	.01757	.02263	.08711
4700	.00827	.02529	.03668	.01151	.00001	.00831	.07741	.00000	.01724	.68119	.02255	.02564	.08589
4800	.00819	.02916	.03219	.01560	.00001	.00985	.07130	.00000	.01852	.67368	.02858	.02862	.08430
4900	.00810	.03283	.02782	.02073	.00001	.01140	.06461	.00000	.01976	.66532	.03574	.03143	.08225
5000	.00799	.03619	.02369	.02697	.00001	.01287	.05746	.00001	.02091	.65615	.04412	.03393	.07968
5100	.00788	.03913	.01991	.03438	.00001	.01417	.05002	.00001	.02196	.64625	.05377	.03596	.07655
5200	.00776	.04162	.01652	.04292	.00001	.01518	.04252	.00002	.02286	.63573	.06467	.03736	.07282
5300	.00764	.04363	.01356	.05245	.00001	.01581	.03521	.00002	.02360	.62479	.07675	.03802	.06853
5400	.00750	.04519	.01102	.06273	.00001	.01597	.02833	.00003	.02414	.61362	.08986	.03786	.06372

TABLE 24.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.032829; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00001	.00000	.72090	.00000	.00000	.09670
1700	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00001	.00000	.72089	.00000	.00000	.09669
1800	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00002	.00000	.72089	.00000	.00000	.09669
1900	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00004	.00000	.72088	.00000	.00000	.09668
2000	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00007	.00000	.72087	.00000	.00000	.09666
2100	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00011	.00000	.72084	.00000	.00000	.09664
2200	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00000	.00017	.00000	.72082	.00000	.00000	.09661
2300	.00865	.00000	.06476	.00000	.00000	.00000	.10899	.00000	.00024	.00000	.72078	.00000	.00001	.09657
2400	.00865	.00000	.06476	.00000	.00000	.00000	.10899	.00000	.00035	.00000	.72072	.00000	.00001	.09652
2500	.00865	.00000	.06476	.00000	.00000	.00000	.10898	.00000	.00048	.00000	.72065	.00000	.00002	.09645
2600	.00865	.00000	.06476	.00000	.00000	.00000	.10897	.00000	.00065	.00000	.72057	.00000	.00004	.09636
2700	.00865	.00000	.06476	.00000	.00000	.00000	.10896	.00000	.00086	.00000	.72046	.00000	.00007	.09625
2800	.00865	.00000	.06476	.00000	.00000	.00000	.10894	.00000	.00111	.00000	.72032	.00000	.00011	.09611
2900	.00865	.00000	.06475	.00000	.00000	.00000	.10890	.00000	.00141	.00000	.72016	.00001	.00017	.09594
3000	.00865	.00001	.06475	.00000	.00000	.00000	.10886	.00000	.00177	.00000	.71996	.00001	.00025	.09574
3100	.00865	.00002	.06473	.00000	.00000	.00001	.10879	.00000	.00218	.00000	.71973	.00002	.00037	.09551
3200	.00864	.00003	.06472	.00000	.00000	.00002	.10870	.00000	.00265	.00000	.71945	.00003	.00053	.09523
3300	.00864	.00006	.06468	.00000	.00000	.00003	.10858	.00000	.00318	.00000	.71913	.00005	.00073	.09491
3400	.00864	.00010	.06463	.00000	.00000	.00004	.10841	.00000	.00378	.00001	.71874	.00008	.00100	.09455
3500	.00864	.00017	.06456	.00001	.00000	.00007	.10820	.00000	.00445	.00001	.71830	.00013	.00134	.09413
3600	.00864	.00027	.06444	.00002	.00000	.00010	.10792	.00000	.00518	.00001	.71777	.00020	.00177	.09368
3700	.00864	.00043	.06426	.00003	.00000	.00015	.10757	.00000	.00598	.00001	.71716	.00031	.00230	.09317
3800	.00863	.00066	.06401	.00005	.00000	.00022	.10712	.00000	.00685	.00001	.71643	.00045	.00294	.09261
3900	.00863	.00099	.06364	.00008	.00001	.00032	.10656	.00000	.00779	.00001	.71558	.00066	.00372	.09202
4000	.00862	.00145	.06314	.00014	.00001	.00046	.10586	.00000	.00880	.00001	.71457	.00093	.00463	.09139
4100	.00862	.00207	.06246	.00022	.00001	.00063	.10501	.00000	.00987	.00001	.71338	.00130	.00570	.09073
4200	.00860	.00289	.06156	.00034	.00001	.00086	.10397	.00000	.01100	.00001	.71196	.00179	.00695	.09005
4300	.00859	.00397	.06039	.00051	.00001	.00116	.10271	.00000	.01220	.00001	.71029	.00243	.00837	.08936
4400	.00858	.00533	.05891	.00076	.00001	.00153	.10120	.00000	.01346	.00001	.70832	.00324	.00999	.08867
4500	.00856	.00700	.05708	.00111	.00001	.00199	.09941	.00000	.01477	.00001	.70601	.00427	.01180	.08798
4600	.00853	.00901	.05489	.00160	.00001	.00255	.09730	.00000	.01614	.00001	.70331	.00556	.01380	.08728
4700	.00850	.01136	.05233	.00226	.00002	.00321	.09485	.00000	.01755	.00001	.70019	.00716	.01599	.08657
4800	.00847	.01402	.04941	.00314	.00002	.00398	.09202	.00000	.01901	.00001	.69661	.00912	.01836	.08583
4900	.00843	.01695	.04618	.00429	.00002	.00487	.08879	.00000	.02049	.00001	.69256	.01149	.02089	.08502
5000	.00838	.02008	.04271	.00576	.00002	.00587	.08516	.00000	.02200	.00001	.68802	.01434	.02354	.08410
5100	.00833	.02333	.03908	.00763	.00002	.00698	.08110	.00000	.02351	.00001	.68298	.01771	.02628	.08304
5200	.00827	.02660	.03538	.00995	.00002	.00817	.07664	.00001	.02501	.00001	.67743	.02167	.02904	.08179
5300	.00821	.02980	.03170	.01280	.00002	.00942	.07180	.00001	.02648	.00001	.67140	.02627	.03177	.08030
5400	.00814	.03286	.02812	.01623	.00003	.01070	.06662	.00001	.02789	.00001	.66490	.03155	.03439	.07855

TABLE 24.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.032829; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00001	.00000	.72090	.00000	.00000	.09669
1700	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00001	.00000	.72089	.00000	.00000	.09669
1800	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00002	.00000	.72089	.00000	.00000	.09668
1900	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00004	.00000	.72088	.00000	.00000	.09667
2000	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00007	.00000	.72086	.00000	.00000	.09666
2100	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00011	.00000	.72084	.00000	.00000	.09664
2200	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00017	.00001	.72082	.00000	.00000	.09661
2300	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00024	.00001	.72078	.00000	.00000	.09657
2400	.00865	.00000	.06476	.00000	.00000	.00000	.10899	.00035	.00001	.72072	.00000	.00001	.09652
2500	.00865	.00000	.06476	.00000	.00000	.00000	.10899	.00048	.00001	.72066	.00000	.00001	.09645
2600	.00865	.00000	.06476	.00000	.00000	.00000	.10898	.00065	.00001	.72057	.00000	.00002	.09636
2700	.00865	.00000	.06476	.00000	.00000	.00000	.10898	.00086	.00001	.72046	.00000	.00004	.09625
2800	.00865	.00000	.06476	.00000	.00000	.00000	.10896	.00111	.00001	.72033	.00000	.00006	.09612
2900	.00865	.00000	.06476	.00000	.00000	.00000	.10895	.00141	.00001	.72017	.00000	.00010	.09595
3000	.00865	.00000	.06475	.00000	.00000	.00000	.10892	.00177	.00001	.71999	.00000	.00014	.09576
3100	.00865	.00001	.06475	.00000	.00000	.00000	.10888	.00218	.00001	.71977	.00001	.00021	.09554
3200	.00865	.00001	.06474	.00000	.00000	.00000	.10883	.00265	.00001	.71951	.00001	.00030	.09528
3300	.00865	.00002	.06473	.00000	.00000	.00001	.10877	.00318	.00001	.71922	.00002	.00041	.09498
3400	.00864	.00003	.06472	.00000	.00000	.00001	.10868	.00378	.00002	.71888	.00003	.00056	.09464
3500	.00864	.00005	.06469	.00000	.00000	.00002	.10857	.00445	.00002	.71849	.00004	.00076	.09426
3600	.00864	.00009	.06465	.00000	.00001	.00003	.10842	.00519	.00002	.71806	.00006	.00100	.09383
3700	.00864	.00014	.06459	.00001	.00001	.00005	.10824	.00599	.00002	.71756	.00010	.00130	.09336
3800	.00864	.00021	.06451	.00001	.00001	.00007	.10802	.00686	.00002	.71701	.00014	.00166	.09284
3900	.00864	.00032	.06439	.00001	.00001	.00010	.10774	.00781	.00002	.71638	.00021	.00210	.09227
4000	.00864	.00046	.06422	.00002	.00001	.00015	.10740	.00882	.00002	.71568	.00030	.00263	.09166
4100	.00863	.00067	.06400	.00004	.00001	.00020	.10699	.00989	.00002	.71488	.00041	.00324	.09101
4200	.00863	.00095	.06369	.00006	.00002	.00028	.10649	.01103	.00002	.71399	.00057	.00396	.09032
4300	.00862	.00131	.06329	.00009	.00002	.00038	.10590	.01224	.00002	.71298	.00077	.00478	.08959
4400	.00862	.00179	.06276	.00014	.00002	.00050	.10520	.01350	.00002	.71184	.00103	.00573	.08884
4500	.00861	.00241	.06209	.00020	.00002	.00066	.10438	.01482	.00002	.71056	.00135	.00680	.08806
4600	.00860	.00318	.06125	.00029	.00003	.00086	.10343	.01620	.00003	.70911	.00176	.00800	.08727
4700	.00859	.00414	.06021	.00042	.00003	.00109	.10232	.01763	.00003	.70747	.00226	.00934	.08647
4800	.00858	.00530	.05895	.00058	.00003	.00138	.10104	.01911	.00003	.70563	.00288	.01082	.08567
4900	.00856	.00667	.05746	.00081	.00004	.00173	.09957	.02064	.00003	.70357	.00363	.01243	.08487
5000	.00854	.00828	.05571	.00110	.00004	.00214	.09791	.02221	.00003	.70126	.00453	.01419	.08406
5100	.00852	.01012	.05371	.00148	.00004	.00261	.09603	.02381	.00003	.69869	.00561	.01609	.08326
5200	.00850	.01219	.05147	.00196	.00005	.00315	.09393	.02545	.00003	.69584	.00688	.01811	.08245
5300	.00847	.01445	.04900	.00256	.00005	.00377	.09159	.02711	.00003	.69272	.00837	.02026	.08161
5400	.00844	.01689	.04633	.00331	.00005	.00446	.08900	.02880	.00003	.68931	.01012	.02251	.08074

TABLE 24.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.032829; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00001	.00000	.72090	.00000	.00000	.00000	.09669
1700	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00001	.00000	.72089	.00000	.00000	.00000	.09669
1800	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00002	.00001	.72089	.00000	.00000	.00000	.09668
1900	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00004	.00001	.72088	.00000	.00000	.00000	.09667
2000	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00007	.00001	.72086	.00000	.00000	.00000	.09666
2100	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00011	.00001	.72084	.00000	.00000	.00000	.09663
2200	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00017	.00001	.72082	.00000	.00000	.00000	.09660
2300	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00024	.00001	.72078	.00000	.00000	.00000	.09656
2400	.00865	.00000	.06476	.00000	.00000	.00000	.10900	.00035	.00002	.72072	.00000	.00000	.00001	.09651
2500	.00865	.00000	.06476	.00000	.00000	.00000	.10899	.00048	.00002	.72066	.00000	.00000	.00001	.09644
2600	.00865	.00000	.06476	.00000	.00000	.00000	.10899	.00065	.00002	.72057	.00000	.00000	.00002	.09635
2700	.00865	.00000	.06476	.00000	.00000	.00000	.10898	.00086	.00002	.72046	.00000	.00000	.00003	.09624
2800	.00865	.00000	.06476	.00000	.00000	.00000	.10898	.00111	.00002	.72033	.00000	.00000	.00004	.09611
2900	.00865	.00000	.06476	.00000	.00000	.00000	.10896	.00141	.00003	.72018	.00000	.00000	.00006	.09595
3000	.00865	.00000	.06476	.00000	.00000	.00000	.10895	.00177	.00003	.71999	.00000	.00000	.00010	.09576
3100	.00865	.00000	.06476	.00000	.00000	.00000	.10892	.00218	.00003	.71978	.00000	.00000	.00014	.09554
3200	.00865	.00000	.06475	.00000	.00000	.00000	.10889	.00265	.00003	.71953	.00000	.00000	.00020	.09529
3300	.00865	.00001	.06475	.00000	.00000	.00000	.10885	.00318	.00003	.71925	.00000	.00001	.00028	.09500
3400	.00865	.00001	.06474	.00000	.00001	.00001	.10879	.00378	.00004	.71892	.00000	.00001	.00038	.09467
3500	.00864	.00002	.06473	.00000	.00001	.00001	.10872	.00445	.00004	.71856	.00000	.00002	.00051	.09430
3600	.00864	.00004	.06471	.00000	.00001	.00001	.10862	.00519	.00004	.71815	.00000	.00003	.00067	.09388
3700	.00864	.00006	.06468	.00000	.00001	.00002	.10851	.00599	.00004	.71769	.00000	.00004	.00087	.09343
3800	.00864	.00009	.06464	.00000	.00001	.00003	.10836	.00687	.00004	.71719	.00000	.00006	.00111	.09293
3900	.00864	.00014	.06459	.00000	.00001	.00005	.10819	.00781	.00005	.71663	.00000	.00009	.00141	.09239
4000	.00864	.00021	.06451	.00001	.00002	.00007	.10797	.00882	.00005	.71601	.00000	.00013	.00176	.09180
4100	.00864	.00030	.06441	.00001	.00002	.00009	.10771	.00990	.00005	.71534	.00000	.00018	.00218	.09117
4200	.00864	.00043	.06427	.00002	.00002	.00013	.10741	.01105	.00005	.71459	.00000	.00025	.00266	.09049
4300	.00863	.00059	.06408	.00003	.00003	.00017	.10704	.01226	.00005	.71377	.00000	.00034	.00322	.08978
4400	.00863	.00081	.06383	.00004	.00003	.00023	.10662	.01353	.00005	.71287	.00000	.00046	.00386	.08903
4500	.00863	.00110	.06352	.00006	.00003	.00030	.10612	.01485	.00006	.71189	.00000	.00061	.00459	.08825
4600	.00862	.00146	.06312	.00009	.00004	.00039	.10555	.01624	.00006	.71080	.00001	.00079	.00541	.08743
4700	.00862	.00192	.06262	.00013	.00004	.00050	.10488	.01767	.00006	.70961	.00001	.00101	.00633	.08660
4800	.00861	.00249	.06200	.00018	.00005	.00064	.10412	.01916	.00006	.70831	.00001	.00129	.00734	.08575
4900	.00860	.00318	.06125	.00025	.00005	.00080	.10326	.02069	.00006	.70687	.00001	.00162	.00847	.08489
5000	.00859	.00401	.06035	.00034	.00006	.00100	.10228	.02226	.00006	.70530	.00001	.00203	.00970	.08401
5100	.00858	.00500	.05928	.00045	.00006	.00123	.10118	.02388	.00006	.70357	.00001	.00251	.01104	.08314
5200	.00857	.00615	.05803	.00060	.00007	.00150	.09995	.02553	.00006	.70169	.00001	.00307	.01249	.08227
5300	.00855	.00747	.05660	.00080	.00008	.00182	.09857	.02721	.00006	.69963	.00001	.00374	.01405	.08140
5400	.00854	.00897	.05498	.00104	.00008	.00218	.09705	.02893	.00006	.69740	.00001	.00452	.01571	.08054

TABLE 24C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.032829; EQUIV.RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
PRESSURE = 0.01 ATM							
360	.00865	.06476	.10885	.00000	.00014	.72090	.09670
400	.00865	.06476	.10591	.00000	.00308	.72090	.09670
440	.00865	.06476	.06924	.00000	.03976	.72090	.09670
PRESSURE = 0.10 ATM							
360	.00865	.06476	.10898	.00000	.00001	.72090	.09670
400	.00865	.06476	.10869	.00000	.00031	.72090	.09670
440	.00865	.06476	.10517	.00000	.00382	.72090	.09670
480	.00865	.06476	.07691	.00000	.03209	.72090	.09670
520	.00865	.06476	.00000	.00000	.10900	.72090	.09670
PRESSURE = 1.00 ATM							
360	.00865	.06476	.10900	.00000	.00000	.72090	.09670
400	.00865	.06476	.10897	.00000	.00003	.72090	.09670
440	.00865	.06476	.10862	.00000	.00038	.72090	.09670
480	.00865	.06476	.10589	.00000	.00311	.72090	.09670
520	.00865	.06476	.00000	.09306	.01593	.72090	.09670
537	.00865	.06476	.00000	.08038	.02862	.72090	.09670
560	.00865	.06476	.00000	.04715	.06185	.72090	.09670
600	.00865	.06476	.00000	.00000	.10900	.72090	.09670
PRESSURE = 10.00 ATM							
360	.00865	.06476	.10900	.00000	.00000	.72090	.09670
400	.00865	.06476	.10899	.00000	.00000	.72090	.09670
440	.00865	.06476	.10896	.00000	.00004	.72090	.09670
480	.00865	.06476	.10869	.00000	.00031	.72090	.09670
520	.00865	.06476	.00000	.10743	.00157	.72090	.09670
537	.00865	.06476	.00000	.10622	.00278	.72090	.09670
560	.00865	.06476	.00000	.10318	.00582	.72090	.09670
600	.00865	.06476	.00000	.09112	.01788	.72090	.09670
640	.00865	.06476	.00000	.06128	.04772	.72090	.09670
680	.00865	.06476	.00000	.00000	.10900	.72090	.09670
PRESSURE = 50.00 ATM							
360	.00865	.06476	.10900	.00000	.00000	.72090	.09670
400	.00865	.06476	.10900	.00000	.00000	.72090	.09670
440	.00865	.06476	.10899	.00000	.00001	.72090	.09670
480	.00865	.06476	.10894	.00000	.00006	.72090	.09670
520	.00865	.06476	.00000	.10868	.00031	.72090	.09670
537	.00865	.06476	.00000	.10844	.00055	.72090	.09670
560	.00865	.06476	.00000	.10784	.00116	.72090	.09670
600	.00865	.06476	.00000	.10548	.00352	.72090	.09670
640	.00865	.06476	.00000	.09985	.00915	.72090	.09670
680	.00865	.06476	.00000	.08796	.02104	.72090	.09670
720	.00865	.06476	.00000	.06506	.04394	.72090	.09670
760	.00865	.06476	.00000	.02354	.08545	.72090	.09670

TABLE 25.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.049244; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00851	.00000	.09545	.00000	.00000	.13899	.00000	.00000	.70946	.00000	.00000	.04758
1700	.00851	.00000	.09545	.00000	.00000	.13899	.00000	.00001	.70946	.00000	.00000	.04758
1800	.00851	.00000	.09545	.00000	.00000	.13899	.00000	.00002	.70946	.00000	.00000	.04757
1900	.00851	.00000	.09545	.00000	.00000	.13899	.00000	.00003	.70945	.00000	.00000	.04757
2000	.00851	.00000	.09545	.00000	.00000	.13899	.00000	.00005	.70944	.00000	.00000	.04756
2100	.00851	.00000	.09545	.00000	.00000	.13899	.00000	.00008	.70943	.00000	.00000	.04754
2200	.00851	.00000	.09545	.00000	.00000	.13898	.00000	.00011	.70941	.00000	.00001	.04752
2300	.00851	.00000	.09545	.00000	.00000	.13898	.00000	.00017	.70938	.00000	.00002	.04749
2400	.00851	.00000	.09545	.00000	.00000	.13897	.00000	.00024	.70934	.00000	.00004	.04745
2500	.00851	.00000	.09545	.00000	.00000	.13895	.00000	.00033	.70928	.00000	.00007	.04740
2600	.00851	.00001	.09544	.00000	.00001	.13892	.00000	.00045	.70921	.00000	.00012	.04733
2700	.00851	.00002	.09543	.00000	.00001	.13886	.00000	.00060	.70912	.00001	.00021	.04724
2800	.00851	.00005	.09539	.00000	.00002	.13878	.00000	.00077	.70899	.00002	.00033	.04714
2900	.00851	.00010	.09533	.00000	.00005	.13866	.00000	.00098	.70882	.00004	.00051	.04701
3000	.00851	.00020	.09522	.00001	.00009	.13847	.00000	.00123	.70859	.00007	.00076	.04688
3100	.00850	.00038	.09501	.00002	.00016	.13818	.00000	.00151	.70827	.00012	.00110	.04674
3200	.00850	.00071	.09465	.00005	.00028	.13776	.00000	.00184	.70782	.00021	.00157	.04662
3300	.00849	.00124	.09405	.00010	.00046	.13716	.00000	.00221	.70719	.00036	.00218	.04655
3400	.00849	.00211	.09310	.00020	.00074	.13630	.00000	.00263	.70630	.00058	.00298	.04658
3500	.00847	.00343	.09164	.00037	.00116	.13509	.00000	.00311	.70505	.00093	.00399	.04677
3600	.00846	.00538	.08949	.00068	.00176	.13342	.00000	.00364	.70331	.00144	.00525	.04718
3700	.00843	.00811	.08649	.00119	.00259	.13115	.00000	.00424	.70093	.00220	.00680	.04787
3800	.00840	.01173	.08248	.00201	.00368	.12815	.00000	.00491	.69776	.00330	.00868	.04889
3900	.00835	.01628	.07743	.00330	.00509	.12425	.00000	.00567	.69364	.00486	.01091	.05023
4000	.00830	.02170	.07136	.00524	.00683	.11931	.00000	.00650	.68842	.00704	.01349	.05182
4100	.00822	.02778	.06447	.00807	.00889	.11320	.00000	.00741	.68199	.01002	.01642	.05352
4200	.00814	.03426	.05702	.01209	.01124	.10582	.00000	.00838	.67425	.01403	.01961	.05516
4300	.00803	.04077	.04935	.01761	.01379	.09715	.00000	.00939	.66513	.01931	.02296	.05652
4400	.00791	.04698	.04179	.02494	.01640	.08724	.00000	.01040	.65460	.02607	.02630	.05736
4500	.00778	.05259	.03465	.03434	.01888	.07628	.00000	.01139	.64268	.03454	.02938	.05749
4600	.00762	.05736	.02816	.04596	.02097	.06462	.00000	.01231	.62950	.04484	.03193	.05673
4700	.00746	.06121	.02246	.05972	.02239	.05274	.00001	.01311	.61527	.05704	.03366	.05494
4800	.00728	.06411	.01760	.07527	.02292	.04125	.00001	.01375	.60038	.07103	.03432	.05209
4900	.00711	.06614	.01357	.09194	.02243	.03078	.00001	.01419	.58534	.08652	.03375	.04821
5000	.00693	.06745	.01031	.10885	.02096	.02185	.00002	.01440	.57074	.10305	.03197	.04346
5100	.00677	.06819	.00774	.12500	.01873	.01475	.00003	.01438	.55717	.11996	.02916	.03810
5200	.00662	.06855	.00575	.13958	.01606	.00950	.00005	.01414	.54508	.13655	.02566	.03247
5300	.00650	.06864	.00423	.15206	.01329	.00587	.00007	.01368	.53475	.15213	.02185	.02693
5400	.00639	.06859	.00309	.16227	.01069	.00351	.00010	.01307	.52622	.16618	.01811	.02179

TABLE 25.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.049244; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00000	.70946	.00000	.00000	.04758
1700	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00001	.70946	.00000	.00000	.04758
1800	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00002	.70946	.00000	.00000	.04757
1900	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00003	.70945	.00000	.00000	.04757
2000	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00005	.70944	.00000	.00000	.04756
2100	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00008	.70943	.00000	.00000	.04754
2200	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00011	.70941	.00000	.00001	.04752
2300	.00851	.00000	.09545	.00000	.00000	.00000	.13898	.00000	.00017	.70938	.00000	.00001	.04749
2400	.00851	.00000	.09545	.00000	.00000	.00000	.13898	.00000	.00024	.70934	.00000	.00002	.04746
2500	.00851	.00000	.09545	.00000	.00000	.00000	.13897	.00000	.00033	.70929	.00000	.00004	.04740
2600	.00851	.00000	.09545	.00000	.00000	.00000	.13895	.00000	.00045	.70923	.00000	.00007	.04734
2700	.00851	.00001	.09544	.00000	.00000	.00000	.13892	.00000	.00060	.70914	.00000	.00012	.04726
2800	.00851	.00001	.09543	.00000	.00000	.00001	.13888	.00000	.00077	.70904	.00001	.00018	.04716
2900	.00851	.00003	.09541	.00000	.00000	.00002	.13882	.00000	.00098	.70890	.00001	.00028	.04703
3000	.00851	.00006	.09537	.00000	.00000	.00003	.13872	.00000	.00123	.70874	.00002	.00043	.04689
3100	.00851	.00012	.09531	.00000	.00000	.00005	.13859	.00000	.00151	.70852	.00004	.00062	.04673
3200	.00851	.00022	.09519	.00001	.00000	.00009	.13840	.00000	.00184	.70825	.00007	.00088	.04655
3300	.00850	.00040	.09499	.00002	.00000	.00015	.13813	.00000	.00221	.70790	.00011	.00123	.04636
3400	.00850	.00068	.09468	.00004	.00000	.00024	.13776	.00000	.00262	.70745	.00018	.00168	.04618
3500	.00850	.00112	.09419	.00007	.00000	.00038	.13724	.00000	.00308	.70685	.00029	.00225	.04603
3600	.00849	.00180	.09344	.00012	.00000	.00058	.13656	.00000	.00360	.70607	.00045	.00297	.04593
3700	.00848	.00279	.09235	.00022	.00000	.00086	.13563	.00000	.00416	.70505	.00068	.00385	.04592
3800	.00847	.00421	.09079	.00037	.00000	.00126	.13442	.00000	.00479	.70370	.00101	.00492	.04605
3900	.00845	.00614	.08867	.00062	.00000	.00179	.13285	.00000	.00548	.70196	.00148	.00621	.04635
4000	.00843	.00868	.08588	.00100	.00000	.00249	.13083	.00000	.00623	.69973	.00212	.00775	.04686
4100	.00840	.01190	.08234	.00157	.00000	.00338	.12829	.00000	.00706	.69692	.00299	.00954	.04760
4200	.00836	.01580	.07803	.00241	.00000	.00448	.12514	.00000	.00797	.69346	.00416	.01162	.04855
4300	.00832	.02034	.07300	.00361	.00000	.00581	.12131	.00000	.00896	.68928	.00572	.01397	.04967
4400	.00827	.02541	.06733	.00529	.00000	.00737	.11673	.00000	.01002	.68431	.00777	.01660	.05090
4500	.00820	.03085	.06120	.00756	.00000	.00915	.11135	.00000	.01115	.67854	.01040	.01948	.05212
4600	.00813	.03644	.05479	.01059	.00001	.01113	.10514	.00000	.01232	.67192	.01374	.02254	.05324
4700	.00805	.04197	.04833	.01454	.00001	.01327	.09810	.00000	.01352	.66446	.01790	.02572	.05413
4800	.00796	.04725	.04202	.01956	.00001	.01548	.09027	.00000	.01472	.65615	.02301	.02889	.05466
4900	.00786	.05210	.03602	.02581	.00001	.01768	.08176	.00000	.01590	.64702	.02916	.03193	.05475
5000	.00774	.05639	.03048	.03339	.00001	.01973	.07271	.00001	.01701	.63711	.03643	.03468	.05431
5100	.00762	.06003	.02548	.04236	.00001	.02151	.06334	.00001	.01804	.62651	.04486	.03696	.05328
5200	.00749	.06301	.02106	.05266	.00001	.02286	.05391	.00002	.01894	.61534	.05446	.03861	.05164
5300	.00736	.06533	.01723	.06416	.00001	.02366	.04473	.00002	.01969	.60378	.06515	.03949	.04939
5400	.00722	.06705	.01397	.07660	.00001	.02382	.03611	.00003	.02026	.59206	.07681	.03951	.04655

TABLE 25.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.049244; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00000	.00000	.70946	.00000	.00000	.04758
1700	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00001	.00000	.70946	.00000	.00000	.04758
1800	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00002	.00000	.70946	.00000	.00000	.04757
1900	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00003	.00000	.70945	.00000	.00000	.04757
2000	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00005	.00000	.70944	.00000	.00000	.04756
2100	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00008	.00000	.70943	.00000	.00000	.04754
2200	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00011	.00000	.70941	.00000	.00000	.04752
2300	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00017	.00000	.70938	.00000	.00001	.04749
2400	.00851	.00000	.09545	.00000	.00000	.00000	.13898	.00000	.00024	.00000	.70934	.00000	.00001	.04746
2500	.00851	.00000	.09545	.00000	.00000	.00000	.13898	.00000	.00033	.00000	.70929	.00000	.00002	.04741
2600	.00851	.00000	.09545	.00000	.00000	.00000	.13897	.00000	.00045	.00000	.70923	.00000	.00004	.04735
2700	.00851	.00000	.09545	.00000	.00000	.00000	.13895	.00000	.00060	.00000	.70915	.00000	.00007	.04727
2800	.00851	.00000	.09545	.00000	.00000	.00000	.13893	.00000	.00077	.00000	.70906	.00000	.00010	.04717
2900	.00851	.00001	.09544	.00000	.00000	.00000	.13890	.00000	.00098	.00000	.70894	.00000	.00016	.04705
3000	.00851	.00002	.09543	.00000	.00000	.00001	.13885	.00000	.00123	.00000	.70880	.00001	.00024	.04691
3100	.00851	.00004	.09540	.00000	.00000	.00002	.13878	.00000	.00151	.00000	.70862	.00001	.00035	.04675
3200	.00851	.00007	.09537	.00000	.00000	.00003	.13869	.00000	.00184	.00000	.70841	.00002	.00050	.04657
3300	.00851	.00013	.09530	.00000	.00000	.00005	.13856	.00000	.00221	.00000	.70816	.00004	.00069	.04636
3400	.00851	.00022	.09520	.00001	.00000	.00008	.13838	.00000	.00262	.00000	.70786	.00006	.00095	.04613
3500	.00850	.00036	.09504	.00001	.00000	.00012	.13814	.00000	.00308	.00000	.70749	.00009	.00127	.04589
3600	.00850	.00058	.09479	.00002	.00000	.00018	.13783	.00000	.00359	.00000	.70704	.00014	.00167	.04564
3700	.00850	.00091	.09442	.00004	.00000	.00028	.13743	.00000	.00414	.00000	.70649	.00021	.00217	.04540
3800	.00849	.00139	.09389	.00007	.00000	.00041	.13690	.00000	.00475	.00000	.70581	.00032	.00278	.04518
3900	.00849	.00207	.09314	.00011	.00000	.00059	.13624	.00000	.00541	.00000	.70497	.00046	.00351	.04500
4000	.00848	.00301	.09211	.00018	.00000	.00083	.13539	.00000	.00612	.00000	.70394	.00065	.00438	.04489
4100	.00847	.00427	.09073	.00029	.00000	.00115	.13433	.00000	.00689	.00000	.70266	.00092	.00541	.04488
4200	.00845	.00592	.08893	.00045	.00001	.00156	.13301	.00000	.00772	.00000	.70109	.00127	.00661	.04498
4300	.00844	.00800	.08665	.00068	.00001	.00209	.13140	.00000	.00861	.00000	.69919	.00173	.00799	.04522
4400	.00842	.01057	.08384	.00102	.00001	.00273	.12944	.00000	.00957	.00000	.69690	.00232	.00957	.04561
4500	.00839	.01363	.08048	.00148	.00001	.00351	.12710	.00000	.01061	.00000	.69418	.00309	.01135	.04615
4600	.00836	.01717	.07659	.00212	.00001	.00444	.12434	.00000	.01172	.00000	.69100	.00407	.01335	.04683
4700	.00832	.02114	.07220	.00297	.00001	.00552	.12112	.00000	.01289	.00000	.68734	.00531	.01556	.04760
4800	.00828	.02547	.06740	.00409	.00001	.00677	.11742	.00000	.01414	.00000	.68317	.00685	.01798	.04843
4900	.00823	.03004	.06229	.00555	.00001	.00816	.11321	.00000	.01544	.00000	.67849	.00875	.02058	.04926
5000	.00818	.03474	.05698	.00740	.00002	.00970	.10847	.00000	.01678	.00001	.67331	.01106	.02333	.05002
5100	.00812	.03944	.05161	.00974	.00002	.01137	.10323	.00000	.01816	.00001	.66763	.01383	.02620	.05066
5200	.00805	.04402	.04629	.01263	.00002	.01314	.09748	.00001	.01954	.00001	.66146	.01713	.02912	.05112
5300	.00798	.04837	.04114	.01614	.00002	.01497	.09127	.00001	.02091	.00001	.65482	.02101	.03203	.05134
5400	.00790	.05241	.03624	.02036	.00002	.01682	.08464	.00001	.02225	.00001	.64772	.02549	.03485	.05129

TABLE 25.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.049244; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00000	.70946	.00000	.00000	.04758
1700	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00001	.00000	.70946	.00000	.00000	.04758
1800	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00002	.00000	.70946	.00000	.00000	.04757
1900	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00003	.00000	.70945	.00000	.00000	.04757
2000	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00005	.00000	.70944	.00000	.00000	.04756
2100	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00008	.00000	.70943	.00000	.00000	.04754
2200	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00011	.00000	.70941	.00000	.00000	.04752
2300	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00017	.00000	.70938	.00000	.00000	.04749
2400	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00024	.00000	.70934	.00000	.00001	.04746
2500	.00851	.00000	.09545	.00000	.00000	.00000	.13898	.00033	.00000	.70930	.00000	.00001	.04741
2600	.00851	.00000	.09545	.00000	.00000	.00000	.13898	.00045	.00000	.70924	.00000	.00002	.04735
2700	.00851	.00000	.09545	.00000	.00000	.00000	.13897	.00060	.00000	.70916	.00000	.00004	.04727
2800	.00851	.00000	.09545	.00000	.00000	.00000	.13896	.00077	.00001	.70907	.00000	.00006	.04718
2900	.00851	.00000	.09545	.00000	.00000	.00000	.13894	.00098	.00001	.70896	.00000	.00009	.04706
3000	.00851	.00001	.09544	.00000	.00000	.00000	.13891	.00123	.00001	.70882	.00000	.00013	.04693
3100	.00851	.00001	.09544	.00000	.00000	.00001	.13888	.00151	.00001	.70867	.00000	.00020	.04677
3200	.00851	.00002	.09542	.00000	.00000	.00001	.13883	.00184	.00001	.70848	.00001	.00028	.04659
3300	.00851	.00004	.09540	.00000	.00000	.00001	.13876	.00221	.00001	.70827	.00001	.00039	.04639
3400	.00851	.00007	.09537	.00000	.00000	.00002	.13867	.00262	.00001	.70802	.00002	.00053	.04616
3500	.00851	.00011	.09531	.00000	.00000	.00004	.13855	.00308	.00001	.70773	.00003	.00071	.04590
3600	.00851	.00018	.09523	.00000	.00000	.00006	.13840	.00359	.00001	.70740	.00004	.00094	.04562
3700	.00850	.00029	.09511	.00001	.00000	.00009	.13821	.00414	.00001	.70701	.00007	.00122	.04532
3800	.00850	.00044	.09494	.00001	.00001	.00013	.13796	.00474	.00001	.70657	.00010	.00157	.04501
3900	.00850	.00067	.09469	.00002	.00001	.00019	.13766	.00539	.00001	.70605	.00014	.00198	.04469
4000	.00850	.00098	.09434	.00003	.00001	.00027	.13727	.00609	.00001	.70545	.00021	.00248	.04437
4100	.00849	.00141	.09387	.00005	.00001	.00037	.13680	.00683	.00001	.70474	.00029	.00306	.04406
4200	.00849	.00199	.09323	.00008	.00001	.00051	.13622	.00763	.00001	.70392	.00040	.00373	.04377
4300	.00848	.00275	.09240	.00012	.00001	.00069	.13552	.00847	.00001	.70295	.00054	.00452	.04353
4400	.00847	.00374	.09132	.00019	.00001	.00092	.13468	.00936	.00001	.70182	.00072	.00542	.04334
4500	.00846	.00498	.08996	.00027	.00002	.00121	.13367	.01031	.00001	.70049	.00095	.00644	.04322
4600	.00845	.00652	.08828	.00040	.00002	.00156	.13248	.01132	.00001	.69895	.00124	.00759	.04319
4700	.00844	.00838	.08625	.00056	.00002	.00198	.13107	.01238	.00001	.69716	.00160	.00889	.04325
4800	.00842	.01058	.08385	.00078	.00002	.00249	.12944	.01350	.00001	.69510	.00205	.01033	.04341
4900	.00840	.01313	.08107	.00108	.00002	.00309	.12756	.01469	.00001	.69276	.00260	.01192	.04367
5000	.00837	.01601	.07791	.00146	.00003	.00378	.12540	.01594	.00001	.69011	.00328	.01366	.04402
5100	.00834	.01920	.07441	.00195	.00003	.00457	.12297	.01725	.00001	.68715	.00410	.01556	.04444
5200	.00831	.02265	.07061	.00258	.00003	.00547	.12023	.01862	.00002	.68389	.00508	.01761	.04490
5300	.00828	.02632	.06656	.00335	.00004	.00646	.11719	.02004	.00002	.68030	.00625	.01979	.04540
5400	.00824	.03013	.06232	.00432	.00004	.00756	.11383	.02150	.00002	.67642	.00762	.02210	.04588

TABLE 25.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.049244; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00000	.00000	.70946	.00000	.00000	.00000	.04758
1700	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00001	.00000	.70946	.00000	.00000	.00000	.04758
1800	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00002	.00000	.70946	.00000	.00000	.00000	.04757
1900	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00003	.00000	.70945	.00000	.00000	.00000	.04756
2000	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00005	.00000	.70944	.00000	.00000	.00000	.04755
2100	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00008	.00000	.70943	.00000	.00000	.00000	.04754
2200	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00011	.00001	.70941	.00000	.00000	.00000	.04752
2300	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00017	.00001	.70938	.00000	.00000	.00000	.04749
2400	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00024	.00001	.70934	.00000	.00000	.00000	.04745
2500	.00851	.00000	.09545	.00000	.00000	.00000	.13899	.00033	.00001	.70930	.00000	.00000	.00001	.04740
2600	.00851	.00000	.09545	.00000	.00000	.00000	.13898	.00045	.00001	.70924	.00000	.00000	.00001	.04734
2700	.00851	.00000	.09545	.00000	.00000	.00000	.13898	.00060	.00001	.70916	.00000	.00000	.00002	.04727
2800	.00851	.00000	.09545	.00000	.00000	.00000	.13897	.00077	.00001	.70907	.00000	.00000	.00004	.04717
2900	.00851	.00000	.09545	.00000	.00000	.00000	.13896	.00098	.00001	.70896	.00000	.00000	.00006	.04706
3000	.00851	.00000	.09545	.00000	.00000	.00000	.13894	.00123	.00001	.70883	.00000	.00000	.00009	.04693
3100	.00851	.00001	.09545	.00000	.00000	.00000	.13892	.00151	.00001	.70868	.00000	.00000	.00013	.04678
3200	.00851	.00001	.09544	.00000	.00000	.00000	.13888	.00184	.00002	.70850	.00000	.00000	.00019	.04660
3300	.00851	.00002	.09543	.00000	.00000	.00001	.13884	.00221	.00002	.70830	.00000	.00001	.00026	.04640
3400	.00851	.00003	.09541	.00000	.00000	.00001	.13878	.00262	.00002	.70807	.00000	.00001	.00036	.04617
3500	.00851	.00005	.09539	.00000	.00000	.00002	.13871	.00308	.00002	.70781	.00000	.00001	.00048	.04592
3600	.00851	.00008	.09535	.00000	.00001	.00003	.13862	.00359	.00002	.70751	.00000	.00002	.00063	.04564
3700	.00851	.00013	.09530	.00000	.00001	.00004	.13849	.00414	.00002	.70717	.00000	.00003	.00082	.04534
3800	.00851	.00020	.09522	.00000	.00001	.00006	.13834	.00474	.00002	.70679	.00000	.00004	.00105	.04501
3900	.00850	.00030	.09510	.00001	.00001	.00008	.13816	.00539	.00002	.70637	.00000	.00006	.00133	.04466
4000	.00850	.00044	.09494	.00001	.00001	.00012	.13793	.00609	.00002	.70589	.00000	.00009	.00166	.04430
4100	.00850	.00064	.09472	.00002	.00001	.00017	.13765	.00683	.00002	.70535	.00000	.00013	.00205	.04392
4200	.00850	.00090	.09443	.00002	.00001	.00023	.13731	.00761	.00002	.70474	.00000	.00018	.00250	.04354
4300	.00849	.00126	.09404	.00004	.00002	.00031	.13690	.00844	.00002	.70404	.00000	.00024	.00303	.04316
4400	.00849	.00172	.09353	.00006	.00002	.00042	.13641	.00931	.00003	.70326	.00000	.00032	.00363	.04280
4500	.00849	.00232	.09287	.00008	.00002	.00055	.13584	.01023	.00003	.70237	.00000	.00042	.00432	.04246
4600	.00848	.00308	.09204	.00012	.00003	.00072	.13516	.01120	.00003	.70136	.00000	.00055	.00510	.04215
4700	.00847	.00402	.09101	.00017	.00003	.00092	.13437	.01221	.00003	.70021	.00000	.00070	.00597	.04189
4800	.00846	.00517	.08976	.00024	.00003	.00117	.13344	.01327	.00003	.69890	.00000	.00090	.00694	.04168
4900	.00845	.00655	.08825	.00033	.00004	.00147	.13238	.01437	.00003	.69743	.00000	.00114	.00802	.04153
5000	.00844	.00819	.08647	.00045	.00004	.00182	.13116	.01553	.00003	.69577	.00001	.00142	.00921	.04146
5100	.00842	.01008	.08441	.00061	.00004	.00223	.12977	.01675	.00003	.69391	.00001	.00177	.01051	.04146
5200	.00841	.01224	.08205	.00081	.00005	.00271	.12820	.01801	.00003	.69183	.00001	.00218	.01192	.04153
5300	.00839	.01466	.07942	.00106	.00005	.00326	.12644	.01933	.00003	.68954	.00001	.00268	.01346	.04168
5400	.00836	.01732	.07651	.00138	.00006	.00387	.12448	.02070	.00003	.68703	.00001	.00326	.01511	.04188

TABLE 25C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.049244; EQUIV.RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00851	.09545	.13885	.00000	.00014	.70947	.04758
400	.00851	.09545	.13601	.00000	.00298	.70947	.04758
440	.00851	.09545	.10057	.00000	.03842	.70947	.04758
		PRESSURE = 0.10 ATM					
360	.00851	.09545	.13898	.00000	.00001	.70947	.04758
400	.00851	.09545	.13869	.00000	.00030	.70947	.04758
440	.00851	.09545	.13530	.00000	.00369	.70947	.04758
480	.00851	.09545	.10798	.00000	.03101	.70947	.04758
520	.00851	.09545	.00000	.00000	.13899	.70947	.04758
		PRESSURE = 1.00 ATM					
360	.00851	.09545	.13899	.00000	.00000	.70947	.04758
400	.00851	.09545	.13896	.00000	.00003	.70947	.04758
440	.00851	.09545	.13862	.00000	.00037	.70947	.04758
480	.00851	.09545	.13599	.00000	.00300	.70947	.04758
520	.00851	.09545	.00000	.12359	.01540	.70947	.04758
537	.00851	.09545	.00000	.11133	.02765	.70947	.04758
560	.00851	.09545	.00000	.07922	.05977	.70947	.04758
600	.00851	.09545	.00000	.00000	.13899	.70947	.04758
		PRESSURE = 10.00 ATM					
360	.00851	.09545	.13899	.00000	.00000	.70947	.04758
400	.00851	.09545	.13899	.00000	.00000	.70947	.04758
440	.00851	.09545	.13895	.00000	.00004	.70947	.04758
480	.00851	.09545	.13869	.00000	.00030	.70947	.04758
520	.00851	.09545	.00000	.13747	.00152	.70947	.04758
537	.00851	.09545	.00000	.13630	.00269	.70947	.04758
560	.00851	.09545	.00000	.13336	.00563	.70947	.04758
600	.00851	.09545	.00000	.12171	.01728	.70947	.04758
640	.00851	.09545	.00000	.09288	.04611	.70947	.04758
680	.00851	.09545	.00000	.02674	.11225	.70947	.04758
		PRESSURE = 50.00 ATM					
360	.00851	.09545	.13899	.00000	.00000	.70947	.04758
400	.00851	.09545	.13899	.00000	.00000	.70947	.04758
440	.00851	.09545	.13898	.00000	.00001	.70947	.04758
480	.00851	.09545	.13893	.00000	.00006	.70947	.04758
520	.00851	.09545	.00000	.13869	.00030	.70947	.04758
537	.00851	.09545	.00000	.13845	.00054	.70947	.04758
560	.00851	.09545	.00000	.13787	.00112	.70947	.04758
600	.00851	.09545	.00000	.13559	.00340	.70947	.04758
640	.00851	.09545	.00000	.13015	.00884	.70947	.04758
680	.00851	.09545	.00000	.11866	.02033	.70947	.04758
720	.00851	.09545	.00000	.09653	.04246	.70947	.04758
760	.00851	.09545	.00000	.05641	.08258	.70947	.04758

TABLE 26.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.065658; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00838	.00000	.12519	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1700	.00838	.00000	.12519	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1800	.00838	.00000	.12519	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1900	.00838	.00000	.12519	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2000	.00838	.00000	.12519	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2100	.00838	.00000	.12518	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2200	.00838	.00001	.12518	.00000	.00001	.16803	.00000	.00000	.69838	.00000	.00000	.00001
2300	.00838	.00003	.12516	.00000	.00002	.16802	.00000	.00000	.69837	.00000	.00000	.00002
2400	.00838	.00006	.12513	.00000	.00004	.16799	.00000	.00001	.69835	.00000	.00001	.00004
2500	.00838	.00011	.12507	.00000	.00007	.16795	.00000	.00001	.69832	.00000	.00002	.00008
2600	.00837	.00021	.12496	.00000	.00012	.16788	.00000	.00002	.69825	.00000	.00003	.00015
2700	.00837	.00038	.12477	.00000	.00020	.16776	.00000	.00004	.69815	.00000	.00006	.00025
2800	.00837	.00065	.12447	.00001	.00031	.16759	.00000	.00007	.69799	.00000	.00011	.00042
2900	.00837	.00108	.12400	.00001	.00048	.16732	.00000	.00012	.69774	.00000	.00019	.00068
3000	.00836	.00173	.12329	.00003	.00072	.16693	.00000	.00018	.69737	.00001	.00032	.00106
3100	.00836	.00268	.12226	.00006	.00104	.16637	.00000	.00028	.69682	.00002	.00052	.00160
3200	.00835	.00401	.12079	.00011	.00148	.16559	.00000	.00041	.69605	.00005	.00081	.00235
3300	.00834	.00585	.11878	.00021	.00206	.16451	.00000	.00059	.69497	.00010	.00124	.00336
3400	.00832	.00828	.11611	.00038	.00281	.16306	.00000	.00083	.69352	.00018	.00183	.00468
3500	.00830	.01143	.11264	.00067	.00376	.16113	.00000	.00113	.69158	.00034	.00264	.00636
3600	.00827	.01538	.10828	.00114	.00495	.15861	.00000	.00152	.68907	.00061	.00372	.00845
3700	.00824	.02017	.10295	.00187	.00641	.15537	.00000	.00201	.68586	.00105	.00512	.01095
3800	.00819	.02581	.09664	.00300	.00817	.15127	.00000	.00259	.68184	.00176	.00688	.01385
3900	.00814	.03222	.08941	.00468	.01026	.14615	.00000	.00327	.67690	.00283	.00903	.01710
4000	.00807	.03924	.08139	.00714	.01269	.13986	.00000	.00405	.67092	.00444	.01160	.02061
4100	.00799	.04663	.07280	.01064	.01544	.13227	.00000	.00492	.66379	.00674	.01455	.02423
4200	.00790	.05410	.06391	.01549	.01845	.12330	.00000	.00586	.65541	.00996	.01783	.02778
4300	.00779	.06133	.05503	.02204	.02162	.11290	.00000	.00686	.64573	.01431	.02132	.03107
4400	.00766	.06800	.04648	.03063	.02476	.10118	.00000	.00787	.63468	.02004	.02483	.03387
4500	.00752	.07385	.03850	.04155	.02763	.08834	.00000	.00887	.62230	.02733	.02812	.03600
4600	.00736	.07869	.03130	.05493	.02994	.07478	.00000	.00981	.60869	.03634	.03092	.03725
4700	.00719	.08246	.02499	.07070	.03137	.06105	.00001	.01064	.59408	.04712	.03291	.03748
4800	.00701	.08517	.01961	.08849	.03167	.04781	.00001	.01132	.57886	.05957	.03383	.03664
4900	.00683	.08694	.01514	.10758	.03071	.03577	.00001	.01181	.56355	.07343	.03352	.03472
5000	.00665	.08794	.01151	.12701	.02855	.02547	.00002	.01209	.54874	.08822	.03194	.03185
5100	.00649	.08836	.00864	.14570	.02545	.01726	.00003	.01214	.53503	.10333	.02928	.02827
5200	.00634	.08840	.00641	.16271	.02182	.01116	.00005	.01197	.52290	.11809	.02587	.02429
5300	.00622	.08822	.00471	.17739	.01808	.00692	.00007	.01161	.51259	.13187	.02210	.02023
5400	.00611	.08794	.00344	.18951	.01458	.00415	.00010	.01110	.50414	.14418	.01835	.01640

TABLE 26.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.065658; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1700	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1800	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1900	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2000	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2100	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69838	.00000	.00000	.00000
2200	.00838	.00001	.12518	.00000	.00000	.00000	.16804	.00000	.00000	.69838	.00000	.00000	.00000
2300	.00838	.00001	.12518	.00000	.00000	.00001	.16803	.00000	.00000	.69838	.00000	.00000	.00001
2400	.00838	.00003	.12516	.00000	.00000	.00002	.16802	.00000	.00000	.69837	.00000	.00000	.00002
2500	.00838	.00005	.12513	.00000	.00000	.00003	.16800	.00000	.00001	.69835	.00000	.00001	.00004
2600	.00838	.00010	.12508	.00000	.00000	.00006	.16797	.00000	.00002	.69832	.00000	.00001	.00007
2700	.00837	.00018	.12499	.00000	.00000	.00009	.16791	.00000	.00003	.69827	.00000	.00003	.00011
2800	.00837	.00031	.12485	.00000	.00000	.00015	.16783	.00000	.00005	.69820	.00000	.00005	.00019
2900	.00837	.00051	.12463	.00000	.00000	.00023	.16771	.00000	.00008	.69807	.00000	.00009	.00031
3000	.00837	.00082	.12429	.00001	.00000	.00034	.16753	.00000	.00012	.69789	.00000	.00015	.00048
3100	.00837	.00127	.12380	.00001	.00000	.00049	.16727	.00000	.00019	.69763	.00000	.00024	.00073
3200	.00836	.00191	.12310	.00002	.00000	.00070	.16691	.00000	.00028	.69726	.00001	.00038	.00107
3300	.00836	.00280	.12213	.00005	.00000	.00097	.16641	.00000	.00040	.69674	.00002	.00058	.00154
3400	.00835	.00400	.12082	.00008	.00000	.00133	.16575	.00000	.00056	.69604	.00004	.00086	.00217
3500	.00834	.00559	.11909	.00015	.00000	.00178	.16488	.00000	.00078	.69511	.00007	.00124	.00298
3600	.00833	.00762	.11686	.00025	.00000	.00234	.16374	.00000	.00105	.69390	.00013	.00177	.00401
3700	.00831	.01017	.11406	.00041	.00000	.00305	.16228	.00000	.00140	.69235	.00023	.00245	.00528
3800	.00829	.01331	.11061	.00066	.00000	.00390	.16044	.00000	.00183	.69040	.00039	.00334	.00683
3900	.00827	.01706	.10648	.00103	.00000	.00494	.15815	.00000	.00234	.68800	.00064	.00446	.00865
4000	.00823	.02144	.10162	.00157	.00000	.00617	.15532	.00000	.00295	.68507	.00101	.00584	.01076
4100	.00820	.02644	.09606	.00236	.00000	.00762	.15188	.00000	.00367	.68156	.00157	.00752	.01312
4200	.00815	.03199	.08985	.00348	.00000	.00930	.14774	.00000	.00448	.67742	.00237	.00952	.01571
4300	.00810	.03798	.08307	.00502	.00000	.01122	.14284	.00000	.00539	.67259	.00349	.01184	.01845
4400	.00804	.04428	.07586	.00712	.00000	.01338	.13709	.00000	.00640	.66704	.00502	.01447	.02128
4500	.00797	.05071	.06840	.00993	.00000	.01577	.13046	.00000	.00748	.66073	.00707	.01738	.02410
4600	.00789	.05707	.06087	.01360	.00000	.01835	.12290	.00000	.00862	.65364	.00975	.02053	.02679
4700	.00780	.06316	.05347	.01831	.00000	.02105	.11443	.00000	.00980	.64573	.01316	.02382	.02925
4800	.00771	.06882	.04636	.02425	.00000	.02379	.10511	.00000	.01099	.63702	.01743	.02714	.03137
4900	.00760	.07388	.03969	.03157	.00001	.02645	.09505	.00000	.01216	.62752	.02266	.03035	.03306
5000	.00748	.07826	.03358	.04039	.00001	.02886	.08442	.00001	.01329	.61727	.02892	.03329	.03422
5100	.00736	.08189	.02809	.05075	.00001	.03087	.07348	.00001	.01434	.60634	.03626	.03579	.03481
5200	.00723	.08476	.02325	.06261	.00001	.03231	.06253	.00002	.01528	.59488	.04469	.03767	.03478
5300	.00709	.08691	.01905	.07582	.00001	.03303	.05190	.00002	.01608	.58306	.05414	.03878	.03411
5400	.00695	.08841	.01547	.09009	.00001	.03294	.04194	.00003	.01671	.57111	.06450	.03902	.03283

TABLE 26.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.065658; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1700	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1800	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1900	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2000	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2100	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2200	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69838	.00000	.00000	.00000
2300	.00838	.00001	.12518	.00000	.00000	.00000	.16804	.00000	.00000	.69838	.00000	.00000	.00000
2400	.00838	.00001	.12518	.00000	.00000	.00001	.16803	.00000	.00000	.69838	.00000	.00000	.00001
2500	.00838	.00002	.12516	.00000	.00000	.00002	.16802	.00000	.00001	.69837	.00000	.00000	.00002
2600	.00838	.00005	.12514	.00000	.00000	.00003	.16801	.00000	.00001	.69836	.00000	.00001	.00003
2700	.00838	.00008	.12510	.00000	.00000	.00004	.16798	.00000	.00002	.69833	.00000	.00001	.00005
2800	.00838	.00015	.12503	.00000	.00000	.00007	.16794	.00000	.00003	.69829	.00000	.00002	.00009
2900	.00837	.00024	.12492	.00000	.00000	.00011	.16789	.00000	.00005	.69823	.00000	.00004	.00014
3000	.00837	.00039	.12477	.00000	.00000	.00016	.16780	.00000	.00008	.69814	.00000	.00007	.00022
3100	.00837	.00060	.12453	.00000	.00000	.00023	.16768	.00000	.00013	.69801	.00000	.00011	.00033
3200	.00837	.00091	.12420	.00001	.00000	.00033	.16751	.00000	.00019	.69783	.00000	.00017	.00048
3300	.00837	.00134	.12373	.00001	.00000	.00046	.16728	.00000	.00027	.69757	.00000	.00027	.00070
3400	.00836	.00192	.12310	.00002	.00000	.00063	.16698	.00000	.00038	.69723	.00001	.00040	.00098
3500	.00836	.00269	.12226	.00003	.00000	.00084	.16657	.00000	.00053	.69677	.00002	.00058	.00136
3600	.00835	.00369	.12117	.00005	.00000	.00111	.16605	.00000	.00071	.69617	.00003	.00082	.00184
3700	.00835	.00497	.11977	.00009	.00000	.00144	.16538	.00000	.00095	.69541	.00005	.00115	.00244
3800	.00834	.00657	.11802	.00014	.00000	.00185	.16454	.00000	.00125	.69444	.00008	.00157	.00319
3900	.00832	.00854	.11588	.00022	.00000	.00235	.16349	.00000	.00162	.69324	.00014	.00211	.00409
4000	.00831	.01090	.11328	.00034	.00000	.00294	.16219	.00000	.00206	.69178	.00022	.00280	.00517
4100	.00829	.01371	.11021	.00052	.00000	.00364	.16062	.00000	.00258	.69001	.00035	.00364	.00643
4200	.00827	.01696	.10664	.00076	.00000	.00446	.15873	.00000	.00320	.68791	.00053	.00467	.00787
4300	.00824	.02067	.10255	.00110	.00000	.00542	.15648	.00000	.00391	.68544	.00079	.00590	.00950
4400	.00821	.02482	.09795	.00157	.00000	.00652	.15382	.00000	.00471	.68258	.00116	.00736	.01129
4500	.00818	.02939	.09288	.00220	.00000	.00778	.15072	.00000	.00562	.67929	.00166	.00905	.01323
4600	.00814	.03430	.08739	.00304	.00000	.00920	.14714	.00000	.00662	.67557	.00233	.01098	.01529
4700	.00810	.03948	.08156	.00415	.00001	.01079	.14304	.00000	.00771	.67139	.00321	.01315	.01742
4800	.00805	.04485	.07546	.00557	.00001	.01254	.13839	.00000	.00888	.66675	.00435	.01556	.01957
4900	.00800	.05029	.06922	.00738	.00001	.01446	.13317	.00000	.01012	.66165	.00581	.01818	.02170
5000	.00794	.05568	.06294	.00967	.00001	.01653	.12738	.00000	.01142	.65608	.00762	.02099	.02375
5100	.00787	.06092	.05674	.01250	.00001	.01873	.12100	.00000	.01275	.65004	.00984	.02393	.02566
5200	.00780	.06590	.05072	.01597	.00001	.02101	.11407	.00001	.01410	.64354	.01254	.02695	.02738
5300	.00773	.07053	.04497	.02015	.00001	.02333	.10664	.00001	.01546	.63659	.01575	.02998	.02886
5400	.00765	.07473	.03956	.02513	.00002	.02563	.09875	.00001	.01679	.62921	.01952	.03294	.03006

TABLE 26.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.065658; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1700	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1800	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1900	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2000	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2100	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2200	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2300	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2400	.00838	.00001	.12518	.00000	.00000	.00000	.16804	.00000	.00000	.69838	.00000	.00000	.00000
2500	.00838	.00001	.12518	.00000	.00000	.00001	.16804	.00000	.00000	.69838	.00000	.00000	.00001
2600	.00838	.00002	.12517	.00000	.00000	.00001	.16803	.00001	.00000	.69837	.00000	.00000	.00001
2700	.00838	.00004	.12515	.00000	.00000	.00002	.16802	.00001	.00000	.69836	.00000	.00001	.00002
2800	.00838	.00007	.12511	.00000	.00000	.00003	.16800	.00002	.00000	.69834	.00000	.00001	.00004
2900	.00838	.00012	.12506	.00000	.00000	.00005	.16797	.00004	.00000	.69831	.00000	.00002	.00006
3000	.00837	.00018	.12499	.00000	.00000	.00008	.16793	.00005	.00000	.69826	.00000	.00003	.00010
3100	.00837	.00029	.12488	.00000	.00000	.00011	.16787	.00008	.00000	.69820	.00000	.00005	.00014
3200	.00837	.00043	.12472	.00000	.00000	.00016	.16779	.00012	.00000	.69811	.00000	.00008	.00021
3300	.00837	.00064	.12449	.00000	.00000	.00022	.16769	.00018	.00000	.69798	.00000	.00012	.00031
3400	.00837	.00092	.12419	.00000	.00000	.00030	.16754	.00025	.00000	.69780	.00000	.00018	.00044
3500	.00837	.00129	.12378	.00001	.00000	.00040	.16735	.00035	.00000	.69757	.00000	.00027	.00060
3600	.00837	.00178	.12325	.00001	.00000	.00053	.16711	.00048	.00000	.69727	.00001	.00038	.00082
3700	.00836	.00240	.12257	.00002	.00000	.00069	.16680	.00064	.00000	.69688	.00001	.00053	.00109
3800	.00836	.00319	.12171	.00003	.00000	.00088	.16640	.00084	.00000	.69639	.00002	.00073	.00143
3900	.00835	.00418	.12065	.00005	.00000	.00112	.16592	.00109	.00000	.69579	.00003	.00098	.00185
4000	.00834	.00538	.11934	.00008	.00000	.00140	.16532	.00139	.00000	.69504	.00005	.00130	.00236
4100	.00834	.00682	.11776	.00011	.00000	.00174	.16459	.00176	.00000	.69414	.00007	.00171	.00296
4200	.00833	.00854	.11589	.00017	.00000	.00213	.16371	.00219	.00000	.69306	.00011	.00220	.00367
4300	.00831	.01054	.11370	.00024	.00000	.00259	.16266	.00270	.00000	.69178	.00017	.00281	.00449
4400	.00830	.01286	.11117	.00034	.00000	.00312	.16143	.00328	.00000	.69028	.00025	.00353	.00542
4500	.00828	.01549	.10829	.00048	.00000	.00373	.15999	.00396	.00000	.68855	.00037	.00438	.00647
4600	.00826	.01845	.10505	.00067	.00001	.00443	.15831	.00472	.00000	.68657	.00052	.00538	.00763
4700	.00824	.02172	.10145	.00091	.00001	.00521	.15639	.00557	.00000	.68433	.00073	.00654	.00891
4800	.00822	.02529	.09751	.00123	.00001	.00610	.15419	.00651	.00000	.68181	.00100	.00786	.01028
4900	.00819	.02914	.09325	.00163	.00001	.00709	.15170	.00754	.00000	.67901	.00135	.00936	.01173
5000	.00816	.03323	.08871	.00215	.00001	.00818	.14890	.00865	.00000	.67592	.00180	.01103	.01325
5100	.00813	.03751	.08393	.00280	.00001	.00939	.14578	.00985	.00000	.67254	.00236	.01287	.01481
5200	.00809	.04194	.07896	.00361	.00002	.01071	.14232	.01112	.00001	.66888	.00307	.01489	.01639
5300	.00805	.04644	.07387	.00460	.00002	.01215	.13851	.01246	.00001	.66494	.00393	.01706	.01796
5400	.00801	.05097	.06871	.00581	.00002	.01369	.13435	.01385	.00001	.66072	.00497	.01939	.01950

TABLE 26.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.065658; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1700	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1800	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
1900	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2000	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2100	.00838	.00000	.12519	.00000	.00000	.00000	.16805	.00000	.00000	.69839	.00000	.00000	.00000
2200	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2300	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69839	.00000	.00000	.00000
2400	.00838	.00000	.12519	.00000	.00000	.00000	.16804	.00000	.00000	.69838	.00000	.00000	.00000
2500	.00838	.00001	.12518	.00000	.00000	.00000	.16804	.00000	.00000	.69838	.00000	.00000	.00000
2600	.00838	.00001	.12517	.00000	.00000	.00001	.16804	.00001	.00000	.69838	.00000	.00000	.00001
2700	.00838	.00002	.12516	.00000	.00000	.00001	.16803	.00001	.00000	.69837	.00000	.00000	.00001
2800	.00838	.00004	.12514	.00000	.00000	.00002	.16802	.00002	.00000	.69836	.00000	.00001	.00002
2900	.00838	.00007	.12511	.00000	.00000	.00003	.16800	.00003	.00000	.69834	.00000	.00001	.00003
3000	.00838	.00011	.12507	.00000	.00000	.00005	.16798	.00004	.00000	.69831	.00000	.00002	.00005
3100	.00838	.00017	.12500	.00000	.00000	.00007	.16794	.00006	.00000	.69827	.00000	.00003	.00008
3200	.00837	.00026	.12491	.00000	.00000	.00009	.16790	.00009	.00000	.69821	.00000	.00005	.00012
3300	.00837	.00038	.12477	.00000	.00000	.00013	.16783	.00013	.00000	.69813	.00000	.00007	.00017
3400	.00837	.00055	.12459	.00000	.00000	.00018	.16775	.00019	.00000	.69802	.00000	.00011	.00024
3500	.00837	.00077	.12435	.00000	.00000	.00024	.16764	.00026	.00000	.69787	.00000	.00015	.00034
3600	.00837	.00107	.12403	.00000	.00000	.00032	.16749	.00036	.00000	.69769	.00000	.00022	.00046
3700	.00837	.00145	.12362	.00001	.00000	.00041	.16731	.00048	.00000	.69744	.00000	.00031	.00061
3800	.00836	.00193	.12309	.00001	.00000	.00053	.16707	.00063	.00000	.69713	.00001	.00042	.00081
3900	.00836	.00253	.12244	.00002	.00000	.00067	.16679	.00082	.00000	.69675	.00001	.00057	.00104
4000	.00836	.00326	.12165	.00003	.00000	.00084	.16643	.00105	.00000	.69628	.00002	.00076	.00133
4100	.00835	.00415	.12068	.00004	.00000	.00104	.16600	.00133	.00000	.69571	.00003	.00100	.00168
4200	.00835	.00522	.11952	.00006	.00000	.00128	.16549	.00166	.00000	.69502	.00004	.00129	.00209
4300	.00834	.00648	.11815	.00008	.00000	.00155	.16487	.00204	.00000	.69421	.00006	.00164	.00257
4400	.00833	.00794	.11655	.00012	.00000	.00187	.16414	.00250	.00000	.69326	.00009	.00207	.00312
4500	.00832	.00963	.11471	.00017	.00000	.00224	.16329	.00302	.00000	.69215	.00012	.00258	.00375
4600	.00831	.01156	.11260	.00023	.00001	.00265	.16231	.00362	.00000	.69088	.00018	.00319	.00447
4700	.00829	.01374	.11023	.00032	.00001	.00313	.16117	.00429	.00000	.68942	.00025	.00389	.00526
4800	.00828	.01616	.10758	.00043	.00001	.00366	.15987	.00505	.00000	.68778	.00034	.00471	.00613
4900	.00826	.01882	.10466	.00057	.00001	.00426	.15839	.00589	.00000	.68594	.00047	.00564	.00708
5000	.00824	.02173	.10147	.00075	.00001	.00492	.15673	.00681	.00001	.68390	.00063	.00669	.00811
5100	.00822	.02487	.09802	.00097	.00002	.00566	.15486	.00782	.00001	.68165	.00083	.00788	.00919
5200	.00820	.02821	.09434	.00125	.00002	.00648	.15279	.00890	.00001	.67918	.00109	.00919	.01034
5300	.00817	.03174	.09043	.00160	.00002	.00737	.15049	.01007	.00001	.67651	.00141	.01065	.01153
5400	.00815	.03542	.08634	.00203	.00003	.00834	.14796	.01131	.00001	.67363	.00180	.01223	.01275

TABLE 26C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.065658; EQUIV.RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2
		PRESSURE = 0.01 ATM				
360	.00838	.12519	.16791	.00000	.00013	.69839
400	.00838	.12519	.16517	.00000	.00288	.69839
440	.00838	.12519	.13092	.00000	.03713	.69839
		PRESSURE = 0.10 ATM				
360	.00838	.12519	.16803	.00000	.00001	.69839
400	.00838	.12519	.16776	.00000	.00029	.69839
440	.00838	.12519	.16448	.00000	.00357	.69839
480	.00838	.12519	.13808	.00000	.02996	.69839
520	.00838	.12519	.00000	.00000	.16805	.69839
		PRESSURE = 1.00 ATM				
360	.00838	.12519	.16804	.00000	.00000	.69839
400	.00838	.12519	.16802	.00000	.00003	.69839
440	.00838	.12519	.16769	.00000	.00036	.69839
480	.00838	.12519	.16514	.00000	.00290	.69839
520	.00838	.12519	.00000	.15317	.01488	.69839
537	.00838	.12519	.00000	.14132	.02672	.69839
560	.00838	.12519	.00000	.11029	.05775	.69839
600	.00838	.12519	.00000	.00000	.16805	.69839
		PRESSURE = 10.00 ATM				
360	.00838	.12519	.16805	.00000	.00000	.69839
400	.00838	.12519	.16804	.00000	.00000	.69839
440	.00838	.12519	.16801	.00000	.00004	.69839
480	.00838	.12519	.16776	.00000	.00029	.69839
520	.00838	.12519	.00000	.16658	.00146	.69839
537	.00838	.12519	.00000	.16545	.00260	.69839
560	.00838	.12519	.00000	.16261	.00544	.69839
600	.00838	.12519	.00000	.15135	.01669	.69839
640	.00838	.12519	.00000	.12349	.04456	.69839
680	.00838	.12519	.00000	.05959	.10846	.69839
		PRESSURE = 50.00 ATM				
360	.00838	.12519	.16805	.00000	.00000	.69839
400	.00838	.12519	.16804	.00000	.00000	.69839
440	.00838	.12519	.16804	.00000	.00001	.69839
480	.00838	.12519	.16799	.00000	.00006	.69839
520	.00838	.12519	.00000	.16775	.00029	.69839
537	.00838	.12519	.00000	.16753	.00052	.69839
560	.00838	.12519	.00000	.16696	.00108	.69839
600	.00838	.12519	.00000	.16476	.00329	.69839
640	.00838	.12519	.00000	.15950	.00855	.69839
680	.00838	.12519	.00000	.14840	.01964	.69839
720	.00838	.12519	.00000	.12702	.04102	.69839
760	.00838	.12519	.00000	.08825	.07979	.69839

TABLE 27.1D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
380	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
400	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
420	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
440	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
460	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
480	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
500	.00825	.02306	.00000	.13095	.00000	.00001	.15008	.00000	.00000	.00000	.68765	.00000	.00000	.00000
520	.00825	.02306	.00000	.13095	.00000	.00002	.15008	.00000	.00000	.00000	.68765	.00000	.00000	.00000
537	.00825	.02305	.00000	.13096	.00000	.00003	.15007	.00000	.00000	.00000	.68764	.00000	.00000	.00000
540	.00825	.02305	.00000	.13096	.00000	.00003	.15007	.00000	.00000	.00000	.68764	.00000	.00000	.00000
560	.00825	.02305	.00000	.13096	.00000	.00005	.15006	.00000	.00000	.00000	.68763	.00000	.00000	.00000
580	.00825	.02303	.00000	.13097	.00000	.00009	.15004	.00000	.00000	.00000	.68762	.00000	.00000	.00000
600	.00825	.02302	.00000	.13098	.00000	.00015	.15000	.00000	.00000	.00000	.68760	.00000	.00000	.00000
620	.00825	.02299	.00000	.13100	.00000	.00025	.14994	.00000	.00000	.00000	.68756	.00000	.00000	.00000
640	.00825	.02295	.00000	.13103	.00000	.00040	.14986	.00000	.00000	.00000	.68751	.00000	.00000	.00000
660	.00824	.02290	.00000	.13107	.00000	.00061	.14974	.00000	.00000	.00000	.68744	.00000	.00000	.00000
680	.00824	.02282	.00000	.13112	.00000	.00092	.14956	.00000	.00000	.00000	.68734	.00000	.00000	.00000
700	.00824	.02271	.00000	.13120	.00000	.00134	.14931	.00000	.00000	.00000	.68719	.00000	.00000	.00000
720	.00824	.02255	.00000	.13131	.00000	.00193	.14898	.00000	.00000	.00000	.68699	.00000	.00000	.00000
740	.00824	.02235	.00000	.13145	.00000	.00271	.14853	.00000	.00000	.00000	.68672	.00000	.00000	.00000
760	.00823	.02208	.00000	.13164	.00000	.00375	.14793	.00000	.00001	.00000	.68636	.00000	.00000	.00000
780	.00823	.02172	.00001	.13189	.00000	.00509	.14716	.00000	.00001	.00000	.68590	.00000	.00000	.00000
800	.00822	.02127	.00001	.13220	.00000	.00680	.14618	.00000	.00001	.00000	.68531	.00000	.00000	.00000
820	.00821	.02071	.00002	.13258	.00000	.00894	.14496	.00000	.00001	.00000	.68457	.00000	.00000	.00000
840	.00820	.02002	.00004	.13306	.00000	.01156	.14345	.00000	.00001	.00000	.68366	.00000	.00000	.00000
860	.00819	.01919	.00006	.13362	.00000	.01472	.14165	.00000	.00001	.00000	.68257	.00000	.00000	.00000
880	.00817	.01820	.00010	.13428	.00000	.01847	.13951	.00000	.00001	.00000	.68126	.00000	.00000	.00000
900	.00815	.01704	.00016	.13503	.00000	.02282	.13703	.00000	.00001	.00000	.67975	.00000	.00000	.00000
920	.00813	.01572	.00025	.13588	.00000	.02779	.13421	.00000	.00001	.00000	.67801	.00000	.00000	.00000
940	.00811	.01424	.00038	.13679	.00000	.03332	.13108	.00000	.00001	.00000	.67606	.00000	.00000	.00000
960	.00808	.01262	.00056	.13776	.00000	.03934	.12770	.00000	.00001	.00000	.67393	.00000	.00000	.00000
980	.00806	.01089	.00081	.13873	.00000	.04571	.12414	.00000	.00001	.00000	.67165	.00000	.00000	.00000
1000	.00803	.00909	.00114	.13967	.00000	.05226	.12052	.00000	.00001	.00000	.66929	.00000	.00000	.00000
1020	.00800	.00729	.00157	.14051	.00000	.05872	.11698	.00000	.00001	.00000	.66692	.00000	.00000	.00000
1040	.00797	.00556	.00210	.14120	.00000	.06480	.11371	.00000	.00001	.00000	.66465	.00000	.00000	.00000
1060	.00795	.00400	.00273	.14168	.00000	.07015	.11090	.00000	.00001	.00000	.66259	.00000	.00000	.00000
1080	.00793	.00269	.00343	.14190	.00000	.07446	.10872	.00000	.00001	.00000	.66087	.00000	.00000	.00000
1100	.00791	.00169	.00416	.14187	.00000	.07754	.10727	.00000	.00001	.00000	.65956	.00000	.00000	.00000
1120	.00790	.00100	.00491	.14160	.00000	.07942	.10650	.00000	.00001	.00000	.65865	.00000	.00000	.00000
1140	.00789	.00057	.00566	.14116	.00000	.08033	.10630	.00000	.00000	.00000	.65809	.00000	.00000	.00000

TABLE 27.1D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00789	.00032	.00640	.14060	.00000	.08056	.10648	.00000	.00000	.00000	.65775	.00000	.00000	.00000
1180	.00789	.00017	.00715	.13995	.00000	.08035	.10692	.00000	.00000	.00000	.65757	.00000	.00000	.00000
1200	.00789	.00010	.00790	.13925	.00000	.07990	.10750	.00000	.00000	.00000	.65746	.00000	.00000	.00000
1220	.00788	.00005	.00868	.13851	.00000	.07929	.10818	.00000	.00000	.00000	.65741	.00000	.00000	.00000
1240	.00788	.00003	.00947	.13773	.00000	.07858	.10892	.00000	.00000	.00000	.65738	.00000	.00000	.00000
1260	.00788	.00002	.01028	.13693	.00000	.07782	.10971	.00000	.00000	.00000	.65736	.00000	.00000	.00000
1280	.00788	.00001	.01111	.13610	.00000	.07702	.11052	.00000	.00000	.00000	.65735	.00000	.00000	.00000
1300	.00788	.00001	.01196	.13526	.00000	.07619	.11136	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1320	.00788	.00000	.01282	.13440	.00000	.07533	.11222	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1340	.00788	.00000	.01370	.13352	.00000	.07447	.11309	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1360	.00788	.00000	.01458	.13264	.00000	.07359	.11397	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1380	.00788	.00000	.01547	.13175	.00000	.07270	.11486	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1400	.00788	.00000	.01636	.13086	.00000	.07181	.11575	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1420	.00788	.00000	.01726	.12996	.00000	.07091	.11665	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1440	.00788	.00000	.01816	.12906	.00000	.07001	.11755	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1460	.00788	.00000	.01906	.12816	.00000	.06911	.11844	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1480	.00788	.00000	.01995	.12727	.00000	.06822	.11934	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1500	.00788	.00000	.02084	.12638	.00000	.06733	.12023	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1520	.00788	.00000	.02173	.12550	.00000	.06644	.12111	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1540	.00788	.00000	.02260	.12462	.00000	.06557	.12199	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1560	.00788	.00000	.02347	.12375	.00000	.06470	.12286	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1580	.00788	.00000	.02433	.12289	.00000	.06384	.12372	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1600	.00788	.00000	.02519	.12204	.00000	.06299	.12457	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1620	.00788	.00000	.02603	.12120	.00000	.06215	.12541	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1640	.00788	.00000	.02685	.12037	.00000	.06132	.12624	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1660	.00788	.00000	.02767	.11955	.00000	.06050	.12706	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1680	.00788	.00000	.02848	.11875	.00000	.05970	.12786	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1700	.00788	.00000	.02927	.11795	.00000	.05890	.12865	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1720	.00788	.00000	.03005	.11717	.00000	.05812	.12943	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1740	.00788	.00000	.03081	.11641	.00000	.05736	.13020	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1760	.00788	.00000	.03156	.11566	.00000	.05661	.13095	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1780	.00788	.00000	.03230	.11492	.00000	.05587	.13169	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1800	.00788	.00000	.03303	.11419	.00000	.05514	.13241	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1900	.00788	.00000	.03645	.11078	.00000	.05173	.13583	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2000	.00788	.00000	.03953	.10769	.00000	.04864	.13892	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2100	.00788	.00000	.04230	.10492	.00000	.04587	.14169	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2200	.00788	.00000	.04478	.10244	.00000	.04339	.14417	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2300	.00788	.00000	.04701	.10021	.00000	.04116	.14640	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2400	.00788	.00000	.04901	.09821	.00000	.03916	.14839	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2500	.00788	.00000	.05080	.09642	.00001	.03737	.15019	.00000	.00000	.00000	.65733	.00000	.00000	.00000

TABLE 27.1D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00788	.00000	.05241	.09481	.00002	.03575	.15180	.00000	.00000	.00000	.65733	.00000	.00000	.00000
2700	.00788	.00000	.05386	.09336	.00003	.03429	.15324	.00000	.00000	.00000	.65732	.00000	.00000	.00000
2800	.00788	.00000	.05517	.09205	.00006	.03297	.15454	.00000	.00000	.00000	.65731	.00000	.00001	.00000
2900	.00788	.00000	.05635	.09086	.00011	.03178	.15571	.00000	.00000	.00000	.65729	.00000	.00002	.00000
3000	.00788	.00000	.05742	.08979	.00019	.03068	.15674	.00000	.00000	.00000	.65726	.00000	.00005	.00000
3100	.00788	.00000	.05838	.08881	.00031	.02968	.15764	.00000	.00000	.00001	.65720	.00000	.00009	.00000
3200	.00788	.00000	.05926	.08791	.00050	.02875	.15840	.00000	.00000	.00002	.65709	.00000	.00018	.00001
3300	.00788	.00000	.06007	.08706	.00078	.02790	.15899	.00000	.00000	.00004	.65692	.00001	.00032	.00002
3400	.00788	.00000	.06084	.08623	.00119	.02713	.15936	.00000	.00000	.00008	.65664	.00002	.00058	.00005
3500	.00787	.00000	.06163	.08535	.00178	.02645	.15942	.00000	.00000	.00016	.65618	.00005	.00099	.00013
3600	.00786	.00000	.06256	.08427	.00260	.02591	.15902	.00000	.00000	.00028	.65543	.00012	.00163	.00031
3700	.00785	.00000	.06379	.08278	.00374	.02561	.15795	.00000	.00000	.00050	.65420	.00027	.00260	.00071
3800	.00783	.00000	.06560	.08057	.00531	.02567	.15589	.00000	.00000	.00083	.65223	.00058	.00400	.00149
3900	.00779	.00000	.06827	.07728	.00749	.02625	.15249	.00000	.00000	.00130	.64923	.00116	.00589	.00285
4000	.00775	.00000	.07195	.07271	.01051	.02746	.14742	.00000	.00000	.00193	.64491	.00216	.00831	.00489
4100	.00768	.00000	.07655	.06690	.01466	.02930	.14050	.00000	.00000	.00270	.63912	.00377	.01122	.00759
4200	.00760	.00000	.08177	.06013	.02029	.03166	.13170	.00000	.00000	.00358	.63176	.00620	.01454	.01077
4300	.00750	.00000	.08719	.05281	.02778	.03434	.12106	.00000	.00000	.00455	.62282	.00966	.01813	.01415
4400	.00738	.00000	.09242	.04534	.03749	.03708	.10877	.00000	.00000	.00555	.61232	.01438	.02181	.01745
4500	.00724	.00000	.09710	.03809	.04971	.03956	.09516	.00000	.00000	.00656	.60033	.02056	.02532	.02038
4600	.00709	.00000	.10097	.03134	.06459	.04140	.08068	.00000	.00000	.00752	.58700	.02836	.02837	.02268
4700	.00692	.00000	.10391	.02527	.08205	.04225	.06598	.00001	.00000	.00838	.57261	.03782	.03065	.02415
4800	.00674	.00000	.10591	.01999	.10169	.04183	.05178	.00001	.00000	.00911	.55757	.04885	.03188	.02464
4900	.00656	.00000	.10704	.01553	.12278	.04000	.03882	.00001	.00000	.00966	.54242	.06119	.03188	.02411
5000	.00639	.00000	.10746	.01186	.14430	.03684	.02772	.00002	.00000	.01000	.52776	.07439	.03060	.02265
5100	.00623	.00000	.10738	.00892	.16509	.03267	.01884	.00003	.00000	.01012	.51421	.08785	.02821	.02043
5200	.00608	.00000	.10698	.00663	.18414	.02795	.01222	.00005	.00000	.01003	.50223	.10093	.02502	.01774
5300	.00596	.00000	.10644	.00487	.20070	.02315	.00759	.00007	.00000	.00976	.49210	.11305	.02144	.01487
5400	.00586	.00000	.10586	.00356	.21449	.01867	.00456	.00010	.00000	.00934	.48383	.12381	.01783	.01210

TABLE 27.2D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
380	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
400	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
420	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
440	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
460	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
480	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
500	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
520	.00825	.02306	.00000	.13095	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
537	.00825	.02306	.00000	.13095	.00000	.00001	.15008	.00000	.00000	.00000	.68765	.00000	.00000	.00000
540	.00825	.02306	.00000	.13095	.00000	.00001	.15008	.00000	.00000	.00000	.68765	.00000	.00000	.00000
560	.00825	.02305	.00000	.13096	.00000	.00002	.15008	.00000	.00000	.00000	.68765	.00000	.00000	.00000
580	.00825	.02305	.00000	.13096	.00000	.00003	.15007	.00000	.00000	.00000	.68764	.00000	.00000	.00000
600	.00825	.02305	.00000	.13096	.00000	.00005	.15006	.00000	.00000	.00000	.68763	.00000	.00000	.00000
620	.00825	.02304	.00000	.13097	.00000	.00008	.15004	.00000	.00000	.00000	.68762	.00000	.00000	.00000
640	.00825	.02303	.00000	.13098	.00000	.00013	.15001	.00000	.00000	.00000	.68761	.00000	.00000	.00000
660	.00825	.02301	.00000	.13099	.00000	.00019	.14997	.00000	.00000	.00000	.68758	.00000	.00000	.00000
680	.00825	.02298	.00000	.13101	.00000	.00029	.14992	.00000	.00001	.00000	.68755	.00000	.00000	.00000
700	.00825	.02295	.00000	.13103	.00000	.00043	.14984	.00000	.00001	.00000	.68750	.00000	.00000	.00000
720	.00824	.02290	.00000	.13107	.00000	.00061	.14973	.00000	.00001	.00000	.68744	.00000	.00000	.00000
740	.00824	.02283	.00000	.13111	.00000	.00087	.14959	.00000	.00001	.00000	.68735	.00000	.00000	.00000
760	.00824	.02274	.00000	.13118	.00000	.00120	.14939	.00000	.00001	.00000	.68724	.00000	.00000	.00000
780	.00824	.02263	.00000	.13126	.00000	.00164	.14914	.00000	.00001	.00000	.68708	.00000	.00000	.00000
800	.00824	.02248	.00000	.13136	.00000	.00220	.14882	.00000	.00001	.00000	.68689	.00000	.00000	.00000
820	.00824	.02229	.00001	.13149	.00000	.00292	.14840	.00000	.00001	.00000	.68664	.00000	.00000	.00000
840	.00823	.02205	.00001	.13165	.00000	.00381	.14789	.00000	.00001	.00000	.68633	.00000	.00000	.00000
860	.00823	.02176	.00002	.13185	.00000	.00491	.14726	.00000	.00002	.00000	.68595	.00000	.00000	.00000
880	.00822	.02141	.00003	.13209	.00000	.00626	.14649	.00000	.00002	.00000	.68548	.00000	.00000	.00000
900	.00821	.02098	.00005	.13237	.00000	.00788	.14557	.00000	.00002	.00000	.68492	.00000	.00000	.00000
920	.00821	.02047	.00008	.13270	.00000	.00980	.14448	.00000	.00002	.00000	.68425	.00000	.00000	.00000
940	.00820	.01987	.00012	.13308	.00000	.01205	.14320	.00000	.00002	.00000	.68346	.00000	.00000	.00000
960	.00819	.01917	.00018	.13352	.00000	.01466	.14172	.00000	.00002	.00000	.68254	.00000	.00000	.00000
980	.00817	.01837	.00027	.13400	.00000	.01765	.14004	.00000	.00002	.00000	.68148	.00000	.00000	.00000
1000	.00816	.01745	.00039	.13453	.00000	.02102	.13815	.00000	.00002	.00000	.68028	.00000	.00000	.00000
1020	.00814	.01643	.00055	.13509	.00000	.02478	.13605	.00000	.00002	.00000	.67894	.00000	.00000	.00000
1040	.00813	.01529	.00077	.13567	.00000	.02891	.13377	.00000	.00003	.00000	.67744	.00000	.00000	.00000
1060	.00811	.01405	.00105	.13626	.00000	.03337	.13133	.00000	.00003	.00000	.67581	.00000	.00000	.00000
1080	.00808	.01271	.00143	.13683	.00000	.03812	.12875	.00000	.00003	.00000	.67404	.00000	.00000	.00000
1100	.00806	.01128	.00191	.13736	.00000	.04308	.12611	.00000	.00003	.00000	.67218	.00000	.00000	.00000
1120	.00804	.00980	.00250	.13781	.00000	.04815	.12344	.00000	.00003	.00000	.67023	.00000	.00000	.00000
1140	.00801	.00829	.00323	.13815	.00000	.05320	.12085	.00000	.00002	.00000	.66824	.00000	.00000	.00000

TABLE 27.2D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00799	.00680	.00408	.13835	.00000	.05806	.11842	.00000	.00002	.00000	.66628	.00000	.00000	.00000
1180	.00797	.00537	.00506	.13838	.00000	.06256	.11625	.00000	.00002	.00000	.66439	.00000	.00000	.00000
1200	.00795	.00405	.00613	.13823	.00000	.06650	.11444	.00000	.00002	.00000	.66267	.00000	.00000	.00000
1220	.00793	.00292	.00727	.13790	.00000	.06971	.11308	.00000	.00002	.00000	.66118	.00000	.00000	.00000
1240	.00792	.00201	.00841	.13740	.00000	.07207	.11221	.00000	.00002	.00000	.65998	.00000	.00000	.00000
1260	.00790	.00132	.00953	.13676	.00000	.07358	.11181	.00000	.00002	.00000	.65907	.00000	.00000	.00000
1280	.00790	.00084	.01060	.13603	.00000	.07436	.11183	.00000	.00001	.00000	.65844	.00000	.00000	.00000
1300	.00789	.00052	.01162	.13524	.00000	.07455	.11215	.00000	.00001	.00000	.65802	.00000	.00000	.00000
1320	.00789	.00032	.01260	.13440	.00000	.07434	.11269	.00000	.00001	.00000	.65776	.00000	.00000	.00000
1340	.00789	.00019	.01355	.13353	.00000	.07387	.11337	.00000	.00001	.00000	.65759	.00000	.00000	.00000
1360	.00789	.00012	.01449	.13265	.00000	.07322	.11413	.00000	.00001	.00000	.65749	.00000	.00000	.00000
1380	.00788	.00007	.01541	.13176	.00000	.07248	.11496	.00000	.00001	.00000	.65743	.00000	.00000	.00000
1400	.00788	.00004	.01632	.13087	.00000	.07167	.11581	.00000	.00001	.00000	.65740	.00000	.00000	.00000
1420	.00788	.00003	.01724	.12997	.00000	.07082	.11668	.00000	.00001	.00000	.65737	.00000	.00000	.00000
1440	.00788	.00002	.01814	.12907	.00000	.06996	.11757	.00000	.00000	.00000	.65736	.00000	.00000	.00000
1460	.00788	.00001	.01905	.12817	.00000	.06908	.11846	.00000	.00000	.00000	.65735	.00000	.00000	.00000
1480	.00788	.00001	.01994	.12727	.00000	.06820	.11935	.00000	.00000	.00000	.65735	.00000	.00000	.00000
1500	.00788	.00000	.02084	.12638	.00000	.06731	.12023	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1520	.00788	.00000	.02172	.12550	.00000	.06643	.12112	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1540	.00788	.00000	.02260	.12462	.00000	.06556	.12199	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1560	.00788	.00000	.02347	.12375	.00000	.06469	.12286	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1580	.00788	.00000	.02433	.12289	.00000	.06383	.12372	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1600	.00788	.00000	.02518	.12204	.00000	.06298	.12457	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1620	.00788	.00000	.02602	.12120	.00000	.06214	.12541	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1640	.00788	.00000	.02685	.12037	.00000	.06131	.12624	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1660	.00788	.00000	.02767	.11955	.00000	.06050	.12706	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1680	.00788	.00000	.02848	.11875	.00000	.05969	.12786	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1700	.00788	.00000	.02927	.11795	.00000	.05890	.12865	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1720	.00788	.00000	.03005	.11718	.00000	.05812	.12943	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1740	.00788	.00000	.03081	.11641	.00000	.05736	.13020	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1760	.00788	.00000	.03156	.11566	.00000	.05661	.13095	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1780	.00788	.00000	.03230	.11492	.00000	.05587	.13169	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1800	.00788	.00000	.03303	.11419	.00000	.05514	.13241	.00000	.00000	.00000	.65734	.00000	.00000	.00000
1900	.00788	.00000	.03645	.11078	.00000	.05173	.13583	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2000	.00788	.00000	.03953	.10769	.00000	.04864	.13892	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2100	.00788	.00000	.04230	.10492	.00000	.04587	.14169	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2200	.00788	.00000	.04478	.10244	.00000	.04339	.14417	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2300	.00788	.00000	.04701	.10021	.00000	.04116	.14640	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2400	.00788	.00000	.04901	.09821	.00000	.03916	.14839	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2500	.00788	.00000	.05080	.09642	.00000	.03737	.15019	.00000	.00000	.00000	.65734	.00000	.00000	.00000

TABLE 27.2D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00788	.00000	.05241	.09481	.00001	.03576	.15180	.00000	.00000	.00000	.65733	.00000	.00000	.00000
2700	.00788	.00000	.05387	.09335	.00001	.03430	.15325	.00000	.00000	.00000	.65733	.00000	.00000	.00000
2800	.00788	.00000	.05518	.09204	.00002	.03299	.15456	.00000	.00000	.00000	.65733	.00000	.00000	.00000
2900	.00788	.00000	.05636	.09085	.00003	.03179	.15574	.00000	.00000	.00000	.65732	.00000	.00001	.00000
3000	.00788	.00000	.05744	.08978	.00006	.03071	.15681	.00000	.00000	.00000	.65731	.00000	.00001	.00000
3100	.00788	.00000	.05841	.08880	.00010	.02972	.15776	.00000	.00000	.00000	.65729	.00000	.00003	.00000
3200	.00788	.00000	.05930	.08790	.00016	.02882	.15862	.00000	.00000	.00001	.65726	.00000	.00006	.00000
3300	.00788	.00000	.06011	.08708	.00025	.02799	.15936	.00000	.00000	.00001	.65721	.00000	.00010	.00000
3400	.00788	.00000	.06086	.08632	.00038	.02722	.16000	.00000	.00000	.00003	.65713	.00000	.00018	.00000
3500	.00788	.00000	.06156	.08559	.00056	.02652	.16051	.00000	.00000	.00005	.65700	.00000	.00031	.00001
3600	.00788	.00000	.06223	.08488	.00082	.02589	.16085	.00000	.00000	.00009	.65679	.00001	.00052	.00003
3700	.00787	.00000	.06291	.08413	.00118	.02533	.16100	.00000	.00000	.00016	.65647	.00003	.00084	.00008
3800	.00787	.00000	.06366	.08329	.00165	.02486	.16086	.00000	.00000	.00028	.65597	.00006	.00133	.00017
3900	.00786	.00000	.06457	.08223	.00229	.02453	.16033	.00000	.00000	.00047	.65521	.00013	.00203	.00036
4000	.00785	.00000	.06577	.08080	.00313	.02440	.15925	.00000	.00000	.00075	.65405	.00026	.00301	.00072
4100	.00783	.00000	.06744	.07879	.00424	.02456	.15744	.00000	.00000	.00115	.65233	.00050	.00434	.00136
4200	.00780	.00000	.06973	.07601	.00571	.02509	.15470	.00000	.00000	.00170	.64989	.00092	.00607	.00237
4300	.00777	.00000	.07274	.07235	.00765	.02606	.15085	.00000	.00000	.00241	.64658	.00159	.00820	.00382
4400	.00772	.00000	.07642	.06780	.01021	.02748	.14578	.00000	.00000	.00325	.64230	.00260	.01074	.00571
4500	.00767	.00000	.08063	.06251	.01354	.02934	.13944	.00000	.00000	.00422	.63701	.00406	.01362	.00796
4600	.00760	.00000	.08515	.05670	.01783	.03154	.13186	.00000	.00000	.00528	.63071	.00608	.01680	.01044
4700	.00752	.00000	.08972	.05063	.02327	.03398	.12310	.00000	.00000	.00642	.62343	.00877	.02017	.01300
4800	.00742	.00000	.09410	.04453	.03004	.03651	.11328	.00000	.00000	.00759	.61519	.01225	.02361	.01548
4900	.00732	.00000	.09810	.03861	.03832	.03896	.10256	.00000	.00000	.00876	.60604	.01660	.02698	.01774
5000	.00721	.00000	.10157	.03303	.04821	.04113	.09118	.00001	.00000	.00990	.59605	.02192	.03012	.01966
5100	.00709	.00000	.10442	.02790	.05978	.04284	.07943	.00001	.00000	.01098	.58533	.02825	.03284	.02112
5200	.00696	.00000	.10661	.02329	.07297	.04388	.06765	.00002	.00000	.01196	.57404	.03560	.03497	.02207
5300	.00682	.00000	.10816	.01923	.08761	.04410	.05621	.00002	.00000	.01281	.56235	.04391	.03634	.02244
5400	.00668	.00000	.10911	.01571	.10341	.04341	.04547	.00003	.00000	.01350	.55052	.05307	.03685	.02223

TABLE 27.3D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
380	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
400	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
420	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
440	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
460	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
480	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
500	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
520	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
537	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
540	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.00000	.68765	.00000	.00000	.00000
560	.00825	.02306	.00000	.13095	.00000	.00000	.00001	.15008	.00000	.00000	.00000	.68765	.00000	.00000	.00000
580	.00825	.02306	.00000	.13095	.00000	.00000	.00001	.15008	.00000	.00000	.00000	.68765	.00000	.00000	.00000
600	.00825	.02305	.00000	.13096	.00000	.00000	.00002	.15008	.00000	.00001	.00000	.68765	.00000	.00000	.00000
620	.00825	.02305	.00000	.13096	.00000	.00000	.00003	.15007	.00000	.00001	.00000	.68764	.00000	.00000	.00000
640	.00825	.02305	.00000	.13096	.00000	.00000	.00004	.15006	.00000	.00001	.00000	.68764	.00000	.00000	.00000
660	.00825	.02304	.00000	.13097	.00000	.00000	.00006	.15005	.00000	.00001	.00000	.68763	.00000	.00000	.00000
680	.00825	.02303	.00000	.13097	.00000	.00000	.00009	.15003	.00000	.00001	.00000	.68762	.00000	.00000	.00000
700	.00825	.02302	.00000	.13098	.00000	.00000	.00014	.15000	.00000	.00001	.00000	.68760	.00000	.00000	.00000
720	.00825	.02300	.00000	.13099	.00000	.00000	.00019	.14997	.00000	.00001	.00000	.68758	.00000	.00000	.00000
740	.00825	.02298	.00000	.13101	.00000	.00000	.00027	.14992	.00000	.00002	.00000	.68755	.00000	.00000	.00000
760	.00825	.02295	.00000	.13103	.00000	.00000	.00038	.14986	.00000	.00002	.00000	.68752	.00000	.00000	.00000
780	.00825	.02292	.00000	.13106	.00000	.00000	.00052	.14978	.00000	.00002	.00000	.68747	.00000	.00000	.00000
800	.00824	.02287	.00000	.13109	.00000	.00000	.00070	.14967	.00000	.00002	.00000	.68740	.00000	.00000	.00000
820	.00824	.02281	.00000	.13113	.00000	.00000	.00093	.14954	.00000	.00002	.00000	.68732	.00000	.00000	.00000
840	.00824	.02273	.00000	.13118	.00000	.00000	.00122	.14937	.00000	.00003	.00000	.68722	.00000	.00000	.00000
860	.00824	.02263	.00001	.13125	.00000	.00000	.00158	.14916	.00000	.00003	.00000	.68710	.00000	.00000	.00000
880	.00824	.02252	.00001	.13133	.00000	.00000	.00202	.14891	.00000	.00003	.00000	.68694	.00000	.00000	.00000
900	.00824	.02237	.00002	.13142	.00000	.00000	.00256	.14860	.00000	.00003	.00000	.68675	.00000	.00000	.00000
920	.00823	.02220	.00003	.13154	.00000	.00000	.00321	.14823	.00000	.00004	.00000	.68653	.00000	.00000	.00000
940	.00823	.02199	.00004	.13167	.00000	.00000	.00398	.14779	.00000	.00004	.00000	.68626	.00000	.00000	.00000
960	.00823	.02175	.00006	.13182	.00000	.00000	.00489	.14727	.00000	.00004	.00000	.68594	.00000	.00000	.00000
980	.00822	.02146	.00008	.13200	.00000	.00000	.00596	.14667	.00000	.00005	.00000	.68556	.00000	.00000	.00000
1000	.00822	.02113	.00012	.13220	.00000	.00000	.00720	.14597	.00000	.00005	.00000	.68512	.00000	.00000	.00000
1020	.00821	.02074	.00017	.13242	.00000	.00000	.00862	.14517	.00000	.00005	.00000	.68461	.00000	.00000	.00000
1040	.00820	.02030	.00025	.13266	.00000	.00000	.01025	.14426	.00000	.00005	.00000	.68403	.00000	.00000	.00000
1060	.00820	.01979	.00034	.13293	.00000	.00000	.01208	.14325	.00000	.00006	.00000	.68336	.00000	.00000	.00000
1080	.00819	.01922	.00047	.13320	.00000	.00000	.01414	.14211	.00000	.00006	.00000	.68261	.00000	.00000	.00000
1100	.00818	.01858	.00063	.13349	.00000	.00000	.01643	.14087	.00000	.00006	.00000	.68177	.00000	.00000	.00000
1120	.00817	.01786	.00085	.13378	.00000	.00000	.01895	.13951	.00000	.00006	.00000	.68083	.00000	.00000	.00000
1140	.00815	.01707	.00112	.13407	.00000	.00000	.02170	.13804	.00000	.00006	.00000	.67979	.00000	.00000	.00000

TABLE 27.3D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00814	.01620	.00146	.13434	.00000	.00000	.02467	.13648	.00000	.00007	.00000	.67865	.00000	.00000	.00000
1180	.00812	.01525	.00189	.13458	.00000	.00000	.02786	.13482	.00000	.00007	.00000	.67740	.00000	.00000	.00000
1200	.00811	.01423	.00242	.13477	.00000	.00000	.03124	.13310	.00000	.00007	.00000	.67606	.00000	.00000	.00000
1220	.00809	.01314	.00305	.13491	.00000	.00000	.03479	.13134	.00000	.00007	.00000	.67462	.00000	.00000	.00000
1240	.00807	.01198	.00382	.13496	.00000	.00000	.03846	.12955	.00000	.00007	.00000	.67310	.00000	.00000	.00000
1260	.00805	.01076	.00472	.13492	.00000	.00000	.04220	.12778	.00000	.00007	.00000	.67150	.00000	.00000	.00000
1280	.00803	.00951	.00576	.13476	.00000	.00000	.04596	.12606	.00000	.00007	.00000	.66985	.00000	.00000	.00000
1300	.00801	.00824	.00694	.13448	.00000	.00000	.04965	.12444	.00000	.00006	.00000	.66817	.00000	.00000	.00000
1320	.00799	.00697	.00824	.13407	.00000	.00000	.05320	.12296	.00000	.00006	.00000	.66651	.00000	.00000	.00000
1340	.00797	.00574	.00966	.13352	.00000	.00000	.05648	.12167	.00000	.00006	.00000	.66489	.00000	.00000	.00000
1360	.00796	.00459	.01114	.13285	.00000	.00000	.05941	.12062	.00000	.00006	.00000	.66338	.00000	.00000	.00000
1380	.00794	.00355	.01265	.13208	.00000	.00000	.06187	.11985	.00000	.00005	.00000	.66201	.00000	.00000	.00000
1400	.00793	.00266	.01414	.13122	.00000	.00000	.06381	.11937	.00000	.00005	.00000	.66084	.00000	.00000	.00000
1420	.00791	.00192	.01557	.13030	.00000	.00000	.06518	.11919	.00000	.00005	.00000	.65987	.00000	.00000	.00000
1440	.00791	.00135	.01691	.12936	.00000	.00000	.06602	.11928	.00000	.00004	.00000	.65912	.00000	.00000	.00000
1460	.00790	.00093	.01816	.12841	.00000	.00000	.06639	.11960	.00000	.00004	.00000	.65857	.00000	.00000	.00000
1480	.00789	.00063	.01932	.12746	.00000	.00000	.06639	.12010	.00000	.00003	.00000	.65817	.00000	.00000	.00000
1500	.00789	.00042	.02040	.12652	.00000	.00000	.06611	.12072	.00000	.00003	.00000	.65790	.00000	.00000	.00000
1520	.00789	.00028	.02142	.12560	.00000	.00000	.06563	.12143	.00000	.00003	.00000	.65771	.00000	.00000	.00000
1540	.00789	.00019	.02239	.12470	.00000	.00000	.06502	.12220	.00000	.00002	.00000	.65759	.00000	.00000	.00000
1560	.00789	.00013	.02333	.12381	.00000	.00000	.06433	.12299	.00000	.00002	.00000	.65751	.00000	.00000	.00000
1580	.00789	.00009	.02423	.12293	.00000	.00000	.06359	.12381	.00000	.00002	.00000	.65745	.00000	.00000	.00000
1600	.00788	.00006	.02511	.12207	.00000	.00000	.06281	.12463	.00000	.00002	.00000	.65741	.00000	.00000	.00000
1620	.00788	.00004	.02597	.12122	.00000	.00000	.06203	.12545	.00000	.00002	.00000	.65739	.00000	.00000	.00000
1640	.00788	.00003	.02682	.12039	.00000	.00000	.06123	.12626	.00000	.00001	.00000	.65737	.00000	.00000	.00000
1660	.00788	.00002	.02764	.11957	.00000	.00000	.06044	.12707	.00000	.00001	.00000	.65736	.00000	.00000	.00000
1680	.00788	.00001	.02846	.11876	.00000	.00000	.05965	.12787	.00000	.00001	.00000	.65735	.00000	.00000	.00000
1700	.00788	.00001	.02925	.11796	.00000	.00000	.05887	.12866	.00000	.00001	.00000	.65735	.00000	.00000	.00000
1720	.00788	.00001	.03004	.11718	.00000	.00000	.05810	.12944	.00000	.00001	.00000	.65735	.00000	.00000	.00000
1740	.00788	.00000	.03080	.11642	.00000	.00000	.05734	.13020	.00000	.00001	.00000	.65734	.00000	.00000	.00000
1760	.00788	.00000	.03156	.11566	.00000	.00000	.05659	.13095	.00000	.00001	.00000	.65734	.00000	.00000	.00000
1780	.00788	.00000	.03230	.11492	.00000	.00000	.05586	.13169	.00000	.00001	.00000	.65734	.00000	.00000	.00000
1800	.00788	.00000	.03302	.11420	.00000	.00000	.05513	.13241	.00000	.00001	.00000	.65734	.00000	.00000	.00000
1900	.00788	.00000	.03644	.11078	.00000	.00000	.05172	.13583	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2000	.00788	.00000	.03953	.10769	.00000	.00000	.04864	.13892	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2100	.00788	.00000	.04230	.10492	.00000	.00000	.04587	.14169	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2200	.00788	.00000	.04478	.10244	.00000	.00000	.04339	.14417	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2300	.00788	.00000	.04701	.10021	.00000	.00000	.04116	.14640	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2400	.00788	.00000	.04901	.09821	.00000	.00000	.03916	.14839	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2500	.00788	.00000	.05080	.09642	.00000	.00000	.03737	.15019	.00000	.00000	.00000	.65734	.00000	.00000	.00000

TABLE 27.3D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00788	.00000	.05241	.09481	.00000	.00000	.03576	.15180	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2700	.00788	.00000	.05387	.09335	.00000	.00000	.03430	.15325	.00000	.00000	.00000	.65734	.00000	.00000	.00000
2800	.00788	.00000	.05518	.09204	.00001	.00000	.03299	.15457	.00000	.00000	.00000	.65733	.00000	.00000	.00000
2900	.00788	.00000	.05637	.09085	.00001	.00000	.03180	.15575	.00000	.00000	.00000	.65733	.00000	.00000	.00000
3000	.00788	.00000	.05745	.08977	.00002	.00000	.03072	.15683	.00000	.00000	.00000	.65733	.00000	.00000	.00000
3100	.00788	.00000	.05843	.08879	.00003	.00000	.02973	.15780	.00000	.00000	.00000	.65732	.00000	.00001	.00000
3200	.00788	.00000	.05932	.08790	.00005	.00000	.02884	.15868	.00000	.00000	.00000	.65731	.00000	.00002	.00000
3300	.00788	.00000	.06013	.08708	.00008	.00000	.02801	.15948	.00000	.00000	.00000	.65730	.00000	.00003	.00000
3400	.00788	.00000	.06088	.08633	.00012	.00000	.02726	.16019	.00000	.00000	.00001	.65727	.00000	.00006	.00000
3500	.00788	.00000	.06157	.08563	.00018	.00000	.02657	.16082	.00000	.00000	.00002	.65723	.00000	.00010	.00000
3600	.00788	.00000	.06221	.08498	.00026	.00000	.02593	.16137	.00000	.00000	.00003	.65717	.00000	.00017	.00000
3700	.00788	.00000	.06281	.08436	.00037	.00000	.02535	.16182	.00000	.00000	.00005	.65708	.00000	.00027	.00001
3800	.00788	.00000	.06339	.08376	.00052	.00000	.02482	.16217	.00000	.00000	.00009	.65694	.00001	.00042	.00002
3900	.00788	.00000	.06396	.08314	.00072	.00000	.02434	.16238	.00000	.00000	.00015	.65673	.00001	.00065	.00004
4000	.00787	.00000	.06456	.08248	.00098	.00000	.02393	.16242	.00000	.00000	.00025	.65642	.00003	.00098	.00008
4100	.00787	.00000	.06524	.08172	.00132	.00000	.02360	.16224	.00000	.00000	.00039	.65597	.00005	.00144	.00016
4200	.00786	.00000	.06604	.08080	.00174	.00000	.02338	.16178	.00000	.00000	.00061	.65531	.00010	.00208	.00030
4300	.00785	.00000	.06706	.07961	.00229	.00000	.02329	.16095	.00000	.00000	.00091	.65438	.00019	.00293	.00054
4400	.00784	.00000	.06838	.07804	.00298	.00000	.02340	.15964	.00000	.00000	.00133	.65309	.00033	.00403	.00094
4500	.00782	.00000	.07011	.07598	.00385	.00000	.02374	.15774	.00000	.00000	.00189	.65133	.00057	.00542	.00156
4600	.00780	.00000	.07230	.07335	.00495	.00000	.02436	.15516	.00000	.00000	.00258	.64903	.00093	.00711	.00242
4700	.00777	.00000	.07499	.07010	.00635	.00000	.02530	.15182	.00000	.00000	.00342	.64612	.00145	.00912	.00357
4800	.00773	.00000	.07813	.06627	.00810	.00000	.02655	.14766	.00000	.00000	.00439	.64257	.00219	.01141	.00497
4900	.00769	.00000	.08163	.06196	.01029	.00000	.02810	.14269	.00000	.00000	.00548	.63837	.00320	.01398	.00660
5000	.00764	.00000	.08534	.05730	.01300	.00000	.02992	.13691	.00000	.00000	.00666	.63354	.00452	.01677	.00838
5100	.00758	.00000	.08914	.05242	.01633	.00001	.03195	.13037	.00000	.00000	.00791	.62811	.00622	.01974	.01023
5200	.00752	.00000	.09288	.04748	.02035	.00001	.03413	.12310	.00001	.00000	.00921	.62209	.00833	.02282	.01208
5300	.00745	.00000	.09644	.04260	.02516	.00001	.03638	.11520	.00001	.00000	.01053	.61553	.01091	.02594	.01385
5400	.00737	.00000	.09972	.03789	.03084	.00001	.03861	.10676	.00001	.00000	.01185	.60845	.01401	.02901	.01548

TABLE 27.4D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
380	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
400	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
420	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
440	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
460	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
480	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
500	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
520	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
537	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
540	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
560	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15008	.00001	.00000	.68765	.00000	.00000	.00000
580	.00825	.02306	.00000	.13096	.00000	.00000	.00000	.15008	.00001	.00000	.68765	.00000	.00000	.00000
600	.00825	.02306	.00000	.13096	.00000	.00000	.00000	.15008	.00001	.00000	.68765	.00000	.00000	.00000
620	.00825	.02305	.00000	.13096	.00000	.00000	.00001	.15008	.00001	.00000	.68765	.00000	.00000	.00000
640	.00825	.02305	.00000	.13096	.00000	.00000	.00001	.15007	.00001	.00000	.68764	.00000	.00000	.00000
660	.00825	.02305	.00000	.13096	.00000	.00000	.00002	.15007	.00002	.00000	.68764	.00000	.00000	.00000
680	.00825	.02305	.00000	.13096	.00000	.00000	.00003	.15006	.00002	.00000	.68764	.00000	.00000	.00000
700	.00825	.02304	.00000	.13097	.00000	.00000	.00004	.15005	.00002	.00000	.68763	.00000	.00000	.00000
720	.00825	.02303	.00000	.13097	.00000	.00000	.00006	.15004	.00002	.00000	.68762	.00000	.00000	.00000
740	.00825	.02303	.00000	.13098	.00000	.00000	.00009	.15002	.00003	.00000	.68761	.00000	.00000	.00000
760	.00825	.02302	.00000	.13099	.00000	.00000	.00012	.15000	.00003	.00000	.68760	.00000	.00000	.00000
780	.00825	.02300	.00000	.13100	.00000	.00000	.00017	.14997	.00003	.00000	.68758	.00000	.00000	.00000
800	.00825	.02299	.00000	.13101	.00000	.00000	.00022	.14993	.00004	.00000	.68756	.00000	.00000	.00000
820	.00825	.02297	.00000	.13102	.00000	.00000	.00030	.14989	.00004	.00000	.68754	.00000	.00000	.00000
840	.00825	.02294	.00000	.13104	.00000	.00000	.00039	.14983	.00005	.00000	.68750	.00000	.00000	.00000
860	.00825	.02291	.00000	.13106	.00000	.00000	.00050	.14976	.00005	.00000	.68746	.00000	.00000	.00000
880	.00824	.02287	.00000	.13109	.00000	.00000	.00064	.14968	.00006	.00000	.68741	.00000	.00000	.00000
900	.00824	.02282	.00001	.13112	.00000	.00000	.00082	.14958	.00006	.00000	.68735	.00000	.00000	.00000
920	.00824	.02276	.00001	.13116	.00000	.00000	.00103	.14945	.00007	.00000	.68727	.00000	.00000	.00000
940	.00824	.02270	.00001	.13121	.00000	.00000	.00128	.14931	.00007	.00000	.68719	.00000	.00000	.00000
960	.00824	.02261	.00002	.13126	.00000	.00000	.00157	.14914	.00008	.00000	.68708	.00000	.00000	.00000
980	.00824	.02252	.00003	.13132	.00000	.00000	.00193	.14893	.00008	.00000	.68695	.00000	.00000	.00000
1000	.00824	.02241	.00004	.13139	.00000	.00000	.00234	.14870	.00009	.00000	.68681	.00000	.00000	.00000
1020	.00824	.02227	.00006	.13146	.00000	.00000	.00281	.14843	.00009	.00000	.68664	.00000	.00000	.00000
1040	.00823	.02212	.00008	.13155	.00000	.00000	.00336	.14812	.00010	.00000	.68644	.00000	.00000	.00000
1060	.00823	.02195	.00011	.13164	.00000	.00000	.00399	.14776	.00011	.00000	.68621	.00000	.00000	.00000
1080	.00823	.02175	.00015	.13175	.00000	.00000	.00471	.14736	.00011	.00000	.68594	.00000	.00000	.00000
1100	.00822	.02152	.00020	.13185	.00000	.00000	.00552	.14692	.00012	.00000	.68565	.00000	.00000	.00000
1120	.00822	.02126	.00027	.13197	.00000	.00000	.00643	.14642	.00012	.00000	.68531	.00000	.00000	.00000
1140	.00822	.02097	.00036	.13209	.00000	.00000	.00745	.14586	.00013	.00000	.68492	.00000	.00000	.00000

TABLE 27.4D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00821	.02064	.00047	.13221	.00000	.00000	.00859	.14526	.00014	.00000	.68449	.00000	.00000	.00000
1180	.00820	.02027	.00061	.13233	.00000	.00000	.00984	.14459	.00014	.00000	.68401	.00000	.00000	.00000
1200	.00820	.01987	.00079	.13244	.00000	.00000	.01121	.14387	.00015	.00000	.68348	.00000	.00000	.00000
1220	.00819	.01941	.00101	.13254	.00000	.00000	.01272	.14310	.00015	.00000	.68288	.00000	.00000	.00000
1240	.00818	.01892	.00127	.13262	.00000	.00000	.01435	.14227	.00016	.00000	.68223	.00000	.00000	.00000
1260	.00817	.01837	.00160	.13268	.00000	.00000	.01611	.14139	.00016	.00000	.68151	.00000	.00000	.00000
1280	.00817	.01777	.00199	.13272	.00000	.00000	.01801	.14047	.00016	.00000	.68072	.00000	.00000	.00000
1300	.00815	.01712	.00246	.13271	.00000	.00000	.02003	.13950	.00017	.00000	.67986	.00000	.00000	.00000
1320	.00814	.01641	.00302	.13265	.00000	.00000	.02217	.13850	.00017	.00000	.67893	.00000	.00000	.00000
1340	.00813	.01564	.00367	.13254	.00000	.00000	.02444	.13747	.00017	.00000	.67793	.00000	.00000	.00000
1360	.00812	.01483	.00443	.13236	.00000	.00000	.02681	.13643	.00018	.00000	.67685	.00000	.00000	.00000
1380	.00811	.01395	.00530	.13210	.00000	.00000	.02928	.13538	.00018	.00000	.67571	.00000	.00000	.00000
1400	.00809	.01303	.00629	.13177	.00000	.00000	.03182	.13434	.00018	.00000	.67449	.00000	.00000	.00000
1420	.00808	.01205	.00741	.13133	.00000	.00000	.03442	.13332	.00018	.00000	.67321	.00000	.00000	.00000
1440	.00806	.01104	.00865	.13081	.00000	.00000	.03705	.13233	.00018	.00000	.67188	.00000	.00000	.00000
1460	.00804	.01000	.01002	.13018	.00000	.00000	.03969	.13140	.00018	.00000	.67050	.00000	.00000	.00000
1480	.00803	.00893	.01150	.12945	.00000	.00000	.04228	.13054	.00017	.00000	.66910	.00000	.00000	.00000
1500	.00801	.00786	.01308	.12862	.00000	.00000	.04480	.12976	.00017	.00000	.66770	.00000	.00000	.00000
1520	.00799	.00681	.01473	.12771	.00000	.00000	.04719	.12910	.00017	.00000	.66631	.00000	.00000	.00000
1540	.00798	.00578	.01643	.12673	.00000	.00000	.04940	.12855	.00016	.00000	.66496	.00000	.00000	.00000
1560	.00796	.00482	.01815	.12569	.00000	.00000	.05138	.12815	.00015	.00000	.66369	.00000	.00000	.00000
1580	.00795	.00393	.01985	.12462	.00000	.00000	.05309	.12789	.00015	.00000	.66252	.00000	.00000	.00000
1600	.00793	.00314	.02150	.12353	.00000	.00000	.05449	.12779	.00014	.00000	.66148	.00000	.00000	.00000
1620	.00792	.00245	.02306	.12245	.00000	.00000	.05556	.12785	.00013	.00000	.66058	.00000	.00000	.00000
1640	.00791	.00188	.02452	.12140	.00000	.00000	.05630	.12805	.00012	.00000	.65982	.00000	.00000	.00000
1660	.00791	.00141	.02586	.12038	.00000	.00000	.05674	.12837	.00011	.00000	.65921	.00000	.00000	.00000
1680	.00790	.00105	.02710	.11940	.00000	.00000	.05691	.12880	.00010	.00000	.65873	.00000	.00000	.00000
1700	.00790	.00077	.02823	.11846	.00000	.00000	.05685	.12932	.00010	.00000	.65837	.00000	.00000	.00000
1720	.00789	.00056	.02926	.11757	.00000	.00000	.05662	.12990	.00009	.00000	.65809	.00000	.00000	.00000
1740	.00789	.00041	.03023	.11672	.00000	.00000	.05626	.13052	.00008	.00000	.65789	.00000	.00000	.00000
1760	.00789	.00030	.03113	.11590	.00000	.00000	.05580	.13118	.00007	.00000	.65774	.00000	.00000	.00000
1780	.00789	.00022	.03197	.11511	.00000	.00000	.05527	.13184	.00007	.00000	.65763	.00000	.00000	.00000
1800	.00789	.00016	.03278	.11434	.00000	.00000	.05470	.13252	.00006	.00000	.65755	.00000	.00000	.00000
1900	.00788	.00003	.03638	.11083	.00000	.00000	.05161	.13584	.00004	.00000	.65739	.00000	.00000	.00000
2000	.00788	.00001	.03950	.10772	.00000	.00000	.04860	.13891	.00003	.00000	.65735	.00000	.00000	.00000
2100	.00788	.00000	.04229	.10493	.00000	.00000	.04585	.14168	.00002	.00000	.65734	.00000	.00000	.00000
2200	.00788	.00000	.04478	.10245	.00000	.00000	.04337	.14417	.00001	.00000	.65734	.00000	.00000	.00000
2300	.00788	.00000	.04701	.10022	.00000	.00000	.04115	.14639	.00001	.00000	.65734	.00000	.00000	.00000
2400	.00788	.00000	.04900	.09822	.00000	.00000	.03916	.14839	.00001	.00000	.65734	.00000	.00000	.00000
2500	.00788	.00000	.05080	.09642	.00000	.00000	.03737	.15019	.00001	.00000	.65734	.00000	.00000	.00000

TABLE 27.4D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00788	.00000	.05241	.09481	.00000	.00000	.03575	.15180	.00000	.00000	.65734	.00000	.00000	.00000
2700	.00788	.00000	.05387	.09336	.00000	.00000	.03430	.15325	.00000	.00000	.65734	.00000	.00000	.00000
2800	.00788	.00000	.05518	.09204	.00000	.00000	.03299	.15457	.00000	.00000	.65734	.00000	.00000	.00000
2900	.00788	.00000	.05637	.09085	.00000	.00000	.03180	.15575	.00000	.00000	.65734	.00000	.00000	.00000
3000	.00788	.00000	.05745	.08977	.00001	.00000	.03072	.15683	.00000	.00000	.65733	.00000	.00000	.00000
3100	.00788	.00000	.05843	.08879	.00001	.00000	.02974	.15781	.00000	.00000	.65733	.00000	.00000	.00000
3200	.00788	.00000	.05932	.08790	.00002	.00000	.02884	.15870	.00000	.00000	.65733	.00000	.00001	.00000
3300	.00788	.00000	.06014	.08708	.00002	.00000	.02802	.15951	.00000	.00000	.65732	.00000	.00001	.00000
3400	.00788	.00000	.06089	.08633	.00004	.00000	.02727	.16025	.00000	.00000	.65732	.00000	.00002	.00000
3500	.00788	.00000	.06158	.08564	.00006	.00000	.02658	.16092	.00000	.00000	.65730	.00000	.00003	.00000
3600	.00788	.00000	.06221	.08500	.00008	.00000	.02595	.16153	.00000	.00001	.65728	.00000	.00005	.00000
3700	.00788	.00000	.06280	.08441	.00012	.00000	.02537	.16207	.00000	.00002	.65726	.00000	.00008	.00000
3800	.00788	.00000	.06334	.08385	.00017	.00000	.02483	.16255	.00000	.00003	.65721	.00000	.00013	.00000
3900	.00788	.00000	.06386	.08333	.00023	.00000	.02434	.16296	.00000	.00005	.65715	.00000	.00021	.00000
4000	.00788	.00000	.06435	.08282	.00031	.00000	.02389	.16329	.00000	.00008	.65706	.00000	.00031	.00001
4100	.00788	.00000	.06484	.08231	.00041	.00000	.02348	.16354	.00000	.00013	.65693	.00001	.00046	.00002
4200	.00788	.00000	.06532	.08179	.00055	.00000	.02311	.16370	.00000	.00020	.65675	.00001	.00067	.00003
4300	.00788	.00000	.06584	.08123	.00072	.00000	.02280	.16373	.00000	.00030	.65649	.00002	.00095	.00006
4400	.00787	.00000	.06640	.08060	.00092	.00000	.02254	.16361	.00000	.00045	.65613	.00004	.00133	.00011
4500	.00787	.00000	.06705	.07987	.00118	.00000	.02236	.16330	.00000	.00066	.65564	.00006	.00183	.00019
4600	.00786	.00000	.06783	.07897	.00150	.00000	.02226	.16277	.00000	.00094	.65497	.00011	.00247	.00032
4700	.00785	.00000	.06878	.07786	.00188	.00000	.02228	.16196	.00000	.00132	.65409	.00018	.00328	.00052
4800	.00784	.00000	.06997	.07647	.00236	.00000	.02244	.16081	.00000	.00181	.65293	.00028	.00428	.00083
4900	.00783	.00000	.07143	.07474	.00293	.00000	.02275	.15926	.00000	.00241	.65146	.00044	.00548	.00125
5000	.00781	.00000	.07321	.07263	.00363	.00000	.02326	.15728	.00000	.00315	.64962	.00067	.00691	.00183
5100	.00779	.00000	.07532	.07012	.00447	.00000	.02397	.15481	.00000	.00402	.64739	.00098	.00856	.00256
5200	.00776	.00000	.07774	.06722	.00549	.00001	.02489	.15183	.00000	.00502	.64475	.00141	.01042	.00346
5300	.00773	.00000	.08043	.06398	.00673	.00001	.02602	.14834	.00000	.00612	.64170	.00196	.01249	.00449
5400	.00770	.00000	.08333	.06044	.00821	.00001	.02734	.14434	.00000	.00733	.63825	.00267	.01474	.00564

TABLE 27.5D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
380	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
400	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
420	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
440	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
460	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
480	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
500	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00000	.00000	.68765	.00000	.00000	.00000
520	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15009	.00001	.00000	.68765	.00000	.00000	.00000
537	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15008	.00001	.00000	.68765	.00000	.00000	.00000
540	.00825	.02306	.00000	.13095	.00000	.00000	.00000	.15008	.00001	.00000	.68765	.00000	.00000	.00000
560	.00825	.02306	.00000	.13096	.00000	.00000	.00000	.15008	.00001	.00000	.68765	.00000	.00000	.00000
580	.00825	.02306	.00000	.13096	.00000	.00000	.00000	.15008	.00001	.00000	.68765	.00000	.00000	.00000
600	.00825	.02305	.00000	.13096	.00000	.00000	.00000	.15008	.00001	.00000	.68765	.00000	.00000	.00000
620	.00825	.02305	.00000	.13096	.00000	.00000	.00000	.15008	.00002	.00000	.68765	.00000	.00000	.00000
640	.00825	.02305	.00000	.13096	.00000	.00000	.00001	.15007	.00002	.00000	.68764	.00000	.00000	.00000
660	.00825	.02305	.00000	.13096	.00000	.00000	.00001	.15007	.00002	.00000	.68764	.00000	.00000	.00000
680	.00825	.02305	.00000	.13097	.00000	.00000	.00001	.15006	.00003	.00000	.68764	.00000	.00000	.00000
700	.00825	.02304	.00000	.13097	.00000	.00000	.00002	.15006	.00003	.00000	.68764	.00000	.00000	.00000
720	.00825	.02304	.00000	.13097	.00000	.00000	.00003	.15005	.00004	.00000	.68763	.00000	.00000	.00000
740	.00825	.02303	.00000	.13098	.00000	.00000	.00004	.15004	.00004	.00000	.68763	.00000	.00000	.00000
760	.00825	.02303	.00000	.13098	.00000	.00000	.00005	.15003	.00005	.00000	.68762	.00000	.00000	.00000
780	.00825	.02302	.00000	.13099	.00000	.00000	.00007	.15001	.00005	.00000	.68761	.00000	.00000	.00000
800	.00825	.02301	.00000	.13099	.00000	.00000	.00010	.14999	.00006	.00000	.68760	.00000	.00000	.00000
820	.00825	.02300	.00000	.13100	.00000	.00000	.00013	.14997	.00006	.00000	.68759	.00000	.00000	.00000
840	.00825	.02299	.00000	.13101	.00000	.00000	.00017	.14994	.00007	.00000	.68757	.00000	.00000	.00000
860	.00825	.02297	.00000	.13102	.00000	.00000	.00023	.14990	.00008	.00000	.68755	.00000	.00000	.00000
880	.00825	.02295	.00000	.13104	.00000	.00000	.00029	.14986	.00009	.00000	.68752	.00000	.00000	.00000
900	.00825	.02293	.00000	.13106	.00000	.00000	.00037	.14981	.00009	.00000	.68750	.00000	.00000	.00000
920	.00825	.02290	.00000	.13107	.00000	.00000	.00046	.14975	.00010	.00000	.68746	.00000	.00000	.00000
940	.00825	.02287	.00001	.13110	.00000	.00000	.00057	.14968	.00011	.00000	.68742	.00000	.00000	.00000
960	.00824	.02283	.00001	.13112	.00000	.00000	.00071	.14960	.00012	.00000	.68737	.00000	.00000	.00000
980	.00824	.02278	.00001	.13115	.00000	.00000	.00087	.14951	.00013	.00000	.68731	.00000	.00000	.00000
1000	.00824	.02273	.00002	.13119	.00000	.00000	.00105	.14940	.00013	.00000	.68724	.00000	.00000	.00000
1020	.00824	.02267	.00002	.13122	.00000	.00000	.00127	.14927	.00014	.00000	.68716	.00000	.00000	.00000
1040	.00824	.02260	.00003	.13127	.00000	.00000	.00152	.14912	.00015	.00000	.68707	.00000	.00000	.00000
1060	.00824	.02251	.00005	.13131	.00000	.00000	.00181	.14896	.00016	.00000	.68696	.00000	.00000	.00000
1080	.00824	.02242	.00007	.13136	.00000	.00000	.00213	.14877	.00017	.00000	.68684	.00000	.00000	.00000
1100	.00824	.02231	.00009	.13141	.00000	.00000	.00251	.14856	.00018	.00000	.68670	.00000	.00000	.00000
1120	.00824	.02219	.00012	.13147	.00000	.00000	.00293	.14832	.00019	.00000	.68654	.00000	.00000	.00000
1140	.00823	.02205	.00016	.13153	.00000	.00000	.00340	.14806	.00020	.00000	.68636	.00000	.00000	.00000

TABLE 27.5D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00823	.02190	.00021	.13159	.00000	.00000	.00394	.14777	.00021	.00000	.68616	.00000	.00000	.00000
1180	.00823	.02172	.00027	.13165	.00000	.00000	.00453	.14745	.00022	.00000	.68593	.00000	.00000	.00000
1200	.00822	.02153	.00035	.13171	.00000	.00000	.00518	.14710	.00023	.00000	.68567	.00000	.00000	.00000
1220	.00822	.02131	.00045	.13177	.00000	.00000	.00590	.14672	.00024	.00000	.68539	.00000	.00000	.00000
1240	.00822	.02107	.00057	.13182	.00000	.00000	.00669	.14631	.00025	.00000	.68507	.00000	.00000	.00000
1260	.00821	.02080	.00072	.13186	.00000	.00000	.00756	.14587	.00026	.00000	.68472	.00000	.00000	.00000
1280	.00821	.02050	.00090	.13189	.00000	.00000	.00850	.14539	.00027	.00000	.68433	.00000	.00000	.00000
1300	.00820	.02017	.00112	.13191	.00000	.00000	.00953	.14489	.00028	.00000	.68390	.00000	.00000	.00000
1320	.00820	.01981	.00138	.13190	.00000	.00000	.01063	.14436	.00028	.00000	.68343	.00000	.00000	.00000
1340	.00819	.01942	.00169	.13187	.00000	.00000	.01181	.14380	.00029	.00000	.68291	.00000	.00000	.00000
1360	.00819	.01899	.00205	.13182	.00000	.00000	.01308	.14322	.00030	.00000	.68235	.00000	.00000	.00000
1380	.00818	.01852	.00247	.13172	.00000	.00000	.01444	.14262	.00031	.00000	.68174	.00000	.00000	.00000
1400	.00817	.01802	.00296	.13159	.00000	.00000	.01587	.14200	.00031	.00000	.68107	.00000	.00000	.00000
1420	.00816	.01747	.00353	.13141	.00000	.00000	.01739	.14136	.00032	.00000	.68035	.00000	.00000	.00000
1440	.00815	.01688	.00418	.13118	.00000	.00000	.01899	.14071	.00033	.00000	.67958	.00000	.00000	.00000
1460	.00814	.01625	.00492	.13089	.00000	.00000	.02066	.14006	.00033	.00000	.67875	.00000	.00000	.00000
1480	.00813	.01557	.00575	.13053	.00000	.00000	.02241	.13941	.00034	.00000	.67786	.00000	.00000	.00000
1500	.00812	.01485	.00669	.13011	.00000	.00000	.02422	.13876	.00034	.00000	.67691	.00000	.00000	.00000
1520	.00811	.01409	.00772	.12961	.00000	.00000	.02609	.13813	.00034	.00000	.67591	.00000	.00000	.00000
1540	.00810	.01329	.00887	.12903	.00000	.00000	.02800	.13751	.00034	.00000	.67486	.00000	.00000	.00000
1560	.00808	.01245	.01012	.12837	.00000	.00000	.02996	.13692	.00035	.00000	.67376	.00000	.00000	.00000
1580	.00807	.01158	.01147	.12763	.00000	.00000	.03193	.13636	.00035	.00000	.67262	.00000	.00000	.00000
1600	.00805	.01068	.01292	.12681	.00000	.00000	.03391	.13584	.00034	.00000	.67144	.00000	.00000	.00000
1620	.00804	.00977	.01446	.12592	.00000	.00000	.03588	.13536	.00034	.00000	.67023	.00000	.00000	.00000
1640	.00803	.00884	.01608	.12495	.00000	.00000	.03780	.13494	.00034	.00000	.66901	.00000	.00000	.00000
1660	.00801	.00792	.01776	.12393	.00000	.00000	.03967	.13458	.00033	.00000	.66780	.00000	.00000	.00000
1680	.00800	.00700	.01948	.12285	.00000	.00000	.04146	.13430	.00033	.00000	.66659	.00000	.00000	.00000
1700	.00798	.00611	.02122	.12174	.00000	.00000	.04312	.13408	.00032	.00000	.66542	.00000	.00000	.00000
1720	.00797	.00527	.02295	.12060	.00000	.00000	.04465	.13395	.00031	.00000	.66431	.00000	.00000	.00000
1740	.00796	.00447	.02466	.11945	.00000	.00000	.04601	.13390	.00030	.00000	.66326	.00000	.00000	.00000
1760	.00794	.00374	.02631	.11832	.00000	.00000	.04717	.13394	.00029	.00000	.66229	.00000	.00000	.00000
1780	.00793	.00308	.02788	.11721	.00000	.00000	.04814	.13406	.00027	.00000	.66143	.00000	.00000	.00000
1800	.00793	.00250	.02936	.11613	.00000	.00000	.04889	.13427	.00026	.00000	.66066	.00000	.00000	.00000
1900	.00790	.00075	.03522	.11150	.00000	.00000	.04983	.13627	.00019	.00000	.65835	.00000	.00000	.00000
2000	.00789	.00020	.03914	.10795	.00000	.00000	.04807	.13899	.00013	.00000	.65762	.00000	.00000	.00000
2100	.00789	.00006	.04216	.10503	.00000	.00000	.04567	.14168	.00009	.00000	.65742	.00000	.00000	.00000
2200	.00788	.00002	.04472	.10250	.00000	.00000	.04329	.14415	.00006	.00000	.65737	.00000	.00000	.00000
2300	.00788	.00001	.04698	.10025	.00000	.00000	.04111	.14638	.00005	.00000	.65735	.00000	.00000	.00000
2400	.00788	.00000	.04899	.09824	.00000	.00000	.03913	.14838	.00003	.00000	.65734	.00000	.00000	.00000
2500	.00788	.00000	.05078	.09644	.00000	.00000	.03735	.15018	.00003	.00000	.65734	.00000	.00000	.00000

TABLE 27.5D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00788	.00000	.05240	.09482	.00000	.00000	.03574	.15179	.00002	.00000	.65734	.00000	.00000	.00000
2700	.00788	.00000	.05386	.09337	.00000	.00000	.03429	.15325	.00002	.00000	.65734	.00000	.00000	.00000
2800	.00788	.00000	.05517	.09205	.00000	.00000	.03298	.15456	.00001	.00000	.65734	.00000	.00000	.00000
2900	.00788	.00000	.05636	.09086	.00000	.00000	.03179	.15575	.00001	.00000	.65734	.00000	.00000	.00000
3000	.00788	.00000	.05744	.08978	.00000	.00000	.03072	.15683	.00001	.00000	.65734	.00000	.00000	.00000
3100	.00788	.00000	.05843	.08880	.00000	.00000	.02973	.15781	.00001	.00000	.65734	.00000	.00000	.00000
3200	.00788	.00000	.05932	.08790	.00001	.00000	.02884	.15870	.00001	.00000	.65733	.00000	.00000	.00000
3300	.00788	.00000	.06014	.08708	.00001	.00000	.02802	.15952	.00001	.00000	.65733	.00000	.00000	.00000
3400	.00788	.00000	.06089	.08633	.00002	.00000	.02727	.16026	.00000	.00000	.65733	.00000	.00001	.00000
3500	.00788	.00000	.06157	.08564	.00003	.00000	.02659	.16094	.00000	.00000	.65732	.00000	.00001	.00000
3600	.00788	.00000	.06221	.08501	.00004	.00000	.02595	.16156	.00000	.00000	.65731	.00000	.00002	.00000
3700	.00788	.00000	.06279	.08442	.00005	.00000	.02537	.16213	.00000	.00001	.65730	.00000	.00004	.00000
3800	.00788	.00000	.06333	.08388	.00007	.00000	.02483	.16264	.00000	.00001	.65728	.00000	.00006	.00000
3900	.00788	.00000	.06384	.08337	.00010	.00000	.02434	.16310	.00000	.00002	.65725	.00000	.00009	.00000
4000	.00788	.00000	.06431	.08289	.00014	.00000	.02388	.16350	.00000	.00004	.65721	.00000	.00014	.00000
4100	.00788	.00000	.06476	.08243	.00019	.00000	.02346	.16386	.00000	.00006	.65716	.00000	.00021	.00000
4200	.00788	.00000	.06519	.08198	.00025	.00000	.02308	.16415	.00000	.00009	.65708	.00000	.00030	.00001
4300	.00788	.00000	.06562	.08153	.00032	.00000	.02273	.16437	.00000	.00014	.65697	.00000	.00043	.00001
4400	.00788	.00000	.06605	.08108	.00041	.00000	.02241	.16452	.00000	.00020	.65682	.00001	.00060	.00002
4500	.00788	.00000	.06649	.08060	.00053	.00000	.02214	.16457	.00000	.00030	.65661	.00001	.00083	.00004
4600	.00787	.00000	.06697	.08008	.00066	.00000	.02191	.16452	.00000	.00043	.65633	.00002	.00112	.00007
4700	.00787	.00000	.06750	.07948	.00083	.00000	.02174	.16434	.00000	.00061	.65596	.00004	.00151	.00011
4800	.00787	.00000	.06812	.07878	.00103	.00000	.02162	.16401	.00000	.00086	.65547	.00006	.00199	.00018
4900	.00786	.00000	.06884	.07795	.00128	.00000	.02158	.16350	.00000	.00117	.65484	.00010	.00258	.00029
5000	.00785	.00000	.06971	.07695	.00156	.00000	.02163	.16277	.00000	.00157	.65403	.00015	.00332	.00045
5100	.00784	.00000	.07075	.07573	.00191	.00000	.02178	.16178	.00000	.00208	.65301	.00023	.00419	.00068
5200	.00783	.00000	.07200	.07427	.00231	.00000	.02206	.16052	.00000	.00269	.65176	.00034	.00523	.00098
5300	.00782	.00000	.07349	.07253	.00280	.00000	.02246	.15893	.00000	.00342	.65023	.00049	.00644	.00138
5400	.00780	.00000	.07521	.07050	.00337	.00001	.02302	.15701	.00000	.00427	.64843	.00069	.00782	.00188

TABLE 27.1E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00788	.04409	.00000	.00000	.10314	.00000	.18744	.00012	.00000	.65734
400	.00788	.04409	.00000	.00000	.10314	.00000	.18490	.00266	.00000	.65734
440	.00788	.04404	.00002	.00000	.10316	.00000	.15323	.03429	.00000	.65737
480	.00790	.04171	.00124	.00000	.10463	.00000	.00000	.18554	.00000	.65897
520	.00792	.04012	.00207	.00000	.10564	.00001	.00000	.18418	.00000	.66006
537	.00792	.03931	.00250	.00000	.10616	.00002	.00000	.18348	.00000	.66062
560	.00793	.03803	.00316	.00000	.10696	.00004	.00000	.18239	.00000	.66149
600	.00795	.03548	.00447	.00000	.10858	.00012	.00000	.18018	.00000	.66321
640	.00798	.03255	.00595	.00000	.11047	.00032	.00000	.17757	.00000	.66516
680	.00800	.02931	.00752	.00000	.11260	.00077	.00000	.17456	.00000	.66723
720	.00803	.02583	.00911	.00000	.11497	.00168	.00000	.17107	.00000	.66931
760	.00805	.02215	.01059	.00000	.11760	.00337	.00000	.16697	.00000	.67126
800	.00807	.01830	.01184	.00001	.12056	.00627	.00000	.16203	.00001	.67291
840	.00808	.01430	.01273	.00003	.12391	.01088	.00000	.15600	.00001	.67407
880	.00809	.01015	.01310	.00009	.12774	.01769	.00000	.14858	.00001	.67456
920	.00809	.00582	.01287	.00023	.13209	.02707	.00000	.13956	.00001	.67426
960	.00807	.00126	.01203	.00055	.13693	.03909	.00000	.12891	.00001	.67316
1000	.00803	.00000	.00909	.00114	.13967	.05226	.00000	.12052	.00001	.66929
1040	.00797	.00000	.00556	.00210	.14120	.06480	.00000	.11371	.00001	.66465
1080	.00793	.00000	.00269	.00343	.14190	.07446	.00000	.10872	.00001	.66087
1120	.00790	.00000	.00100	.00491	.14160	.07942	.00000	.10650	.00001	.65865
1160	.00789	.00000	.00032	.00640	.14060	.08056	.00000	.10648	.00000	.65775
1200	.00789	.00000	.00010	.00790	.13925	.07990	.00000	.10750	.00000	.65746
1240	.00788	.00000	.00003	.00947	.13773	.07858	.00000	.10892	.00000	.65738
1280	.00788	.00000	.00001	.01111	.13610	.07702	.00000	.11052	.00000	.65735
1320	.00788	.00000	.00000	.01282	.13440	.07533	.00000	.11222	.00000	.65734
1360	.00788	.00000	.00000	.01458	.13264	.07359	.00000	.11397	.00000	.65734
1400	.00788	.00000	.00000	.01636	.13086	.07181	.00000	.11575	.00000	.65734

TABLE 27.2E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00788	.04409	.00000	.00000	.10314	.00000	.18755	.00000	.00001	.00000	.65734
400	.00788	.04409	.00000	.00000	.10314	.00000	.18729	.00000	.00027	.00000	.65734
440	.00788	.04409	.00000	.00000	.10314	.00000	.18426	.00000	.00330	.00000	.65734
480	.00788	.04403	.00003	.00000	.10317	.00000	.15984	.00000	.02768	.00000	.65737
520	.00791	.04089	.00167	.00000	.10515	.00000	.00000	.01981	.16503	.00000	.65953
537	.00792	.03931	.00250	.00000	.10615	.00001	.00000	.00000	.18350	.00000	.66062
560	.00793	.03804	.00316	.00000	.10695	.00001	.00000	.00000	.18241	.00000	.66149
600	.00795	.03551	.00447	.00000	.10855	.00004	.00000	.00000	.18025	.00000	.66322
640	.00798	.03263	.00597	.00000	.11038	.00010	.00000	.00000	.17776	.00000	.66518
680	.00800	.02948	.00758	.00000	.11240	.00024	.00000	.00000	.17500	.00000	.66730
720	.00803	.02615	.00924	.00000	.11456	.00054	.00000	.00000	.17200	.00001	.66949
760	.00806	.02271	.01089	.00000	.11682	.00108	.00000	.00000	.16877	.00001	.67166
800	.00808	.01923	.01246	.00000	.11919	.00203	.00000	.00000	.16526	.00001	.67372
840	.00810	.01575	.01388	.00001	.12167	.00359	.00000	.00000	.16141	.00001	.67558
880	.00812	.01229	.01505	.00003	.12429	.00599	.00000	.00000	.15709	.00002	.67713
920	.00813	.00887	.01591	.00007	.12706	.00950	.00000	.00000	.15218	.00002	.67826
960	.00814	.00548	.01638	.00017	.13002	.01439	.00000	.00000	.14653	.00002	.67887
1000	.00814	.00211	.01639	.00037	.13317	.02087	.00000	.00000	.14003	.00002	.67889
1040	.00813	.00000	.01529	.00077	.13567	.02891	.00000	.00000	.13377	.00003	.67744
1080	.00808	.00000	.01271	.00143	.13683	.03812	.00000	.00000	.12875	.00003	.67404
1120	.00804	.00000	.00980	.00250	.13781	.04815	.00000	.00000	.12344	.00003	.67023
1160	.00799	.00000	.00680	.00408	.13835	.05806	.00000	.00000	.11842	.00002	.66628
1200	.00795	.00000	.00405	.00613	.13823	.06650	.00000	.00000	.11444	.00002	.66267
1240	.00792	.00000	.00201	.00841	.13740	.07207	.00000	.00000	.11221	.00002	.65998
1280	.00790	.00000	.00084	.01060	.13603	.07436	.00000	.00000	.11183	.00001	.65844
1320	.00789	.00000	.00032	.01260	.13440	.07434	.00000	.00000	.11269	.00001	.65776
1360	.00789	.00000	.00012	.01449	.13265	.07322	.00000	.00000	.11413	.00001	.65749
1400	.00788	.00000	.00004	.01632	.13087	.07167	.00000	.00000	.11581	.00001	.65740

TABLE 27.3E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00788	.04409	.00000	.00000	.10314	.00000	.18756	.00000	.00000	.00000	.65734
400	.00788	.04409	.00000	.00000	.10314	.00000	.18753	.00000	.00003	.00000	.65734
440	.00788	.04409	.00000	.00000	.10314	.00000	.18723	.00000	.00033	.00000	.65734
480	.00788	.04409	.00000	.00000	.10314	.00000	.18488	.00000	.00268	.00000	.65734
520	.00788	.04406	.00001	.00000	.10315	.00000	.00000	.17380	.01374	.00000	.65735
537	.00788	.04400	.00005	.00000	.10319	.00000	.00000	.16280	.02468	.00000	.65740
560	.00789	.04355	.00028	.00000	.10347	.00000	.00000	.13370	.05341	.00000	.65770
600	.00795	.03552	.00447	.00000	.10854	.00001	.00000	.00000	.18027	.00000	.66322
640	.00798	.03265	.00597	.00000	.11036	.00003	.00000	.00000	.17782	.00001	.66519
680	.00800	.02953	.00759	.00000	.11234	.00008	.00000	.00000	.17514	.00001	.66732
720	.00803	.02625	.00928	.00000	.11443	.00017	.00000	.00000	.17229	.00001	.66954
760	.00806	.02289	.01099	.00000	.11658	.00034	.00000	.00000	.16934	.00002	.67179
800	.00808	.01953	.01267	.00000	.11876	.00065	.00000	.00000	.16630	.00002	.67399
840	.00811	.01621	.01427	.00000	.12094	.00115	.00000	.00000	.16319	.00002	.67610
880	.00813	.01297	.01576	.00001	.12313	.00194	.00000	.00000	.15998	.00003	.67806
920	.00815	.00982	.01709	.00002	.12532	.00311	.00000	.00000	.15663	.00004	.67981
960	.00817	.00679	.01822	.00005	.12753	.00480	.00000	.00000	.15309	.00004	.68130
1000	.00819	.00387	.01912	.00012	.12975	.00712	.00000	.00000	.14930	.00005	.68249
1040	.00820	.00106	.01975	.00024	.13199	.01022	.00000	.00000	.14518	.00005	.68331
1080	.00819	.00000	.01922	.00047	.13320	.01414	.00000	.00000	.14211	.00006	.68261
1120	.00817	.00000	.01786	.00085	.13378	.01895	.00000	.00000	.13951	.00006	.68083
1160	.00814	.00000	.01620	.00146	.13434	.02467	.00000	.00000	.13648	.00007	.67865
1200	.00811	.00000	.01423	.00242	.13477	.03124	.00000	.00000	.13310	.00007	.67606
1240	.00807	.00000	.01198	.00382	.13496	.03846	.00000	.00000	.12955	.00007	.67310
1280	.00803	.00000	.00951	.00576	.13476	.04596	.00000	.00000	.12606	.00007	.66985
1320	.00799	.00000	.00697	.00824	.13407	.05320	.00000	.00000	.12296	.00006	.66651
1360	.00796	.00000	.00459	.01114	.13285	.05941	.00000	.00000	.12062	.00006	.66338
1400	.00793	.00000	.00266	.01414	.13122	.06381	.00000	.00000	.11937	.00005	.66084

TABLE 27.4E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00788	.04409	.00000	.00000	.10314	.00000	.18756	.00000	.00000	.00000	.65734
400	.00788	.04409	.00000	.00000	.10314	.00000	.18756	.00000	.00000	.00000	.65734
440	.00788	.04409	.00000	.00000	.10314	.00000	.18753	.00000	.00003	.00000	.65734
480	.00788	.04409	.00000	.00000	.10314	.00000	.18729	.00000	.00027	.00000	.65734
520	.00788	.04409	.00000	.00000	.10314	.00000	.00000	.18621	.00135	.00000	.65734
537	.00788	.04409	.00000	.00000	.10314	.00000	.00000	.18516	.00240	.00000	.65734
560	.00788	.04408	.00000	.00000	.10314	.00000	.00000	.18253	.00502	.00000	.65734
600	.00788	.04402	.00003	.00000	.10318	.00000	.00000	.17208	.01542	.00000	.65738
640	.00789	.04343	.00034	.00000	.10355	.00000	.00000	.14578	.04122	.00000	.65779
680	.00793	.03894	.00269	.00000	.10639	.00001	.00000	.08176	.10141	.00001	.66087
720	.00803	.02628	.00929	.00000	.11439	.00005	.00000	.00000	.17238	.00002	.66956
760	.00806	.02295	.01102	.00000	.11650	.00011	.00000	.00000	.16951	.00003	.67183
800	.00808	.01962	.01273	.00000	.11862	.00021	.00000	.00000	.16662	.00003	.67408
840	.00811	.01635	.01439	.00000	.12072	.00037	.00000	.00000	.16375	.00004	.67627
880	.00814	.01318	.01599	.00000	.12277	.00062	.00000	.00000	.16090	.00005	.67836
920	.00816	.01012	.01748	.00001	.12477	.00100	.00000	.00000	.15807	.00006	.68033
960	.00818	.00719	.01886	.00002	.12672	.00154	.00000	.00000	.15526	.00008	.68215
1000	.00820	.00439	.02012	.00004	.12861	.00231	.00000	.00000	.15245	.00009	.68380
1040	.00822	.00173	.02122	.00008	.13045	.00335	.00000	.00000	.14960	.00010	.68525
1080	.00823	.00000	.02175	.00015	.13175	.00471	.00000	.00000	.14736	.00011	.68594
1120	.00822	.00000	.02126	.00027	.13197	.00643	.00000	.00000	.14642	.00012	.68531
1160	.00821	.00000	.02064	.00047	.13221	.00859	.00000	.00000	.14526	.00014	.68449
1200	.00820	.00000	.01987	.00079	.13244	.01121	.00000	.00000	.14387	.00015	.68348
1240	.00818	.00000	.01892	.00127	.13262	.01435	.00000	.00000	.14227	.00016	.68223
1280	.00817	.00000	.01777	.00199	.13272	.01801	.00000	.00000	.14047	.00016	.68072
1320	.00814	.00000	.01641	.00302	.13265	.02217	.00000	.00000	.13850	.00017	.67893
1360	.00812	.00000	.01483	.00443	.13236	.02681	.00000	.00000	.13643	.00018	.67685
1400	.00809	.00000	.01303	.00629	.13177	.03182	.00000	.00000	.13434	.00018	.67449

TABLE 27.5E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.000; F/A = 0.082073; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00788	.04409	.00000	.00000	.10314	.00000	.18756	.00000	.00000	.00000	.65734
400	.00788	.04409	.00000	.00000	.10314	.00000	.18756	.00000	.00000	.00000	.65734
440	.00788	.04409	.00000	.00000	.10314	.00000	.18755	.00000	.00001	.00000	.65734
480	.00788	.04409	.00000	.00000	.10314	.00000	.18750	.00000	.00005	.00000	.65734
520	.00788	.04409	.00000	.00000	.10314	.00000	.00000	.18729	.00027	.00000	.65734
537	.00788	.04409	.00000	.00000	.10314	.00000	.00000	.18708	.00048	.00000	.65734
560	.00788	.04409	.00000	.00000	.10314	.00000	.00000	.18656	.00100	.00000	.65734
600	.00788	.04408	.00000	.00000	.10314	.00000	.00000	.18452	.00304	.00000	.65734
640	.00788	.04406	.00001	.00000	.10315	.00000	.00000	.17965	.00789	.00000	.65735
680	.00789	.04392	.00009	.00000	.10324	.00000	.00000	.16926	.01815	.00000	.65745
720	.00789	.04313	.00050	.00000	.10374	.00001	.00000	.14876	.03798	.00000	.65799
760	.00792	.03959	.00234	.00000	.10598	.00002	.00000	.10923	.07449	.00001	.66041
800	.00804	.02554	.00966	.00000	.11487	.00008	.00000	.02888	.14285	.00004	.67005
840	.00811	.01639	.01442	.00000	.12067	.00016	.00000	.00000	.16387	.00007	.67631
880	.00814	.01323	.01604	.00000	.12269	.00028	.00000	.00000	.16111	.00008	.67844
920	.00816	.01019	.01758	.00000	.12464	.00045	.00000	.00000	.15842	.00010	.68046
960	.00818	.00728	.01903	.00001	.12653	.00069	.00000	.00000	.15580	.00011	.68237
1000	.00821	.00452	.02037	.00002	.12833	.00104	.00000	.00000	.15324	.00013	.68414
1040	.00823	.00190	.02161	.00003	.13007	.00151	.00000	.00000	.15074	.00015	.68577
1080	.00824	.00000	.02242	.00007	.13136	.00213	.00000	.00000	.14877	.00017	.68684
1120	.00824	.00000	.02219	.00012	.13147	.00293	.00000	.00000	.14832	.00019	.68654
1160	.00823	.00000	.02190	.00021	.13159	.00394	.00000	.00000	.14777	.00021	.68616
1200	.00822	.00000	.02153	.00035	.13171	.00518	.00000	.00000	.14710	.00023	.68567
1240	.00822	.00000	.02107	.00057	.13182	.00669	.00000	.00000	.14631	.00025	.68507
1280	.00821	.00000	.02050	.00090	.13189	.00850	.00000	.00000	.14539	.00027	.68433
1320	.00820	.00000	.01981	.00138	.13190	.01063	.00000	.00000	.14436	.00028	.68343
1360	.00819	.00000	.01899	.00205	.13182	.01308	.00000	.00000	.14322	.00030	.68235
1400	.00817	.00000	.01802	.00296	.13159	.01587	.00000	.00000	.14200	.00031	.68107

TABLE 28.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016261; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00878	.00000	.03251	.00000	.00000	.07905	.00000	.00001	.73231	.00000	.00000	.14734
1700	.00878	.00000	.03251	.00000	.00000	.07905	.00000	.00002	.73231	.00000	.00000	.14734
1800	.00878	.00000	.03251	.00000	.00000	.07905	.00000	.00003	.73230	.00000	.00000	.14733
1900	.00878	.00000	.03251	.00000	.00000	.07905	.00000	.00005	.73229	.00000	.00000	.14732
2000	.00878	.00000	.03251	.00000	.00000	.07905	.00000	.00008	.73227	.00000	.00000	.14730
2100	.00878	.00000	.03251	.00000	.00000	.07905	.00000	.00013	.73225	.00000	.00000	.14727
2200	.00878	.00000	.03251	.00000	.00000	.07905	.00000	.00021	.73221	.00000	.00001	.14724
2300	.00878	.00000	.03251	.00000	.00000	.07904	.00000	.00030	.73216	.00000	.00002	.14719
2400	.00878	.00000	.03250	.00000	.00000	.07903	.00000	.00043	.73209	.00000	.00004	.14712
2500	.00878	.00000	.03250	.00000	.00000	.07901	.00000	.00060	.73200	.00000	.00007	.14702
2600	.00878	.00000	.03250	.00000	.00000	.07899	.00000	.00081	.73188	.00001	.00012	.14690
2700	.00878	.00000	.03250	.00000	.00000	.07894	.00000	.00107	.73173	.00002	.00021	.14675
2800	.00878	.00001	.03249	.00000	.00001	.07887	.00000	.00138	.73155	.00003	.00033	.14655
2900	.00878	.00002	.03248	.00000	.00002	.07877	.00000	.00176	.73131	.00006	.00051	.14630
3000	.00878	.00004	.03246	.00001	.00003	.07862	.00000	.00220	.73101	.00012	.00076	.14599
3100	.00878	.00007	.03242	.00001	.00005	.07841	.00000	.00271	.73063	.00021	.00110	.14560
3200	.00878	.00014	.03235	.00003	.00009	.07811	.00000	.00329	.73015	.00037	.00157	.14513
3300	.00877	.00024	.03223	.00006	.00015	.07770	.00000	.00396	.72953	.00063	.00218	.14455
3400	.00877	.00041	.03204	.00011	.00024	.07714	.00000	.00470	.72875	.00102	.00297	.14385
3500	.00876	.00068	.03174	.00021	.00038	.07639	.00000	.00552	.72773	.00162	.00396	.14300
3600	.00875	.00108	.03130	.00039	.00057	.07540	.00000	.00642	.72642	.00251	.00520	.14197
3700	.00874	.00168	.03066	.00068	.00085	.07409	.00000	.00739	.72471	.00378	.00669	.14073
3800	.00872	.00251	.02975	.00116	.00123	.07240	.00000	.00844	.72250	.00557	.00847	.13925
3900	.00869	.00363	.02853	.00193	.00174	.07022	.00000	.00955	.71964	.00804	.01055	.13749
4000	.00865	.00507	.02695	.00310	.00239	.06748	.00000	.01072	.71600	.01137	.01290	.13537
4100	.00860	.00684	.02500	.00484	.00319	.06407	.00000	.01192	.71140	.01579	.01550	.13283
4200	.00854	.00890	.02272	.00735	.00415	.05993	.00000	.01315	.70570	.02153	.01828	.12976
4300	.00847	.01116	.02017	.01084	.00523	.05500	.00000	.01437	.69875	.02883	.02112	.12606
4400	.00837	.01351	.01749	.01554	.00637	.04931	.00000	.01556	.69046	.03796	.02386	.12158
4500	.00827	.01579	.01480	.02161	.00748	.04296	.00000	.01667	.68079	.04910	.02629	.11623
4600	.00814	.01790	.01223	.02915	.00843	.03616	.00000	.01767	.66981	.06242	.02818	.10990
4700	.00800	.01972	.00988	.03805	.00909	.02924	.00001	.01851	.65771	.07794	.02930	.10256
4800	.00785	.02121	.00783	.04802	.00933	.02258	.00001	.01916	.64480	.09554	.02945	.09423
4900	.00769	.02237	.00610	.05856	.00910	.01658	.00002	.01957	.63153	.11491	.02855	.08503
5000	.00754	.02322	.00467	.06901	.00843	.01156	.00002	.01972	.61843	.13554	.02667	.07519
5100	.00739	.02380	.00353	.07877	.00744	.00765	.00003	.01960	.60600	.15674	.02401	.06504
5200	.00725	.02419	.00264	.08733	.00629	.00484	.00005	.01921	.59466	.17768	.02089	.05498
5300	.00712	.02441	.00195	.09447	.00513	.00294	.00007	.01858	.58468	.19757	.01763	.04542
5400	.00702	.02454	.00144	.10019	.00407	.00173	.00010	.01775	.57620	.21571	.01451	.03672

TABLE 28.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016261; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00001	.73231	.00000	.00000	.14734
1700	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00002	.73231	.00000	.00000	.14734
1800	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00003	.73230	.00000	.00000	.14733
1900	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00005	.73229	.00000	.00000	.14732
2000	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00008	.73227	.00000	.00000	.14730
2100	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00013	.73225	.00000	.00000	.14727
2200	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00021	.73221	.00000	.00001	.14724
2300	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00030	.73216	.00000	.00001	.14719
2400	.00878	.00000	.03251	.00000	.00000	.00000	.07904	.00000	.00043	.73209	.00000	.00002	.14712
2500	.00878	.00000	.03250	.00000	.00000	.00000	.07903	.00000	.00060	.73201	.00000	.00004	.14703
2600	.00878	.00000	.03250	.00000	.00000	.00000	.07902	.00000	.00081	.73190	.00000	.00007	.14692
2700	.00878	.00000	.03250	.00000	.00000	.00000	.07899	.00000	.00107	.73176	.00000	.00012	.14677
2800	.00878	.00000	.03250	.00000	.00000	.00000	.07895	.00000	.00138	.73158	.00001	.00018	.14659
2900	.00878	.00001	.03250	.00000	.00000	.00000	.07890	.00000	.00176	.73137	.00002	.00028	.14637
3000	.00878	.00001	.03249	.00000	.00000	.00001	.07882	.00000	.00220	.73112	.00004	.00043	.14611
3100	.00878	.00002	.03248	.00000	.00000	.00002	.07871	.00000	.00271	.73080	.00007	.00062	.14579
3200	.00878	.00004	.03245	.00000	.00000	.00003	.07856	.00000	.00330	.73043	.00012	.00088	.14540
3300	.00878	.00008	.03241	.00001	.00000	.00005	.07835	.00000	.00396	.72998	.00020	.00123	.14495
3400	.00878	.00013	.03235	.00002	.00000	.00008	.07807	.00000	.00471	.72945	.00032	.00168	.14441
3500	.00877	.00022	.03225	.00004	.00000	.00012	.07771	.00000	.00554	.72880	.00051	.00225	.14378
3600	.00877	.00035	.03211	.00007	.00000	.00019	.07724	.00000	.00645	.72802	.00080	.00296	.14305
3700	.00876	.00055	.03189	.00012	.00000	.00028	.07663	.00000	.00744	.72708	.00120	.00384	.14220
3800	.00876	.00084	.03158	.00021	.00000	.00041	.07587	.00000	.00852	.72594	.00177	.00489	.14122
3900	.00875	.00124	.03114	.00035	.00000	.00058	.07490	.00000	.00967	.72455	.00257	.00615	.14009
4000	.00874	.00179	.03053	.00057	.00000	.00081	.07370	.00000	.01090	.72286	.00364	.00763	.13880
4100	.00872	.00253	.02974	.00091	.00000	.00112	.07223	.00000	.01220	.72081	.00508	.00933	.13733
4200	.00870	.00348	.02871	.00140	.00001	.00151	.07043	.00000	.01356	.71833	.00696	.01127	.13565
4300	.00867	.00466	.02743	.00212	.00001	.00199	.06826	.00000	.01498	.71533	.00939	.01343	.13374
4400	.00863	.00608	.02588	.00313	.00001	.00258	.06568	.00000	.01643	.71175	.01249	.01579	.13155
4500	.00859	.00772	.02409	.00452	.00001	.00327	.06264	.00000	.01791	.70751	.01636	.01833	.12905
4600	.00854	.00954	.02208	.00640	.00001	.00407	.05913	.00000	.01939	.70254	.02115	.02098	.12618
4700	.00848	.01148	.01991	.00888	.00001	.00495	.05512	.00000	.02086	.69678	.02698	.02366	.12288
4800	.00841	.01346	.01767	.01206	.00001	.00588	.05065	.00000	.02229	.69021	.03396	.02629	.11909
4900	.00833	.01541	.01542	.01605	.00001	.00683	.04575	.00001	.02364	.68281	.04222	.02874	.11477
5000	.00824	.01724	.01326	.02091	.00001	.00773	.04054	.00001	.02490	.67461	.05181	.03088	.10987
5100	.00814	.01890	.01123	.02666	.00001	.00852	.03512	.00001	.02602	.66566	.06279	.03256	.10437
5200	.00803	.02034	.00938	.03327	.00001	.00912	.02969	.00002	.02698	.65608	.07513	.03365	.09829
5300	.00791	.02155	.00774	.04062	.00001	.00948	.02442	.00002	.02775	.64602	.08876	.03406	.09167
5400	.00779	.02252	.00632	.04849	.00001	.00954	.01950	.00003	.02830	.63568	.10352	.03371	.08456

TABLE 28.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016261; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00001	.00000	.73231	.00000	.00000	.14734
1700	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00002	.00000	.73231	.00000	.00000	.14734
1800	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00003	.00000	.73230	.00000	.00000	.14733
1900	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00005	.00000	.73229	.00000	.00000	.14732
2000	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00008	.00000	.73227	.00000	.00000	.14730
2100	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00013	.00000	.73225	.00000	.00000	.14727
2200	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00021	.00000	.73221	.00000	.00000	.14724
2300	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00030	.00000	.73216	.00000	.00001	.14719
2400	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00000	.00043	.00000	.73210	.00000	.00001	.14712
2500	.00878	.00000	.03251	.00000	.00000	.00000	.07904	.00000	.00060	.00000	.73201	.00000	.00002	.14703
2600	.00878	.00000	.03250	.00000	.00000	.00000	.07903	.00000	.00081	.00000	.73190	.00000	.00004	.14692
2700	.00878	.00000	.03250	.00000	.00000	.00000	.07902	.00000	.00107	.00000	.73177	.00000	.00007	.14679
2800	.00878	.00000	.03250	.00000	.00000	.00000	.07900	.00000	.00138	.00001	.73160	.00000	.00010	.14662
2900	.00878	.00000	.03250	.00000	.00000	.00000	.07897	.00000	.00176	.00001	.73140	.00001	.00016	.14641
3000	.00878	.00000	.03250	.00000	.00000	.00000	.07892	.00000	.00220	.00001	.73116	.00001	.00024	.14617
3100	.00878	.00001	.03249	.00000	.00000	.00001	.07886	.00000	.00271	.00001	.73088	.00002	.00035	.14587
3200	.00878	.00001	.03249	.00000	.00000	.00001	.07878	.00000	.00330	.00001	.73055	.00004	.00050	.14553
3300	.00878	.00002	.03247	.00000	.00000	.00001	.07867	.00000	.00397	.00001	.73017	.00006	.00069	.14513
3400	.00878	.00004	.03245	.00000	.00000	.00002	.07853	.00000	.00471	.00001	.72972	.00010	.00095	.14468
3500	.00878	.00007	.03242	.00001	.00000	.00004	.07834	.00000	.00555	.00001	.72921	.00016	.00127	.14415
3600	.00878	.00011	.03237	.00001	.00000	.00006	.07810	.00000	.00646	.00001	.72861	.00025	.00168	.14355
3700	.00878	.00018	.03230	.00002	.00000	.00009	.07779	.00000	.00746	.00001	.72794	.00038	.00218	.14287
3800	.00877	.00027	.03220	.00004	.00001	.00013	.07741	.00000	.00855	.00001	.72716	.00056	.00278	.14211
3900	.00877	.00040	.03205	.00006	.00001	.00019	.07695	.00000	.00972	.00001	.72626	.00081	.00351	.14125
4000	.00876	.00059	.03185	.00010	.00001	.00027	.07637	.00000	.01098	.00001	.72523	.00116	.00438	.14030
4100	.00876	.00084	.03157	.00016	.00001	.00037	.07568	.00000	.01231	.00001	.72404	.00162	.00539	.13924
4200	.00875	.00118	.03120	.00026	.00001	.00050	.07484	.00000	.01372	.00001	.72268	.00222	.00656	.13806
4300	.00874	.00163	.03071	.00039	.00001	.00067	.07384	.00000	.01521	.00001	.72111	.00300	.00790	.13677
4400	.00873	.00220	.03010	.00058	.00001	.00089	.07266	.00000	.01675	.00001	.71930	.00400	.00941	.13535
4500	.00871	.00292	.02933	.00085	.00001	.00116	.07128	.00000	.01836	.00001	.71722	.00527	.01109	.13379
4600	.00869	.00379	.02838	.00122	.00002	.00148	.06967	.00000	.02001	.00001	.71483	.00684	.01295	.13209
4700	.00867	.00483	.02726	.00173	.00002	.00187	.06781	.00000	.02171	.00001	.71210	.00878	.01498	.13023
4800	.00864	.00603	.02596	.00240	.00002	.00233	.06569	.00000	.02343	.00001	.70900	.01114	.01715	.12819
4900	.00861	.00739	.02449	.00328	.00002	.00285	.06329	.00000	.02518	.00001	.70549	.01399	.01946	.12595
5000	.00858	.00887	.02287	.00441	.00002	.00345	.06059	.00000	.02692	.00001	.70156	.01737	.02186	.12349
5100	.00853	.01046	.02113	.00585	.00002	.00411	.05760	.00000	.02865	.00001	.69717	.02136	.02432	.12079
5200	.00849	.01209	.01931	.00765	.00003	.00482	.05432	.00001	.03035	.00001	.69232	.02601	.02678	.11781
5300	.00843	.01374	.01746	.00935	.00003	.00558	.05078	.00001	.03199	.00001	.68700	.03138	.02920	.11455
5400	.00837	.01536	.01562	.01251	.00003	.00635	.04699	.00001	.03356	.00001	.68121	.03750	.03149	.11098

TABLE 28.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016261; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00001	.00000	.73231	.00000	.00000	.00000	.14734
1700	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00002	.00000	.73231	.00000	.00000	.00000	.14733
1800	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00003	.00000	.73230	.00000	.00000	.00000	.14733
1900	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00005	.00000	.73229	.00000	.00000	.00000	.14731
2000	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00008	.00001	.73227	.00000	.00000	.00000	.14730
2100	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00013	.00001	.73225	.00000	.00000	.00000	.14727
2200	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00021	.00001	.73221	.00000	.00000	.00000	.14723
2300	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00030	.00001	.73216	.00000	.00000	.00000	.14718
2400	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00043	.00001	.73210	.00000	.00000	.00001	.14712
2500	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00060	.00001	.73201	.00000	.00000	.00001	.14703
2600	.00878	.00000	.03251	.00000	.00000	.00000	.07904	.00081	.00001	.73190	.00000	.00000	.00002	.14692
2700	.00878	.00000	.03251	.00000	.00000	.00000	.07903	.00107	.00001	.73177	.00000	.00000	.00004	.14679
2800	.00878	.00000	.03250	.00000	.00000	.00000	.07902	.00138	.00002	.73161	.00000	.00000	.00006	.14662
2900	.00878	.00000	.03250	.00000	.00000	.00000	.07901	.00176	.00002	.73142	.00000	.00000	.00009	.14642
3000	.00878	.00000	.03250	.00000	.00000	.00000	.07898	.00220	.00002	.73119	.00000	.00000	.00013	.14619
3100	.00878	.00000	.03250	.00000	.00000	.00000	.07895	.00271	.00002	.73092	.00000	.00001	.00020	.14591
3200	.00878	.00000	.03250	.00000	.00000	.00000	.07890	.00330	.00002	.73060	.00000	.00001	.00028	.14559
3300	.00878	.00001	.03249	.00000	.00000	.00000	.07884	.00397	.00002	.73024	.00000	.00002	.00039	.14522
3400	.00878	.00001	.03249	.00000	.00000	.00001	.07876	.00472	.00002	.72984	.00000	.00003	.00053	.14480
3500	.00878	.00002	.03248	.00000	.00001	.00001	.07866	.00555	.00003	.72937	.00000	.00005	.00072	.14432
3600	.00878	.00004	.03246	.00000	.00001	.00002	.07853	.00647	.00003	.72885	.00000	.00008	.00095	.14379
3700	.00878	.00006	.03244	.00000	.00001	.00003	.07837	.00747	.00003	.72827	.00000	.00012	.00123	.14319
3800	.00878	.00009	.03240	.00001	.00001	.00004	.07817	.00857	.00003	.72762	.00000	.00018	.00157	.14253
3900	.00878	.00013	.03235	.00001	.00001	.00006	.07793	.00975	.00003	.72690	.00000	.00026	.00199	.14180
4000	.00877	.00019	.03229	.00002	.00001	.00009	.07764	.01101	.00003	.72611	.00000	.00037	.00249	.14099
4100	.00877	.00027	.03219	.00003	.00002	.00012	.07728	.01236	.00003	.72522	.00000	.00051	.00307	.14012
4200	.00877	.00038	.03207	.00005	.00002	.00016	.07686	.01379	.00003	.72425	.00000	.00070	.00375	.13916
4300	.00877	.00053	.03191	.00007	.00002	.00022	.07637	.01530	.00004	.72317	.00000	.00095	.00453	.13813
4400	.00876	.00073	.03169	.00011	.00002	.00029	.07579	.01689	.00004	.72198	.00000	.00127	.00542	.13701
4500	.00875	.00098	.03142	.00015	.00003	.00038	.07511	.01854	.00004	.72067	.00000	.00168	.00643	.13581
4600	.00875	.00130	.03107	.00022	.00003	.00050	.07434	.02026	.00004	.71922	.00000	.00218	.00756	.13453
4700	.00874	.00170	.03065	.00032	.00003	.00063	.07344	.02204	.00004	.71763	.00000	.00281	.00881	.13316
4800	.00873	.00218	.03012	.00044	.00004	.00080	.07243	.02387	.00004	.71587	.00000	.00357	.01020	.13170
4900	.00872	.00277	.02950	.00061	.00004	.00100	.07128	.02575	.00004	.71394	.00000	.00450	.01171	.13016
5000	.00870	.00346	.02875	.00084	.00004	.00123	.06999	.02766	.00004	.71181	.00000	.00560	.01334	.12851
5100	.00869	.00426	.02789	.00112	.00005	.00151	.06855	.02961	.00004	.70948	.00000	.00692	.01510	.12678
5200	.00867	.00518	.02691	.00149	.00005	.00182	.06694	.03158	.00004	.70694	.00000	.00847	.01697	.12494
5300	.00865	.00620	.02580	.00195	.00006	.00218	.06517	.03356	.00004	.70416	.00001	.01028	.01894	.12300
5400	.00862	.00732	.02459	.00252	.00006	.00259	.06323	.03554	.00004	.70115	.00001	.01238	.02099	.12094

TABLE 28.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016261; EQUIV. RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00001	.00001	.73231	.00000	.00000	.00000	.14733
1700	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00002	.00001	.73231	.00000	.00000	.00000	.14733
1800	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00003	.00001	.73230	.00000	.00000	.00000	.14732
1900	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00005	.00001	.73229	.00000	.00000	.00000	.14731
2000	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00008	.00001	.73227	.00000	.00000	.00000	.14729
2100	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00013	.00002	.73225	.00000	.00000	.00000	.14726
2200	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00021	.00002	.73221	.00000	.00000	.00000	.14722
2300	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00030	.00002	.73216	.00000	.00000	.00000	.14717
2400	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00043	.00002	.73210	.00000	.00000	.00000	.14710
2500	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00060	.00003	.73201	.00000	.00000	.00001	.14702
2600	.00878	.00000	.03251	.00000	.00000	.00000	.07905	.00081	.00003	.73190	.00000	.00000	.00001	.14691
2700	.00878	.00000	.03251	.00000	.00000	.00000	.07904	.00107	.00003	.73177	.00000	.00000	.00002	.14677
2800	.00878	.00000	.03251	.00000	.00000	.00000	.07903	.00138	.00004	.73161	.00000	.00000	.00004	.14661
2900	.00878	.00000	.03251	.00000	.00000	.00000	.07902	.00176	.00004	.73142	.00000	.00000	.00006	.14641
3000	.00878	.00000	.03250	.00000	.00000	.00000	.07901	.00220	.00004	.73119	.00000	.00000	.00009	.14618
3100	.00878	.00000	.03250	.00000	.00000	.00000	.07898	.00271	.00005	.73093	.00000	.00000	.00013	.14590
3200	.00878	.00000	.03250	.00000	.00000	.00000	.07895	.00330	.00005	.73062	.00000	.00001	.00019	.14559
3300	.00878	.00000	.03250	.00000	.00000	.00000	.07891	.00397	.00005	.73027	.00000	.00001	.00026	.14523
3400	.00878	.00001	.03250	.00000	.00001	.00000	.07886	.00472	.00005	.72988	.00000	.00001	.00036	.14482
3500	.00878	.00001	.03249	.00000	.00001	.00001	.07880	.00555	.00006	.72943	.00000	.00002	.00048	.14436
3600	.00878	.00002	.03248	.00000	.00001	.00001	.07871	.00647	.00006	.72893	.00000	.00004	.00063	.14385
3700	.00878	.00002	.03247	.00000	.00001	.00001	.07861	.00748	.00006	.72838	.00000	.00005	.00082	.14329
3800	.00878	.00004	.03246	.00000	.00001	.00002	.07848	.00857	.00007	.72778	.00000	.00008	.00106	.14266
3900	.00878	.00006	.03244	.00000	.00002	.00003	.07832	.00975	.00007	.72711	.00000	.00012	.00134	.14198
4000	.00878	.00008	.03240	.00001	.00002	.00004	.07813	.01102	.00007	.72638	.00000	.00016	.00167	.14123
4100	.00878	.00012	.03236	.00001	.00002	.00005	.07790	.01238	.00008	.72559	.00000	.00023	.00206	.14042
4200	.00878	.00017	.03230	.00001	.00003	.00007	.07763	.01382	.00008	.72472	.00000	.00032	.00252	.13954
4300	.00877	.00024	.03223	.00002	.00003	.00010	.07732	.01534	.00008	.72379	.00001	.00043	.00305	.13860
4400	.00877	.00033	.03213	.00003	.00004	.00013	.07695	.01693	.00008	.72278	.00001	.00057	.00366	.13760
4500	.00877	.00045	.03200	.00005	.00004	.00017	.07653	.01860	.00009	.72168	.00001	.00075	.00434	.13652
4600	.00876	.00059	.03184	.00007	.00005	.00023	.07604	.02034	.00009	.72050	.00001	.00098	.00512	.13538
4700	.00876	.00078	.03164	.00010	.00005	.00029	.07549	.02215	.00009	.71923	.00001	.00126	.00599	.13418
4800	.00875	.00101	.03139	.00013	.00006	.00037	.07486	.02401	.00009	.71786	.00001	.00160	.00695	.13290
4900	.00875	.00130	.03108	.00019	.00006	.00046	.07415	.02593	.00009	.71639	.00001	.00202	.00801	.13156
5000	.00874	.00164	.03071	.00025	.00007	.00058	.07336	.02790	.00010	.71481	.00001	.00252	.00916	.13016
5100	.00873	.00205	.03027	.00034	.00008	.00071	.07247	.02991	.00010	.71311	.00001	.00312	.01042	.12869
5200	.00872	.00254	.02975	.00046	.00008	.00086	.07149	.03195	.00010	.71128	.00001	.00382	.01178	.12715
5300	.00871	.00310	.02914	.00060	.00009	.00104	.07041	.03403	.00010	.70932	.00001	.00465	.01323	.12556
5400	.00870	.00374	.02845	.00079	.00010	.00125	.06922	.03613	.00010	.70723	.00001	.00560	.01478	.12390

TABLE 28C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.016261; EQUIV.RATIO = 0.250; CHEM. EQUIV. RATIO = 0.3284;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00878	.03251	.07891	.00000	.00015	.73231	.14734
400	.00878	.03251	.07587	.00000	.00319	.73231	.14734
440	.00878	.03251	.03796	.00000	.04110	.73231	.14734
		PRESSURE = 0.10 ATM					
360	.00878	.03251	.07904	.00000	.00001	.73231	.14734
400	.00878	.03251	.07874	.00000	.00032	.73231	.14734
440	.00878	.03251	.07510	.00000	.00395	.73231	.14734
480	.00878	.03251	.04588	.00000	.03317	.73231	.14734
520	.00878	.03251	.00000	.00000	.07905	.73231	.14734
		PRESSURE = 1.00 ATM					
360	.00878	.03251	.07905	.00000	.00000	.73231	.14734
400	.00878	.03251	.07902	.00000	.00003	.73231	.14734
440	.00878	.03251	.07866	.00000	.00039	.73231	.14734
480	.00878	.03251	.07584	.00000	.00321	.73231	.14734
520	.00878	.03251	.00000	.06258	.01647	.73231	.14734
537	.00878	.03251	.00000	.04947	.02958	.73231	.14734
560	.00878	.03251	.00000	.01512	.06393	.73231	.14734
600	.00878	.03251	.00000	.00000	.07905	.73231	.14734
		PRESSURE = 10.00 ATM					
360	.00878	.03251	.07905	.00000	.00000	.73231	.14734
400	.00878	.03251	.07905	.00000	.00000	.73231	.14734
440	.00878	.03251	.07901	.00000	.00004	.73231	.14734
480	.00878	.03251	.07873	.00000	.00032	.73231	.14734
520	.00878	.03251	.00000	.07743	.00162	.73231	.14734
537	.00878	.03251	.00000	.07618	.00287	.73231	.14734
560	.00878	.03251	.00000	.07304	.00602	.73231	.14734
600	.00878	.03251	.00000	.06057	.01848	.73231	.14734
640	.00878	.03251	.00000	.02973	.04932	.73231	.14734
680	.00878	.03251	.00000	.00000	.07905	.73231	.14734
		PRESSURE = 50.00 ATM					
360	.00878	.03251	.07905	.00000	.00000	.73231	.14734
400	.00878	.03251	.07905	.00000	.00000	.73231	.14734
440	.00878	.03251	.07905	.00000	.00001	.73231	.14734
480	.00878	.03251	.07899	.00000	.00006	.73231	.14734
520	.00878	.03251	.00000	.07873	.00032	.73231	.14734
537	.00878	.03251	.00000	.07848	.00057	.73231	.14734
560	.00878	.03251	.00000	.07786	.00120	.73231	.14734
600	.00878	.03251	.00000	.07542	.00364	.73231	.14734
640	.00878	.03251	.00000	.06959	.00946	.73231	.14734
680	.00878	.03251	.00000	.05731	.02174	.73231	.14734
720	.00878	.03251	.00000	.03364	.04541	.73231	.14734
760	.00878	.03251	.00000	.00000	.07905	.73231	.14734

TABLE 29.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.032523; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00864	.00000	.06364	.00000	.00000	.11099	.00000	.00001	.72013	.00000	.00000	.09659
1700	.00864	.00000	.06364	.00000	.00000	.11099	.00000	.00001	.72013	.00000	.00000	.09659
1800	.00864	.00000	.06364	.00000	.00000	.11099	.00000	.00002	.72013	.00000	.00000	.09658
1900	.00864	.00000	.06364	.00000	.00000	.11099	.00000	.00004	.72012	.00000	.00000	.09658
2000	.00864	.00000	.06364	.00000	.00000	.11099	.00000	.00007	.72010	.00000	.00000	.09656
2100	.00864	.00000	.06364	.00000	.00000	.11099	.00000	.00011	.72008	.00000	.00001	.09654
2200	.00864	.00000	.06364	.00000	.00000	.11099	.00000	.00016	.72005	.00000	.00001	.09651
2300	.00864	.00000	.06364	.00000	.00000	.11098	.00000	.00024	.72001	.00000	.00002	.09647
2400	.00864	.00000	.06363	.00000	.00000	.11097	.00000	.00035	.71996	.00000	.00004	.09641
2500	.00864	.00000	.06363	.00000	.00000	.11095	.00000	.00048	.71988	.00000	.00008	.09633
2600	.00864	.00000	.06363	.00000	.00000	.11092	.00000	.00065	.71979	.00001	.00013	.09624
2700	.00864	.00001	.06362	.00000	.00001	.11087	.00000	.00086	.71966	.00001	.00022	.09611
2800	.00864	.00002	.06361	.00000	.00001	.11079	.00000	.00111	.71950	.00003	.00035	.09595
2900	.00864	.00005	.06358	.00000	.00003	.11067	.00000	.00141	.71929	.00005	.00054	.09575
3000	.00863	.00009	.06352	.00001	.00005	.11050	.00000	.00176	.71902	.00010	.00081	.09551
3100	.00863	.00018	.06342	.00002	.00009	.11025	.00000	.00217	.71867	.00017	.00118	.09522
3200	.00863	.00033	.06325	.00004	.00015	.10989	.00000	.00264	.71821	.00030	.00167	.09488
3300	.00863	.00058	.06297	.00008	.00026	.10939	.00000	.00317	.71761	.00051	.00232	.09449
3400	.00862	.00099	.06251	.00015	.00042	.10869	.00000	.00377	.71680	.00083	.00317	.09405
3500	.00861	.00164	.06180	.00028	.00066	.10774	.00000	.00443	.71571	.00131	.00423	.09359
3600	.00860	.00260	.06074	.00051	.00100	.10645	.00000	.00515	.71426	.00203	.00556	.09310
3700	.00858	.00399	.05922	.00090	.00148	.10473	.00000	.00594	.71231	.00306	.00717	.09261
3800	.00855	.00591	.05710	.00154	.00215	.10245	.00000	.00680	.70974	.00453	.00909	.09213
3900	.00852	.00845	.05431	.00254	.00302	.09951	.00000	.00773	.70637	.00656	.01134	.09166
4000	.00847	.01164	.05078	.00408	.00413	.09575	.00000	.00871	.70204	.00933	.01392	.09115
4100	.00841	.01543	.04656	.00635	.00550	.09105	.00000	.00974	.69659	.01304	.01679	.09055
4200	.00834	.01967	.04177	.00961	.00710	.08531	.00000	.01081	.68987	.01790	.01989	.08972
4300	.00825	.02417	.03661	.01415	.00890	.07848	.00000	.01189	.68179	.02416	.02309	.08852
4400	.00814	.02865	.03133	.02023	.01079	.07059	.00000	.01297	.67226	.03206	.02623	.08675
4500	.00802	.03285	.02620	.02809	.01263	.06178	.00000	.01399	.66130	.04180	.02909	.08424
4600	.00787	.03658	.02143	.03786	.01422	.05233	.00000	.01492	.64901	.05353	.03140	.08084
4700	.00772	.03968	.01718	.04945	.01535	.04266	.00001	.01572	.63560	.06730	.03288	.07646
4800	.00755	.04213	.01351	.06255	.01583	.03328	.00001	.01634	.62143	.08298	.03331	.07108
4900	.00738	.04393	.01045	.07655	.01555	.02473	.00001	.01675	.60701	.10029	.03257	.06476
5000	.00721	.04518	.00796	.09066	.01455	.01747	.00002	.01692	.59291	.11873	.03069	.05770
5100	.00705	.04598	.00599	.10404	.01298	.01172	.00003	.01684	.57969	.13765	.02785	.05017
5200	.00691	.04645	.00446	.11599	.01109	.00751	.00005	.01651	.56781	.15629	.02440	.04254
5300	.00678	.04669	.00329	.12611	.00914	.00461	.00007	.01597	.55753	.17390	.02072	.03519
5400	.00668	.04678	.00241	.13432	.00732	.00274	.00010	.01525	.54895	.18987	.01713	.02845

TABLE 29.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.032523; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00001	.72013	.00000	.00000	.09659
1700	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00001	.72013	.00000	.00000	.09659
1800	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00002	.72013	.00000	.00000	.09658
1900	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00004	.72012	.00000	.00000	.09658
2000	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00007	.72010	.00000	.00000	.09656
2100	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00011	.72008	.00000	.00000	.09654
2200	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00016	.72005	.00000	.00001	.09651
2300	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00024	.72001	.00000	.00001	.09647
2400	.00864	.00000	.06364	.00000	.00000	.00000	.11098	.00000	.00035	.71996	.00000	.00002	.09642
2500	.00864	.00000	.06363	.00000	.00000	.00000	.11097	.00000	.00048	.71989	.00000	.00004	.09634
2600	.00864	.00000	.06363	.00000	.00000	.00000	.11095	.00000	.00065	.71980	.00000	.00007	.09625
2700	.00864	.00000	.06363	.00000	.00000	.00000	.11093	.00000	.00086	.71968	.00000	.00012	.09613
2800	.00864	.00001	.06362	.00000	.00000	.00000	.11088	.00000	.00111	.71954	.00001	.00020	.09599
2900	.00864	.00001	.06361	.00000	.00000	.00001	.11082	.00000	.00141	.71936	.00002	.00030	.09581
3000	.00864	.00003	.06360	.00000	.00000	.00002	.11073	.00000	.00176	.71915	.00003	.00045	.09559
3100	.00863	.00006	.06356	.00000	.00000	.00003	.11061	.00000	.00217	.71888	.00005	.00066	.09533
3200	.00863	.00010	.06351	.00001	.00000	.00005	.11043	.00000	.00264	.71855	.00010	.00094	.09503
3300	.00863	.00019	.06341	.00001	.00000	.00008	.11019	.00000	.00318	.71815	.00016	.00131	.09468
3400	.00863	.00032	.06327	.00003	.00000	.00013	.10986	.00000	.00377	.71766	.00026	.00179	.09428
3500	.00863	.00053	.06303	.00005	.00000	.00021	.10942	.00000	.00444	.71705	.00042	.00240	.09383
3600	.00862	.00085	.06268	.00009	.00000	.00032	.10885	.00000	.00517	.71628	.00064	.00316	.09334
3700	.00862	.00132	.06215	.00016	.00000	.00048	.10810	.00000	.00596	.71533	.00097	.00410	.09280
3800	.00861	.00201	.06140	.00028	.00000	.00071	.10713	.00000	.00683	.71414	.00143	.00523	.09224
3900	.00859	.00297	.06035	.00047	.00000	.00102	.10590	.00000	.00776	.71264	.00208	.00658	.09165
4000	.00858	.00427	.05892	.00076	.00000	.00142	.10434	.00000	.00876	.71077	.00295	.00817	.09106
4100	.00856	.00598	.05706	.00120	.00000	.00196	.10239	.00000	.00982	.70844	.00412	.01001	.09047
4200	.00853	.00814	.05469	.00185	.00000	.00263	.09998	.00000	.01094	.70557	.00567	.01211	.08989
4300	.00849	.01077	.05181	.00279	.00001	.00347	.09704	.00000	.01212	.70208	.00767	.01447	.08928
4400	.00845	.01385	.04841	.00412	.00001	.00447	.09352	.00000	.01335	.69788	.01025	.01707	.08862
4500	.00840	.01730	.04457	.00594	.00001	.00566	.08935	.00000	.01462	.69291	.01350	.01988	.08785
4600	.00834	.02103	.04040	.00840	.00001	.00700	.08450	.00000	.01591	.68712	.01755	.02284	.08690
4700	.00826	.02487	.03602	.01163	.00001	.00849	.07896	.00000	.01721	.68047	.02253	.02588	.08567
4800	.00818	.02867	.03161	.01577	.00001	.01006	.07275	.00000	.01849	.67295	.02854	.02889	.08407
4900	.00809	.03228	.02732	.02095	.00001	.01165	.06595	.00000	.01972	.66458	.03569	.03173	.08202
5000	.00799	.03558	.02326	.02728	.00001	.01317	.05868	.00001	.02087	.65538	.04406	.03426	.07946
5100	.00787	.03846	.01954	.03478	.00001	.01450	.05111	.00001	.02191	.64544	.05369	.03632	.07633
5200	.00775	.04090	.01621	.04343	.00001	.01554	.04347	.00002	.02282	.63489	.06458	.03775	.07263
5300	.00762	.04287	.01330	.05308	.00001	.01619	.03602	.00002	.02355	.62389	.07664	.03844	.06835
5400	.00749	.04440	.01081	.06352	.00001	.01638	.02901	.00003	.02409	.61267	.08975	.03828	.06357

TABLE 29.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.032523; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00001	.00000	.72013	.00000	.00000	.09659
1700	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00001	.00000	.72013	.00000	.00000	.09659
1800	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00002	.00000	.72013	.00000	.00000	.09658
1900	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00004	.00000	.72012	.00000	.00000	.09657
2000	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00007	.00000	.72010	.00000	.00000	.09656
2100	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00011	.00000	.72008	.00000	.00000	.09654
2200	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00016	.00000	.72005	.00000	.00000	.09651
2300	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00024	.00000	.72002	.00000	.00001	.09647
2400	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00000	.00035	.00000	.71996	.00000	.00001	.09642
2500	.00864	.00000	.06364	.00000	.00000	.00000	.11098	.00000	.00048	.00000	.71989	.00000	.00002	.09635
2600	.00864	.00000	.06363	.00000	.00000	.00000	.11097	.00000	.00065	.00000	.71981	.00000	.00004	.09626
2700	.00864	.00000	.06363	.00000	.00000	.00000	.11096	.00000	.00086	.00000	.71970	.00000	.00007	.09615
2800	.00864	.00000	.06363	.00000	.00000	.00000	.11093	.00000	.00111	.00000	.71956	.00000	.00011	.09601
2900	.00864	.00000	.06363	.00000	.00000	.00000	.11090	.00000	.00141	.00000	.71940	.00001	.00017	.09584
3000	.00864	.00001	.06362	.00000	.00000	.00001	.11085	.00000	.00176	.00000	.71920	.00001	.00026	.09564
3100	.00864	.00002	.06361	.00000	.00000	.00001	.11078	.00000	.00218	.00000	.71897	.00002	.00037	.09540
3200	.00864	.00003	.06359	.00000	.00000	.00002	.11069	.00000	.00265	.00000	.71869	.00003	.00053	.09513
3300	.00863	.00006	.06356	.00000	.00000	.00003	.11057	.00000	.00318	.00000	.71837	.00005	.00074	.09481
3400	.00863	.00010	.06351	.00000	.00000	.00004	.11040	.00000	.00378	.00001	.71798	.00008	.00101	.09444
3500	.00863	.00017	.06343	.00001	.00000	.00007	.11018	.00000	.00444	.00001	.71754	.00013	.00136	.09403
3600	.00863	.00027	.06332	.00002	.00000	.00010	.10990	.00000	.00518	.00001	.71701	.00020	.00179	.09357
3700	.00863	.00042	.06314	.00003	.00000	.00015	.10955	.00000	.00598	.00001	.71640	.00031	.00232	.09306
3800	.00862	.00065	.06289	.00005	.00000	.00023	.10909	.00000	.00685	.00001	.71567	.00045	.00297	.09251
3900	.00862	.00097	.06254	.00008	.00001	.00033	.10853	.00000	.00778	.00001	.71482	.00066	.00375	.09191
4000	.00861	.00142	.06204	.00014	.00001	.00046	.10782	.00000	.00879	.00001	.71382	.00093	.00467	.09128
4100	.00861	.00203	.06137	.00022	.00001	.00065	.10696	.00000	.00986	.00001	.71262	.00130	.00576	.09061
4200	.00860	.00285	.06049	.00034	.00001	.00088	.10591	.00000	.01099	.00001	.71121	.00179	.00701	.08993
4300	.00858	.00390	.05934	.00052	.00001	.00118	.10463	.00000	.01218	.00001	.70954	.00243	.00845	.08923
4400	.00857	.00524	.05788	.00077	.00001	.00156	.10310	.00000	.01344	.00001	.70758	.00324	.01008	.08853
4500	.00855	.00689	.05609	.00113	.00001	.00203	.10129	.00000	.01475	.00001	.70527	.00427	.01190	.08783
4600	.00852	.00887	.05393	.00162	.00001	.00260	.09915	.00000	.01611	.00001	.70257	.00556	.01392	.08712
4700	.00849	.01117	.05141	.00228	.00002	.00327	.09667	.00000	.01752	.00001	.69946	.00715	.01614	.08640
4800	.00846	.01379	.04854	.00317	.00002	.00406	.09380	.00000	.01898	.00001	.69589	.00911	.01853	.08564
4900	.00842	.01667	.04537	.00433	.00002	.00497	.09052	.00000	.02046	.00001	.69185	.01148	.02108	.08482
5000	.00838	.01975	.04196	.00582	.00002	.00600	.08683	.00000	.02196	.00001	.68731	.01432	.02376	.08389
5100	.00832	.02294	.03839	.00771	.00002	.00712	.08272	.00000	.02347	.00001	.68227	.01769	.02652	.08282
5200	.00827	.02616	.03475	.01006	.00002	.00834	.07819	.00001	.02496	.00001	.67673	.02164	.02931	.08156
5300	.00820	.02931	.03113	.01294	.00002	.00962	.07327	.00001	.02643	.00001	.67069	.02623	.03207	.08007
5400	.00813	.03231	.02761	.01641	.00003	.01094	.06800	.00001	.02784	.00001	.66418	.03150	.03472	.07831

TABLE 29.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.032523; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00001	.00000	.72013	.00000	.00000	.09659
1700	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00001	.00000	.72013	.00000	.00000	.09659
1800	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00002	.00000	.72013	.00000	.00000	.09658
1900	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00004	.00000	.72012	.00000	.00000	.09657
2000	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00007	.00000	.72010	.00000	.00000	.09656
2100	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00011	.00000	.72008	.00000	.00000	.09654
2200	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00016	.00001	.72005	.00000	.00000	.09651
2300	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00024	.00001	.72002	.00000	.00000	.09647
2400	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00035	.00001	.71996	.00000	.00001	.09641
2500	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00048	.00001	.71989	.00000	.00001	.09634
2600	.00864	.00000	.06364	.00000	.00000	.00000	.11098	.00065	.00001	.71981	.00000	.00002	.09626
2700	.00864	.00000	.06363	.00000	.00000	.00000	.11097	.00086	.00001	.71970	.00000	.00004	.09615
2800	.00864	.00000	.06363	.00000	.00000	.00000	.11096	.00111	.00001	.71957	.00000	.00006	.09601
2900	.00864	.00000	.06363	.00000	.00000	.00000	.11094	.00141	.00001	.71941	.00000	.00010	.09585
3000	.00864	.00000	.06363	.00000	.00000	.00000	.11092	.00176	.00001	.71923	.00000	.00014	.09566
3100	.00864	.00001	.06363	.00000	.00000	.00000	.11088	.00218	.00001	.71901	.00001	.00021	.09544
3200	.00864	.00001	.06362	.00000	.00000	.00000	.11083	.00265	.00001	.71875	.00001	.00030	.09518
3300	.00864	.00002	.06361	.00000	.00000	.00001	.11076	.00318	.00001	.71846	.00002	.00042	.09488
3400	.00864	.00003	.06359	.00000	.00000	.00001	.11067	.00378	.00002	.71812	.00003	.00057	.09454
3500	.00863	.00005	.06357	.00000	.00000	.00002	.11056	.00445	.00002	.71773	.00004	.00076	.09415
3600	.00863	.00009	.06353	.00000	.00001	.00003	.11042	.00518	.00002	.71730	.00006	.00101	.09373
3700	.00863	.00013	.06347	.00001	.00001	.00005	.11023	.00598	.00002	.71680	.00010	.00131	.09325
3800	.00863	.00021	.06339	.00001	.00001	.00007	.11000	.00686	.00002	.71625	.00014	.00168	.09273
3900	.00863	.00031	.06327	.00001	.00001	.00010	.10972	.00780	.00002	.71562	.00021	.00212	.09217
4000	.00863	.00046	.06311	.00002	.00001	.00015	.10938	.00881	.00002	.71492	.00030	.00265	.09155
4100	.00862	.00066	.06288	.00004	.00001	.00021	.10896	.00988	.00002	.71413	.00041	.00327	.09090
4200	.00862	.00093	.06258	.00006	.00002	.00028	.10846	.01102	.00002	.71323	.00057	.00399	.09021
4300	.00862	.00129	.06219	.00009	.00002	.00038	.10786	.01222	.00002	.71223	.00077	.00483	.08948
4400	.00861	.00176	.06167	.00014	.00002	.00051	.10716	.01349	.00002	.71109	.00103	.00578	.08872
4500	.00860	.00237	.06101	.00021	.00002	.00067	.10633	.01481	.00002	.70981	.00135	.00686	.08794
4600	.00859	.00313	.06018	.00030	.00003	.00087	.10536	.01618	.00003	.70836	.00176	.00807	.08714
4700	.00858	.00407	.05916	.00042	.00003	.00112	.10423	.01761	.00003	.70673	.00226	.00942	.08634
4800	.00857	.00521	.05793	.00059	.00003	.00141	.10294	.01909	.00003	.70489	.00288	.01091	.08553
4900	.00855	.00656	.05645	.00082	.00004	.00176	.10145	.02061	.00003	.70283	.00363	.01255	.08472
5000	.00853	.00815	.05474	.00111	.00004	.00218	.09977	.02217	.00003	.70053	.00453	.01432	.08391
5100	.00851	.00996	.05277	.00149	.00004	.00266	.09787	.02378	.00003	.69796	.00560	.01623	.08309
5200	.00849	.01199	.05056	.00198	.00005	.00322	.09573	.02541	.00003	.69513	.00687	.01828	.08227
5300	.00846	.01421	.04814	.00259	.00005	.00385	.09336	.02707	.00003	.69201	.00837	.02044	.08142
5400	.00843	.01661	.04551	.00335	.00005	.00455	.09074	.02875	.00003	.68861	.01010	.02272	.08054

TABLE 29.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.032523; EQUIV. RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00001	.00000	.72013	.00000	.00000	.00000	.09659
1700	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00001	.00000	.72013	.00000	.00000	.00000	.09659
1800	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00002	.00001	.72013	.00000	.00000	.00000	.09658
1900	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00004	.00001	.72012	.00000	.00000	.00000	.09657
2000	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00007	.00001	.72010	.00000	.00000	.00000	.09655
2100	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00011	.00001	.72008	.00000	.00000	.00000	.09653
2200	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00016	.00001	.72005	.00000	.00000	.00000	.09650
2300	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00024	.00001	.72001	.00000	.00000	.00000	.09646
2400	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00035	.00002	.71996	.00000	.00000	.00001	.09641
2500	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00048	.00002	.71989	.00000	.00000	.00001	.09634
2600	.00864	.00000	.06364	.00000	.00000	.00000	.11099	.00065	.00002	.71981	.00000	.00000	.00002	.09625
2700	.00864	.00000	.06364	.00000	.00000	.00000	.11098	.00086	.00002	.71970	.00000	.00000	.00003	.09614
2800	.00864	.00000	.06364	.00000	.00000	.00000	.11097	.00111	.00002	.71957	.00000	.00000	.00004	.09601
2900	.00864	.00000	.06363	.00000	.00000	.00000	.11096	.00141	.00003	.71942	.00000	.00000	.00006	.09585
3000	.00864	.00000	.06363	.00000	.00000	.00000	.11094	.00176	.00003	.71923	.00000	.00000	.00010	.09566
3100	.00864	.00000	.06363	.00000	.00000	.00000	.11092	.00218	.00003	.71902	.00000	.00000	.00014	.09544
3200	.00864	.00000	.06363	.00000	.00000	.00000	.11089	.00265	.00003	.71877	.00000	.00000	.00020	.09519
3300	.00864	.00001	.06362	.00000	.00000	.00000	.11084	.00318	.00003	.71849	.00000	.00001	.00028	.09490
3400	.00864	.00001	.06362	.00000	.00001	.00001	.11078	.00378	.00004	.71816	.00000	.00001	.00038	.09457
3500	.00864	.00002	.06360	.00000	.00001	.00001	.11071	.00445	.00004	.71780	.00000	.00002	.00051	.09420
3600	.00864	.00004	.06359	.00000	.00001	.00001	.11062	.00518	.00004	.71739	.00000	.00003	.00067	.09378
3700	.00863	.00006	.06356	.00000	.00001	.00002	.11050	.00599	.00004	.71694	.00000	.00004	.00088	.09333
3800	.00863	.00009	.06352	.00000	.00001	.00003	.11035	.00686	.00004	.71643	.00000	.00006	.00112	.09283
3900	.00863	.00014	.06347	.00000	.00001	.00005	.11017	.00780	.00005	.71587	.00000	.00009	.00142	.09228
4000	.00863	.00020	.06339	.00001	.00002	.00007	.10996	.00881	.00005	.71526	.00000	.00013	.00178	.09169
4100	.00863	.00030	.06329	.00001	.00002	.00009	.10970	.00989	.00005	.71458	.00000	.00018	.00219	.09106
4200	.00863	.00042	.06315	.00002	.00002	.00013	.10939	.01104	.00005	.71383	.00000	.00025	.00268	.09039
4300	.00863	.00058	.06297	.00003	.00003	.00017	.10902	.01224	.00005	.71302	.00000	.00034	.00325	.08967
4400	.00862	.00080	.06273	.00004	.00003	.00023	.10859	.01351	.00005	.71212	.00000	.00046	.00389	.08892
4500	.00862	.00108	.06242	.00006	.00003	.00031	.10809	.01484	.00006	.71113	.00000	.00060	.00463	.08814
4600	.00861	.00144	.06202	.00009	.00004	.00040	.10750	.01622	.00006	.71005	.00001	.00079	.00546	.08732
4700	.00861	.00189	.06153	.00013	.00004	.00051	.10683	.01765	.00006	.70886	.00001	.00101	.00638	.08648
4800	.00860	.00245	.06092	.00018	.00005	.00065	.10607	.01913	.00006	.70756	.00001	.00129	.00741	.08563
4900	.00859	.00313	.06018	.00025	.00005	.00082	.10519	.02066	.00006	.70613	.00001	.00162	.00854	.08476
5000	.00858	.00395	.05930	.00034	.00006	.00102	.10420	.02223	.00006	.70456	.00001	.00202	.00979	.08388
5100	.00857	.00492	.05825	.00046	.00007	.00125	.10309	.02385	.00006	.70284	.00001	.00250	.01114	.08301
5200	.00856	.00605	.05702	.00061	.00007	.00153	.10184	.02549	.00006	.70096	.00001	.00307	.01260	.08213
5300	.00855	.00735	.05561	.00080	.00008	.00185	.10044	.02717	.00006	.69890	.00001	.00374	.01417	.08125
5400	.00853	.00882	.05402	.00105	.00008	.00222	.09890	.02888	.00006	.69667	.00001	.00451	.01585	.08038

TABLE 29C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.032523; EQUIV.RATIO = 0.500; CHEM. EQUIV. RATIO = 0.5522;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00864	.06364	.11085	.00000	.00014	.72014	.09660
400	.00864	.06364	.10792	.00000	.00308	.72014	.09660
440	.00864	.06364	.07132	.00000	.03967	.72014	.09660
		PRESSURE = 0.10 ATM					
360	.00864	.06364	.11098	.00000	.00001	.72014	.09660
400	.00864	.06364	.11069	.00000	.00031	.72014	.09660
440	.00864	.06364	.10718	.00000	.00381	.72014	.09660
480	.00864	.06364	.07897	.00000	.03202	.72014	.09660
520	.00864	.06364	.00000	.00000	.11099	.72014	.09660
		PRESSURE = 1.00 ATM					
360	.00864	.06364	.11099	.00000	.00000	.72014	.09660
400	.00864	.06364	.11096	.00000	.00003	.72014	.09660
440	.00864	.06364	.11061	.00000	.00038	.72014	.09660
480	.00864	.06364	.10789	.00000	.00310	.72014	.09660
520	.00864	.06364	.00000	.09509	.01590	.72014	.09660
537	.00864	.06364	.00000	.08244	.02855	.72014	.09660
560	.00864	.06364	.00000	.04928	.06171	.72014	.09660
600	.00864	.06364	.00000	.00000	.11099	.72014	.09660
		PRESSURE = 10.00 ATM					
360	.00864	.06364	.11099	.00000	.00000	.72014	.09660
400	.00864	.06364	.11099	.00000	.00000	.72014	.09660
440	.00864	.06364	.11096	.00000	.00004	.72014	.09660
480	.00864	.06364	.11068	.00000	.00031	.72014	.09660
520	.00864	.06364	.00000	.10943	.00156	.72014	.09660
537	.00864	.06364	.00000	.10822	.00278	.72014	.09660
560	.00864	.06364	.00000	.10518	.00581	.72014	.09660
600	.00864	.06364	.00000	.09315	.01784	.72014	.09660
640	.00864	.06364	.00000	.06338	.04761	.72014	.09660
680	.00864	.06364	.00000	.00000	.11099	.72014	.09660
		PRESSURE = 50.00 ATM					
360	.00864	.06364	.11099	.00000	.00000	.72014	.09660
400	.00864	.06364	.11099	.00000	.00000	.72014	.09660
440	.00864	.06364	.11099	.00000	.00001	.72014	.09660
480	.00864	.06364	.11093	.00000	.00006	.72014	.09660
520	.00864	.06364	.00000	.11068	.00031	.72014	.09660
537	.00864	.06364	.00000	.11044	.00055	.72014	.09660
560	.00864	.06364	.00000	.10984	.00116	.72014	.09660
600	.00864	.06364	.00000	.10748	.00351	.72014	.09660
640	.00864	.06364	.00000	.10186	.00913	.72014	.09660
680	.00864	.06364	.00000	.09000	.02099	.72014	.09660
720	.00864	.06364	.00000	.06716	.04384	.72014	.09660
760	.00864	.06364	.00000	.02573	.08526	.72014	.09660

TABLE 30.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.048785; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00850	.00000	.09375	.00000	.00000	.14189	.00000	.00000	.70836	.00000	.00000	.04751
1700	.00850	.00000	.09375	.00000	.00000	.14189	.00000	.00001	.70836	.00000	.00000	.04750
1800	.00850	.00000	.09375	.00000	.00000	.14189	.00000	.00002	.70835	.00000	.00000	.04750
1900	.00850	.00000	.09375	.00000	.00000	.14189	.00000	.00003	.70835	.00000	.00000	.04749
2000	.00850	.00000	.09375	.00000	.00000	.14189	.00000	.00005	.70834	.00000	.00000	.04748
2100	.00850	.00000	.09375	.00000	.00000	.14189	.00000	.00008	.70832	.00000	.00001	.04747
2200	.00850	.00000	.09375	.00000	.00000	.14188	.00000	.00011	.70830	.00000	.00001	.04745
2300	.00850	.00000	.09375	.00000	.00000	.14188	.00000	.00017	.70827	.00000	.00002	.04742
2400	.00850	.00000	.09375	.00000	.00000	.14187	.00000	.00024	.70823	.00000	.00004	.04738
2500	.00850	.00000	.09374	.00000	.00000	.14185	.00000	.00033	.70818	.00000	.00007	.04732
2600	.00850	.00001	.09374	.00000	.00001	.14181	.00000	.00045	.70811	.00000	.00013	.04725
2700	.00850	.00002	.09372	.00000	.00001	.14176	.00000	.00060	.70801	.00001	.00021	.04717
2800	.00849	.00005	.09369	.00000	.00003	.14168	.00000	.00077	.70788	.00002	.00033	.04706
2900	.00849	.00010	.09363	.00000	.00005	.14155	.00000	.00098	.70771	.00004	.00051	.04694
3000	.00849	.00020	.09352	.00001	.00009	.14136	.00000	.00122	.70748	.00007	.00076	.04680
3100	.00849	.00038	.09331	.00002	.00016	.14107	.00000	.00151	.70716	.00012	.00111	.04666
3200	.00849	.00069	.09296	.00005	.00028	.14064	.00000	.00184	.70672	.00021	.00158	.04654
3300	.00848	.00122	.09237	.00010	.00047	.14003	.00000	.00221	.70609	.00036	.00220	.04647
3400	.00847	.00207	.09143	.00020	.00076	.13916	.00000	.00263	.70520	.00058	.00301	.04649
3500	.00846	.00337	.09000	.00038	.00119	.13793	.00000	.00310	.70395	.00093	.00402	.04667
3600	.00844	.00529	.08789	.00069	.00180	.13623	.00000	.00363	.70222	.00144	.00530	.04707
3700	.00842	.00797	.08493	.00120	.00264	.13393	.00000	.00423	.69985	.00220	.00687	.04775
3800	.00839	.01153	.08100	.00204	.00377	.13087	.00000	.00490	.69669	.00330	.00876	.04876
3900	.00834	.01601	.07602	.00334	.00521	.12691	.00000	.00565	.69258	.00485	.01101	.05008
4000	.00828	.02134	.07006	.00530	.00699	.12188	.00000	.00648	.68737	.00702	.01363	.05164
4100	.00821	.02732	.06329	.00817	.00910	.11566	.00000	.00739	.68095	.01000	.01658	.05333
4200	.00812	.03369	.05596	.01224	.01151	.10815	.00000	.00836	.67321	.01401	.01981	.05495
4300	.00802	.04009	.04842	.01782	.01413	.09932	.00000	.00936	.66408	.01927	.02320	.05630
4400	.00790	.04618	.04100	.02524	.01681	.08923	.00000	.01038	.65353	.02602	.02657	.05714
4500	.00776	.05168	.03399	.03477	.01936	.07806	.00000	.01136	.64158	.03447	.02969	.05728
4600	.00761	.05636	.02761	.04655	.02151	.06617	.00000	.01227	.62834	.04477	.03228	.05653
4700	.00744	.06011	.02202	.06051	.02298	.05405	.00001	.01307	.61404	.05695	.03405	.05477
4800	.00727	.06294	.01725	.07629	.02354	.04232	.00001	.01371	.59906	.07093	.03473	.05194
4900	.00709	.06491	.01330	.09323	.02306	.03161	.00001	.01415	.58392	.08642	.03418	.04810
5000	.00691	.06618	.01011	.11042	.02158	.02247	.00002	.01437	.56921	.10295	.03240	.04338
5100	.00675	.06689	.00759	.12688	.01930	.01519	.00003	.01435	.55553	.11987	.02958	.03804
5200	.00660	.06721	.00563	.14175	.01656	.00979	.00005	.01411	.54334	.13648	.02604	.03244
5300	.00647	.06729	.00414	.15450	.01372	.00605	.00007	.01366	.53291	.15208	.02220	.02691
5400	.00637	.06723	.00303	.16494	.01104	.00362	.00010	.01304	.52430	.16614	.01840	.02178

TABLE 30.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.048785; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00000	.70836	.00000	.00000	.04751
1700	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00001	.70836	.00000	.00000	.04750
1800	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00002	.70835	.00000	.00000	.04750
1900	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00003	.70835	.00000	.00000	.04749
2000	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00005	.70834	.00000	.00000	.04748
2100	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00008	.70832	.00000	.00000	.04747
2200	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00011	.70830	.00000	.00001	.04745
2300	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00000	.00017	.70827	.00000	.00001	.04742
2400	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00000	.00024	.70824	.00000	.00002	.04738
2500	.00850	.00000	.09375	.00000	.00000	.00000	.14187	.00000	.00033	.70819	.00000	.00004	.04733
2600	.00850	.00000	.09374	.00000	.00000	.00000	.14185	.00000	.00045	.70812	.00000	.00007	.04727
2700	.00850	.00001	.09374	.00000	.00000	.00000	.14182	.00000	.00060	.70804	.00000	.00012	.04718
2800	.00850	.00001	.09373	.00000	.00000	.00001	.14178	.00000	.00077	.70793	.00001	.00019	.04708
2900	.00849	.00003	.09371	.00000	.00000	.00002	.14171	.00000	.00098	.70780	.00001	.00029	.04696
3000	.00849	.00006	.09367	.00000	.00000	.00003	.14162	.00000	.00122	.70763	.00002	.00043	.04682
3100	.00849	.00012	.09360	.00000	.00000	.00005	.14148	.00000	.00151	.70742	.00004	.00063	.04665
3200	.00849	.00022	.09349	.00001	.00000	.00009	.14129	.00000	.00183	.70715	.00007	.00089	.04647
3300	.00849	.00039	.09330	.00002	.00000	.00015	.14102	.00000	.00220	.70680	.00011	.00124	.04628
3400	.00849	.00067	.09299	.00004	.00000	.00024	.14064	.00000	.00262	.70634	.00018	.00170	.04610
3500	.00848	.00111	.09250	.00007	.00000	.00038	.14012	.00000	.00308	.70575	.00029	.00227	.04594
3600	.00848	.00177	.09177	.00012	.00000	.00059	.13942	.00000	.00359	.70497	.00045	.00299	.04584
3700	.00847	.00275	.09069	.00022	.00000	.00088	.13849	.00000	.00416	.70395	.00068	.00389	.04583
3800	.00846	.00414	.08917	.00038	.00000	.00129	.13725	.00000	.00478	.70261	.00101	.00497	.04595
3900	.00844	.00604	.08708	.00063	.00000	.00183	.13565	.00000	.00547	.70088	.00147	.00628	.04624
4000	.00842	.00854	.08434	.00101	.00000	.00255	.13360	.00000	.00622	.69865	.00211	.00782	.04673
4100	.00839	.01170	.08086	.00159	.00000	.00346	.13102	.00000	.00705	.69586	.00298	.00964	.04745
4200	.00835	.01554	.07662	.00244	.00000	.00458	.12782	.00000	.00795	.69241	.00416	.01173	.04839
4300	.00831	.02001	.07167	.00366	.00000	.00594	.12392	.00000	.00894	.68824	.00571	.01411	.04949
4400	.00825	.02500	.06609	.00535	.00000	.00754	.11926	.00000	.00999	.68328	.00775	.01677	.05070
4500	.00819	.03034	.06006	.00765	.00001	.00937	.11379	.00000	.01111	.67752	.01038	.01967	.05191
4600	.00812	.03583	.05377	.01072	.00001	.01141	.10746	.00000	.01228	.67090	.01371	.02277	.05301
4700	.00804	.04127	.04742	.01472	.00001	.01360	.10030	.00000	.01348	.66344	.01787	.02598	.05389
4800	.00795	.04646	.04122	.01981	.00001	.01587	.09233	.00000	.01468	.65512	.02296	.02919	.05442
4900	.00784	.05121	.03533	.02614	.00001	.01813	.08365	.00000	.01585	.64597	.02910	.03226	.05451
5000	.00773	.05541	.02989	.03382	.00001	.02024	.07442	.00001	.01696	.63603	.03635	.03505	.05408
5100	.00761	.05898	.02498	.04291	.00001	.02207	.06486	.00001	.01799	.62538	.04477	.03736	.05307
5200	.00748	.06189	.02065	.05336	.00001	.02347	.05524	.00002	.01889	.61416	.05435	.03904	.05145
5300	.00734	.06415	.01689	.06503	.00001	.02430	.04587	.00002	.01964	.60254	.06504	.03995	.04922
5400	.00721	.06583	.01369	.07766	.00001	.02448	.03705	.00003	.02021	.59074	.07669	.03999	.04641

TABLE 30.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.048785; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	NO2	N2	O	OH	O2
1600	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00000	.00000	.70836	.00000	.00000	.04751
1700	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00001	.00000	.70836	.00000	.00000	.04750
1800	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00002	.00000	.70835	.00000	.00000	.04750
1900	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00003	.00000	.70835	.00000	.00000	.04749
2000	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00005	.00000	.70834	.00000	.00000	.04748
2100	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00008	.00000	.70832	.00000	.00000	.04747
2200	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00011	.00000	.70830	.00000	.00000	.04745
2300	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00000	.00017	.00000	.70827	.00000	.00001	.04742
2400	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00000	.00024	.00000	.70824	.00000	.00001	.04738
2500	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00000	.00033	.00000	.70819	.00000	.00002	.04733
2600	.00850	.00000	.09375	.00000	.00000	.00000	.14187	.00000	.00045	.00000	.70813	.00000	.00004	.04727
2700	.00850	.00000	.09374	.00000	.00000	.00000	.14185	.00000	.00060	.00000	.70805	.00000	.00007	.04719
2800	.00850	.00000	.09374	.00000	.00000	.00000	.14183	.00000	.00077	.00000	.70795	.00000	.00010	.04710
2900	.00850	.00001	.09373	.00000	.00000	.00000	.14180	.00000	.00098	.00000	.70784	.00000	.00016	.04698
3000	.00850	.00002	.09372	.00000	.00000	.00001	.14175	.00000	.00122	.00000	.70769	.00001	.00024	.04684
3100	.00849	.00004	.09370	.00000	.00000	.00002	.14168	.00000	.00151	.00000	.70752	.00001	.00035	.04668
3200	.00849	.00007	.09366	.00000	.00000	.00003	.14158	.00000	.00184	.00000	.70731	.00002	.00050	.04649
3300	.00849	.00012	.09360	.00000	.00000	.00005	.14145	.00000	.00220	.00000	.70706	.00004	.00070	.04628
3400	.00849	.00021	.09350	.00001	.00000	.00008	.14127	.00000	.00262	.00000	.70676	.00006	.00096	.04605
3500	.00849	.00035	.09334	.00001	.00000	.00012	.14103	.00000	.00308	.00000	.70639	.00009	.00128	.04581
3600	.00849	.00057	.09310	.00002	.00000	.00019	.14072	.00000	.00358	.00000	.70594	.00014	.00169	.04556
3700	.00848	.00089	.09274	.00004	.00000	.00028	.14031	.00000	.00414	.00000	.70539	.00021	.00219	.04532
3800	.00848	.00137	.09221	.00007	.00000	.00042	.13977	.00000	.00474	.00000	.70471	.00032	.00281	.04509
3900	.00847	.00203	.09148	.00011	.00000	.00060	.13910	.00000	.00540	.00000	.70388	.00046	.00355	.04491
4000	.00847	.00296	.09046	.00018	.00000	.00085	.13824	.00000	.00611	.00000	.70284	.00065	.00443	.04480
4100	.00846	.00420	.08911	.00029	.00000	.00118	.13716	.00000	.00687	.00000	.70157	.00092	.00546	.04478
4200	.00844	.00582	.08734	.00046	.00001	.00160	.13582	.00000	.00770	.00000	.70001	.00127	.00667	.04487
4300	.00842	.00787	.08509	.00069	.00001	.00213	.13418	.00000	.00859	.00000	.69812	.00172	.00807	.04510
4400	.00840	.01040	.08233	.00103	.00001	.00279	.13220	.00000	.00955	.00000	.69584	.00232	.00966	.04548
4500	.00838	.01341	.07903	.00150	.00001	.00359	.12982	.00000	.01058	.00000	.69313	.00309	.01146	.04600
4600	.00835	.01689	.07520	.00214	.00001	.00454	.12701	.00000	.01169	.00000	.68996	.00407	.01348	.04666
4700	.00831	.02080	.07088	.00300	.00001	.00565	.12374	.00000	.01286	.00000	.68631	.00530	.01571	.04742
4800	.00827	.02505	.06616	.00414	.00001	.00693	.11997	.00000	.01410	.00000	.68215	.00683	.01815	.04823
4900	.00822	.02955	.06113	.00561	.00001	.00836	.11569	.00000	.01539	.00000	.67749	.00873	.02078	.04904
5000	.00816	.03417	.05592	.00749	.00002	.00994	.11087	.00000	.01673	.00001	.67231	.01103	.02356	.04979
5100	.00810	.03879	.05064	.00986	.00002	.01165	.10553	.00000	.01810	.00001	.66664	.01380	.02646	.05042
5200	.00804	.04329	.04541	.01278	.00002	.01347	.09967	.00001	.01948	.00001	.66047	.01709	.02941	.05087
5300	.00797	.04756	.04035	.01634	.00002	.01535	.09334	.00001	.02084	.00001	.65382	.02095	.03235	.05109
5400	.00789	.05152	.03554	.02062	.00002	.01725	.08659	.00001	.02217	.00001	.64671	.02543	.03520	.05103

TABLE 30.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.048785; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00000	.70836	.00000	.00000	.04751
1700	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00001	.00000	.70836	.00000	.00000	.04750
1800	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00002	.00000	.70835	.00000	.00000	.04750
1900	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00003	.00000	.70835	.00000	.00000	.04749
2000	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00005	.00000	.70834	.00000	.00000	.04748
2100	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00008	.00000	.70832	.00000	.00000	.04747
2200	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00011	.00000	.70830	.00000	.00000	.04745
2300	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00017	.00000	.70827	.00000	.00000	.04742
2400	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00024	.00000	.70824	.00000	.00001	.04738
2500	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00033	.00000	.70819	.00000	.00001	.04733
2600	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00045	.00000	.70813	.00000	.00002	.04727
2700	.00850	.00000	.09375	.00000	.00000	.00000	.14187	.00060	.00000	.70806	.00000	.00004	.04720
2800	.00850	.00000	.09374	.00000	.00000	.00000	.14186	.00077	.00001	.70796	.00000	.00006	.04710
2900	.00850	.00000	.09374	.00000	.00000	.00000	.14184	.00098	.00001	.70785	.00000	.00009	.04699
3000	.00850	.00001	.09374	.00000	.00000	.00000	.14181	.00123	.00001	.70772	.00000	.00014	.04686
3100	.00850	.00001	.09373	.00000	.00000	.00001	.14178	.00151	.00001	.70756	.00000	.00020	.04670
3200	.00849	.00002	.09372	.00000	.00000	.00001	.14173	.00184	.00001	.70738	.00001	.00028	.04652
3300	.00849	.00004	.09370	.00000	.00000	.00002	.14166	.00220	.00001	.70716	.00001	.00039	.04631
3400	.00849	.00007	.09366	.00000	.00000	.00002	.14157	.00262	.00001	.70692	.00002	.00054	.04608
3500	.00849	.00011	.09361	.00000	.00000	.00004	.14145	.00308	.00001	.70663	.00003	.00072	.04583
3600	.00849	.00018	.09353	.00000	.00000	.00006	.14130	.00358	.00001	.70630	.00004	.00095	.04555
3700	.00849	.00028	.09341	.00001	.00000	.00009	.14110	.00414	.00001	.70591	.00007	.00124	.04525
3800	.00849	.00044	.09324	.00001	.00001	.00013	.14085	.00474	.00001	.70547	.00010	.00158	.04493
3900	.00849	.00066	.09300	.00002	.00001	.00019	.14054	.00538	.00001	.70495	.00014	.00200	.04461
4000	.00848	.00096	.09266	.00003	.00001	.00027	.14015	.00608	.00001	.70435	.00021	.00250	.04429
4100	.00848	.00139	.09219	.00005	.00001	.00038	.13967	.00682	.00001	.70365	.00029	.00309	.04397
4200	.00848	.00195	.09156	.00008	.00001	.00052	.13909	.00761	.00001	.70282	.00039	.00377	.04369
4300	.00847	.00270	.09074	.00013	.00001	.00071	.13838	.00845	.00001	.70186	.00054	.00456	.04344
4400	.00846	.00367	.08968	.00019	.00001	.00094	.13752	.00935	.00001	.70073	.00072	.00547	.04324
4500	.00845	.00490	.08835	.00028	.00002	.00123	.13650	.01029	.00001	.69941	.00095	.00650	.04312
4600	.00844	.00641	.08670	.00040	.00002	.00159	.13528	.01129	.00001	.69787	.00124	.00767	.04308
4700	.00842	.00824	.08470	.00057	.00002	.00203	.13386	.01235	.00001	.69609	.00160	.00898	.04313
4800	.00840	.01041	.08234	.00079	.00002	.00255	.13220	.01347	.00001	.69404	.00205	.01043	.04328
4900	.00838	.01291	.07960	.00109	.00002	.00316	.13029	.01465	.00001	.69171	.00260	.01204	.04352
5000	.00836	.01575	.07650	.00148	.00003	.00387	.12810	.01590	.00001	.68907	.00327	.01380	.04386
5100	.00833	.01889	.07306	.00198	.00003	.00468	.12562	.01720	.00001	.68613	.00409	.01571	.04426
5200	.00830	.02229	.06932	.00261	.00003	.00560	.12284	.01857	.00002	.68287	.00507	.01778	.04471
5300	.00827	.02589	.06533	.00339	.00004	.00662	.11974	.01998	.00002	.67931	.00623	.01998	.04519
5400	.00823	.02964	.06116	.00437	.00004	.00775	.11633	.02144	.00002	.67543	.00761	.02232	.04566

TABLE 30.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.048785; EQUIV. RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	N2O	O	OH	O2
1600	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00000	.00000	.70836	.00000	.00000	.00000	.04751
1700	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00001	.00000	.70836	.00000	.00000	.00000	.04750
1800	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00002	.00000	.70835	.00000	.00000	.00000	.04750
1900	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00003	.00000	.70835	.00000	.00000	.00000	.04749
2000	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00005	.00000	.70834	.00000	.00000	.00000	.04748
2100	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00008	.00000	.70832	.00000	.00000	.00000	.04747
2200	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00011	.00001	.70830	.00000	.00000	.00000	.04744
2300	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00017	.00001	.70827	.00000	.00000	.00000	.04742
2400	.00850	.00000	.09375	.00000	.00000	.00000	.14189	.00024	.00001	.70824	.00000	.00000	.00000	.04738
2500	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00033	.00001	.70819	.00000	.00000	.00001	.04733
2600	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00045	.00001	.70813	.00000	.00000	.00002	.04727
2700	.00850	.00000	.09375	.00000	.00000	.00000	.14188	.00060	.00001	.70806	.00000	.00000	.00002	.04719
2800	.00850	.00000	.09375	.00000	.00000	.00000	.14187	.00077	.00001	.70797	.00000	.00000	.00004	.04710
2900	.00850	.00000	.09375	.00000	.00000	.00000	.14186	.00098	.00001	.70786	.00000	.00000	.00006	.04699
3000	.00850	.00000	.09374	.00000	.00000	.00000	.14184	.00123	.00001	.70773	.00000	.00000	.00009	.04686
3100	.00850	.00001	.09374	.00000	.00000	.00000	.14181	.00151	.00001	.70758	.00000	.00000	.00013	.04671
3200	.00850	.00001	.09373	.00000	.00000	.00000	.14178	.00184	.00002	.70740	.00000	.00000	.00019	.04653
3300	.00850	.00002	.09372	.00000	.00000	.00001	.14174	.00221	.00002	.70720	.00000	.00001	.00026	.04633
3400	.00849	.00003	.09371	.00000	.00000	.00001	.14168	.00262	.00002	.70697	.00000	.00001	.00036	.04610
3500	.00849	.00005	.09368	.00000	.00000	.00002	.14161	.00308	.00002	.70670	.00000	.00001	.00048	.04585
3600	.00849	.00008	.09365	.00000	.00001	.00003	.14151	.00358	.00002	.70641	.00000	.00002	.00064	.04557
3700	.00849	.00013	.09359	.00000	.00001	.00004	.14139	.00414	.00002	.70607	.00000	.00003	.00083	.04526
3800	.00849	.00020	.09351	.00000	.00001	.00006	.14123	.00474	.00002	.70569	.00000	.00004	.00106	.04493
3900	.00849	.00029	.09340	.00001	.00001	.00009	.14105	.00538	.00002	.70527	.00000	.00006	.00134	.04458
4000	.00849	.00043	.09324	.00001	.00001	.00012	.14081	.00608	.00002	.70479	.00000	.00009	.00168	.04422
4100	.00849	.00063	.09303	.00002	.00001	.00017	.14053	.00681	.00002	.70425	.00000	.00013	.00207	.04384
4200	.00848	.00089	.09274	.00002	.00002	.00024	.14018	.00760	.00002	.70364	.00000	.00018	.00253	.04346
4300	.00848	.00124	.09235	.00004	.00002	.00032	.13977	.00843	.00002	.70295	.00000	.00024	.00306	.04308
4400	.00848	.00169	.09185	.00006	.00002	.00043	.13928	.00930	.00003	.70216	.00000	.00032	.00367	.04271
4500	.00847	.00228	.09121	.00008	.00002	.00057	.13869	.01022	.00003	.70128	.00000	.00042	.00436	.04237
4600	.00847	.00302	.09039	.00012	.00003	.00074	.13801	.01118	.00003	.70027	.00000	.00055	.00515	.04205
4700	.00846	.00395	.08938	.00017	.00003	.00094	.13720	.01218	.00003	.69912	.00000	.00070	.00603	.04179
4800	.00845	.00508	.08815	.00024	.00003	.00120	.13627	.01324	.00003	.69783	.00000	.00090	.00701	.04157
4900	.00844	.00645	.08667	.00034	.00004	.00150	.13519	.01434	.00003	.69636	.00000	.00113	.00810	.04142
5000	.00843	.00805	.08492	.00046	.00004	.00186	.13395	.01550	.00003	.69470	.00001	.00142	.00930	.04134
5100	.00841	.00992	.08289	.00062	.00004	.00229	.13254	.01671	.00003	.69285	.00001	.00177	.01061	.04133
5200	.00839	.01204	.08057	.00082	.00005	.00277	.13094	.01797	.00003	.69079	.00001	.00218	.01204	.04139
5300	.00837	.01442	.07798	.00108	.00005	.00333	.12916	.01928	.00003	.68851	.00001	.00267	.01359	.04152
5400	.00835	.01704	.07512	.00140	.00006	.00396	.12716	.02065	.00003	.68600	.00001	.00325	.01525	.04171

TABLE 30C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.048785; EQUIV.RATIO = 0.750; CHEM. EQUIV. RATIO = 0.7761;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2	O2
		PRESSURE = 0.01 ATM					
360	.00850	.09375	.14175	.00000	.00014	.70836	.04751
400	.00850	.09375	.13892	.00000	.00297	.70836	.04751
440	.00850	.09375	.10360	.00000	.03829	.70836	.04751
		PRESSURE = 0.10 ATM					
360	.00850	.09375	.14187	.00000	.00001	.70836	.04751
400	.00850	.09375	.14159	.00000	.00030	.70836	.04751
440	.00850	.09375	.13821	.00000	.00368	.70836	.04751
480	.00850	.09375	.11098	.00000	.03091	.70836	.04751
520	.00850	.09375	.00000	.00000	.14189	.70836	.04751
		PRESSURE = 1.00 ATM					
360	.00850	.09375	.14189	.00000	.00000	.70836	.04751
400	.00850	.09375	.14186	.00000	.00003	.70836	.04751
440	.00850	.09375	.14152	.00000	.00037	.70836	.04751
480	.00850	.09375	.13889	.00000	.00299	.70836	.04751
520	.00850	.09375	.00000	.12654	.01535	.70836	.04751
537	.00850	.09375	.00000	.11433	.02756	.70836	.04751
560	.00850	.09375	.00000	.08232	.05957	.70836	.04751
600	.00850	.09375	.00000	.00000	.14189	.70836	.04751
		PRESSURE = 10.00 ATM					
360	.00850	.09375	.14189	.00000	.00000	.70836	.04751
400	.00850	.09375	.14189	.00000	.00000	.70836	.04751
440	.00850	.09375	.14185	.00000	.00004	.70836	.04751
480	.00850	.09375	.14159	.00000	.00030	.70836	.04751
520	.00850	.09375	.00000	.14038	.00151	.70836	.04751
537	.00850	.09375	.00000	.13921	.00268	.70836	.04751
560	.00850	.09375	.00000	.13628	.00561	.70836	.04751
600	.00850	.09375	.00000	.12467	.01722	.70836	.04751
640	.00850	.09375	.00000	.09593	.04596	.70836	.04751
680	.00850	.09375	.00000	.03002	.11187	.70836	.04751
		PRESSURE = 50.00 ATM					
360	.00850	.09375	.14189	.00000	.00000	.70836	.04751
400	.00850	.09375	.14189	.00000	.00000	.70836	.04751
440	.00850	.09375	.14188	.00000	.00001	.70836	.04751
480	.00850	.09375	.14183	.00000	.00006	.70836	.04751
520	.00850	.09375	.00000	.14159	.00030	.70836	.04751
537	.00850	.09375	.00000	.14135	.00053	.70836	.04751
560	.00850	.09375	.00000	.14077	.00112	.70836	.04751
600	.00850	.09375	.00000	.13850	.00339	.70836	.04751
640	.00850	.09375	.00000	.13307	.00881	.70836	.04751
680	.00850	.09375	.00000	.12163	.02026	.70836	.04751
720	.00850	.09375	.00000	.09957	.04231	.70836	.04751
760	.00850	.09375	.00000	.05959	.08230	.70836	.04751

TABLE 31.1B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.065046; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	H2	H2O	N	NO	N2	O	OH	O2
1600	.00836	.00000	.12289	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1700	.00836	.00000	.12289	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1800	.00836	.00000	.12289	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1900	.00836	.00000	.12289	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2000	.00836	.00000	.12289	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2100	.00836	.00000	.12289	.00000	.00000	.17178	.00000	.00000	.69696	.00000	.00000	.00000
2200	.00836	.00001	.12288	.00000	.00001	.17178	.00000	.00000	.69695	.00000	.00000	.00001
2300	.00836	.00003	.12286	.00000	.00002	.17176	.00000	.00000	.69694	.00000	.00000	.00002
2400	.00836	.00005	.12283	.00000	.00004	.17174	.00000	.00001	.69692	.00000	.00001	.00004
2500	.00836	.00011	.12277	.00000	.00007	.17169	.00000	.00001	.69689	.00000	.00002	.00008
2600	.00836	.00021	.12266	.00000	.00012	.17162	.00000	.00002	.69683	.00000	.00003	.00015
2700	.00836	.00037	.12248	.00000	.00020	.17150	.00000	.00004	.69673	.00000	.00006	.00025
2800	.00835	.00064	.12218	.00001	.00032	.17132	.00000	.00007	.69657	.00000	.00011	.00042
2900	.00835	.00107	.12172	.00001	.00049	.17105	.00000	.00012	.69632	.00000	.00019	.00067
3000	.00835	.00170	.12102	.00003	.00074	.17065	.00000	.00018	.69595	.00001	.00032	.00105
3100	.00834	.00264	.12000	.00006	.00107	.17008	.00000	.00028	.69540	.00002	.00052	.00159
3200	.00833	.00395	.11856	.00011	.00152	.16928	.00000	.00041	.69463	.00005	.00082	.00233
3300	.00832	.00576	.11659	.00022	.00211	.16818	.00000	.00059	.69356	.00010	.00125	.00333
3400	.00831	.00816	.11395	.00039	.00288	.16670	.00000	.00082	.69212	.00018	.00185	.00465
3500	.00828	.01126	.11054	.00068	.00385	.16473	.00000	.00113	.69019	.00034	.00267	.00632
3600	.00826	.01514	.10625	.00115	.00507	.16216	.00000	.00152	.68769	.00061	.00376	.00839
3700	.00822	.01986	.10101	.00190	.00657	.15886	.00000	.00200	.68450	.00105	.00517	.01088
3800	.00818	.02541	.09480	.00304	.00838	.15467	.00000	.00257	.68049	.00175	.00694	.01376
3900	.00812	.03171	.08770	.00474	.01053	.14945	.00000	.00325	.67556	.00283	.00912	.01699
4000	.00805	.03860	.07981	.00724	.01302	.14304	.00000	.00403	.66959	.00442	.01171	.02047
4100	.00797	.04587	.07137	.01078	.01585	.13531	.00000	.00490	.66247	.00672	.01470	.02407
4200	.00788	.05320	.06265	.01570	.01894	.12615	.00000	.00584	.65410	.00993	.01801	.02761
4300	.00777	.06029	.05394	.02233	.02219	.11555	.00000	.00683	.64440	.01427	.02153	.03089
4400	.00764	.06682	.04555	.03104	.02542	.10359	.00000	.00784	.63334	.01998	.02509	.03369
4500	.00750	.07253	.03773	.04210	.02838	.09049	.00000	.00884	.62092	.02726	.02843	.03582
4600	.00734	.07726	.03067	.05567	.03076	.07665	.00000	.00977	.60724	.03626	.03127	.03709
4700	.00717	.08093	.02448	.07167	.03224	.06263	.00001	.01061	.59255	.04704	.03331	.03736
4800	.00699	.08356	.01921	.08973	.03257	.04910	.00001	.01129	.57723	.05949	.03427	.03654
4900	.00681	.08527	.01483	.10914	.03160	.03677	.00001	.01178	.56180	.07336	.03397	.03465
5000	.00663	.08621	.01128	.12891	.02941	.02622	.00002	.01206	.54687	.08817	.03240	.03182
5100	.00647	.08659	.00846	.14795	.02624	.01780	.00003	.01212	.53303	.10331	.02973	.02826
5200	.00632	.08660	.00628	.16531	.02252	.01152	.00005	.01195	.52077	.11810	.02628	.02429
5300	.00619	.08640	.00461	.18032	.01868	.00715	.00007	.01159	.51035	.13191	.02247	.02025
5400	.00609	.08610	.00337	.19272	.01508	.00429	.00010	.01108	.50181	.14427	.01867	.01642

TABLE 31.2B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.065046; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1700	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1800	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1900	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2000	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2100	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2200	.00836	.00001	.12288	.00000	.00000	.00000	.17178	.00000	.00000	.69696	.00000	.00000	.00000
2300	.00836	.00001	.12288	.00000	.00000	.00001	.17178	.00000	.00000	.69695	.00000	.00000	.00001
2400	.00836	.00003	.12286	.00000	.00000	.00002	.17176	.00000	.00000	.69694	.00000	.00000	.00002
2500	.00836	.00005	.12283	.00000	.00000	.00003	.17174	.00000	.00001	.69693	.00000	.00001	.00004
2600	.00836	.00010	.12278	.00000	.00000	.00006	.17171	.00000	.00002	.69690	.00000	.00002	.00007
2700	.00836	.00018	.12270	.00000	.00000	.00010	.17165	.00000	.00003	.69685	.00000	.00003	.00011
2800	.00836	.00030	.12256	.00000	.00000	.00015	.17157	.00000	.00005	.69677	.00000	.00005	.00019
2900	.00836	.00050	.12234	.00000	.00000	.00023	.17144	.00000	.00008	.69665	.00000	.00009	.00031
3000	.00835	.00081	.12201	.00001	.00000	.00035	.17126	.00000	.00012	.69647	.00000	.00015	.00048
3100	.00835	.00125	.12152	.00001	.00000	.00050	.17099	.00000	.00019	.69621	.00000	.00024	.00072
3200	.00835	.00188	.12083	.00002	.00000	.00072	.17063	.00000	.00028	.69584	.00001	.00038	.00107
3300	.00834	.00276	.11988	.00005	.00000	.00100	.17012	.00000	.00040	.69532	.00002	.00058	.00153
3400	.00833	.00394	.11859	.00008	.00000	.00136	.16945	.00000	.00056	.69462	.00004	.00087	.00216
3500	.00832	.00550	.11688	.00015	.00000	.00182	.16856	.00000	.00078	.69370	.00007	.00126	.00296
3600	.00831	.00750	.11469	.00025	.00000	.00240	.16740	.00000	.00105	.69250	.00013	.00178	.00398
3700	.00830	.01002	.11193	.00041	.00000	.00313	.16591	.00000	.00139	.69096	.00023	.00247	.00525
3800	.00827	.01311	.10854	.00066	.00000	.00401	.16403	.00000	.00182	.68902	.00039	.00337	.00678
3900	.00825	.01680	.10447	.00104	.00000	.00507	.16169	.00000	.00233	.68663	.00064	.00450	.00859
4000	.00822	.02112	.09970	.00160	.00000	.00633	.15881	.00000	.00294	.68371	.00101	.00590	.01067
4100	.00818	.02603	.09423	.00239	.00000	.00782	.15530	.00000	.00365	.68022	.00156	.00759	.01302
4200	.00814	.03149	.08811	.00352	.00000	.00955	.15108	.00000	.00446	.67609	.00236	.00961	.01559
4300	.00808	.03739	.08145	.00509	.00000	.01152	.14608	.00000	.00537	.67128	.00348	.01195	.01831
4400	.00802	.04357	.07437	.00722	.00000	.01374	.14023	.00000	.00637	.66574	.00500	.01461	.02112
4500	.00795	.04988	.06705	.01006	.00000	.01619	.13346	.00000	.00744	.65944	.00704	.01755	.02392
4600	.00788	.05612	.05966	.01378	.00000	.01884	.12575	.00000	.00858	.65235	.00971	.02073	.02660
4700	.00779	.06210	.05239	.01856	.00000	.02162	.11712	.00000	.00975	.64444	.01312	.02405	.02905
4800	.00769	.06764	.04542	.02458	.00000	.02444	.10761	.00000	.01094	.63572	.01738	.02741	.03117
4900	.00758	.07260	.03888	.03200	.00001	.02717	.09734	.00000	.01211	.62619	.02259	.03067	.03286
5000	.00747	.07687	.03290	.04094	.00001	.02965	.08649	.00001	.01324	.61590	.02884	.03365	.03404
5100	.00734	.08041	.02752	.05144	.00001	.03172	.07532	.00001	.01429	.60493	.03617	.03619	.03464
5200	.00721	.08320	.02277	.06348	.00001	.03321	.06414	.00002	.01523	.59340	.04459	.03811	.03463
5300	.00707	.08529	.01866	.07688	.00001	.03396	.05328	.00002	.01603	.58151	.05405	.03925	.03399
5400	.00693	.08673	.01515	.09137	.00001	.03389	.04308	.00003	.01667	.56947	.06441	.03952	.03273

TABLE 31.3B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.065046; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	N	NO	N2	O	OH	O2
1600	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1700	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1800	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1900	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2000	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2100	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2200	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2300	.00836	.00001	.12288	.00000	.00000	.00000	.17178	.00000	.00000	.69696	.00000	.00000	.00000
2400	.00836	.00001	.12288	.00000	.00000	.00001	.17178	.00000	.00000	.69695	.00000	.00000	.00001
2500	.00836	.00002	.12286	.00000	.00000	.00002	.17177	.00000	.00001	.69694	.00000	.00000	.00002
2600	.00836	.00005	.12284	.00000	.00000	.00003	.17175	.00000	.00001	.69693	.00000	.00001	.00003
2700	.00836	.00008	.12280	.00000	.00000	.00004	.17173	.00000	.00002	.69690	.00000	.00001	.00005
2800	.00836	.00014	.12273	.00000	.00000	.00007	.17169	.00000	.00003	.69687	.00000	.00002	.00009
2900	.00836	.00024	.12263	.00000	.00000	.00011	.17163	.00000	.00005	.69681	.00000	.00004	.00014
3000	.00836	.00038	.12247	.00000	.00000	.00016	.17154	.00000	.00008	.69672	.00000	.00007	.00021
3100	.00836	.00059	.12224	.00000	.00000	.00024	.17142	.00000	.00013	.69659	.00000	.00011	.00033
3200	.00835	.00089	.12191	.00001	.00000	.00034	.17125	.00000	.00019	.69640	.00000	.00018	.00048
3300	.00835	.00132	.12146	.00001	.00000	.00047	.17101	.00000	.00027	.69615	.00000	.00027	.00069
3400	.00835	.00189	.12083	.00002	.00000	.00064	.17070	.00000	.00038	.69581	.00001	.00040	.00098
3500	.00834	.00265	.12001	.00003	.00000	.00086	.17029	.00000	.00052	.69535	.00002	.00058	.00135
3600	.00834	.00364	.11893	.00005	.00000	.00114	.16975	.00000	.00071	.69476	.00003	.00083	.00182
3700	.00833	.00490	.11755	.00009	.00000	.00148	.16907	.00000	.00095	.69400	.00005	.00116	.00242
3800	.00832	.00647	.11583	.00014	.00000	.00190	.16821	.00000	.00125	.69304	.00008	.00159	.00316
3900	.00831	.00841	.11372	.00023	.00000	.00241	.16714	.00000	.00161	.69185	.00014	.00213	.00406
4000	.00829	.01074	.11117	.00035	.00000	.00302	.16582	.00000	.00205	.69039	.00022	.00282	.00513
4100	.00827	.01350	.10814	.00052	.00000	.00374	.16422	.00000	.00257	.68863	.00035	.00367	.00637
4200	.00825	.01671	.10462	.00077	.00000	.00458	.16229	.00000	.00318	.68654	.00053	.00471	.00781
4300	.00823	.02036	.10060	.00112	.00000	.00556	.15999	.00000	.00389	.68409	.00079	.00595	.00942
4400	.00820	.02445	.09608	.00159	.00000	.00670	.15729	.00000	.00469	.68124	.00115	.00742	.01119
4500	.00816	.02894	.09109	.00223	.00000	.00799	.15413	.00000	.00559	.67797	.00165	.00913	.01312
4600	.00813	.03377	.08569	.00309	.00000	.00945	.15048	.00000	.00658	.67426	.00232	.01108	.01516
4700	.00808	.03887	.07996	.00420	.00001	.01108	.14629	.00000	.00767	.67010	.00320	.01327	.01727
4800	.00803	.04415	.07397	.00564	.00001	.01288	.14155	.00000	.00883	.66547	.00434	.01571	.01941
4900	.00798	.04949	.06784	.00748	.00001	.01486	.13623	.00000	.01007	.66038	.00578	.01835	.02152
5000	.00792	.05479	.06167	.00980	.00001	.01698	.13032	.00000	.01136	.65481	.00759	.02119	.02356
5100	.00786	.05993	.05559	.01267	.00001	.01924	.12382	.00000	.01269	.64878	.00981	.02416	.02545
5200	.00779	.06481	.04968	.01618	.00001	.02159	.11675	.00001	.01403	.64228	.01249	.02721	.02716
5300	.00771	.06934	.04404	.02043	.00001	.02397	.10916	.00001	.01538	.63533	.01569	.03027	.02864
5400	.00763	.07345	.03875	.02547	.00002	.02634	.10112	.00001	.01671	.62793	.01945	.03327	.02985

TABLE 31.4B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.065046; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1700	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1800	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1900	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2000	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2100	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2200	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2300	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2400	.00836	.00001	.12288	.00000	.00000	.00000	.17178	.00000	.00000	.69696	.00000	.00000	.00000
2500	.00836	.00001	.12288	.00000	.00000	.00001	.17178	.00000	.00000	.69695	.00000	.00000	.00001
2600	.00836	.00002	.12287	.00000	.00000	.00001	.17177	.00001	.00000	.69695	.00000	.00000	.00001
2700	.00836	.00004	.12285	.00000	.00000	.00002	.17176	.00001	.00000	.69693	.00000	.00001	.00002
2800	.00836	.00007	.12282	.00000	.00000	.00003	.17174	.00002	.00000	.69691	.00000	.00001	.00004
2900	.00836	.00011	.12277	.00000	.00000	.00005	.17171	.00003	.00000	.69688	.00000	.00002	.00006
3000	.00836	.00018	.12269	.00000	.00000	.00008	.17167	.00005	.00000	.69684	.00000	.00003	.00009
3100	.00836	.00028	.12258	.00000	.00000	.00011	.17161	.00008	.00000	.69677	.00000	.00005	.00014
3200	.00836	.00043	.12242	.00000	.00000	.00016	.17153	.00012	.00000	.69668	.00000	.00008	.00021
3300	.00836	.00063	.12221	.00000	.00000	.00022	.17142	.00018	.00000	.69655	.00000	.00012	.00031
3400	.00835	.00090	.12191	.00000	.00000	.00031	.17128	.00025	.00000	.69638	.00000	.00018	.00043
3500	.00835	.00127	.12151	.00001	.00000	.00041	.17108	.00035	.00000	.69615	.00000	.00027	.00060
3600	.00835	.00175	.12098	.00001	.00000	.00054	.17083	.00048	.00000	.69585	.00001	.00038	.00081
3700	.00834	.00237	.12031	.00002	.00000	.00071	.17051	.00064	.00000	.69547	.00001	.00053	.00109
3800	.00834	.00315	.11947	.00003	.00000	.00091	.17011	.00084	.00000	.69498	.00002	.00073	.00142
3900	.00833	.00412	.11841	.00005	.00000	.00115	.16962	.00108	.00000	.69438	.00003	.00099	.00184
4000	.00833	.00530	.11713	.00008	.00000	.00144	.16900	.00139	.00000	.69363	.00005	.00132	.00234
4100	.00832	.00672	.11558	.00011	.00000	.00178	.16826	.00175	.00000	.69274	.00007	.00172	.00294
4200	.00831	.00841	.11374	.00017	.00000	.00219	.16737	.00218	.00000	.69166	.00011	.00222	.00364
4300	.00830	.01039	.11158	.00024	.00000	.00266	.16630	.00268	.00000	.69039	.00017	.00283	.00445
4400	.00828	.01267	.10909	.00035	.00000	.00321	.16504	.00327	.00000	.68890	.00025	.00356	.00537
4500	.00827	.01527	.10625	.00049	.00000	.00383	.16357	.00393	.00000	.68719	.00036	.00442	.00641
4600	.00825	.01818	.10305	.00068	.00001	.00455	.16187	.00469	.00000	.68522	.00052	.00543	.00757
4700	.00822	.02140	.09951	.00092	.00001	.00536	.15991	.00553	.00000	.68299	.00072	.00660	.00882
4800	.00820	.02492	.09563	.00124	.00001	.00627	.15767	.00647	.00000	.68048	.00099	.00793	.01018
4900	.00817	.02871	.09144	.00166	.00001	.00728	.15513	.00749	.00000	.67769	.00134	.00944	.01162
5000	.00814	.03273	.08698	.00218	.00001	.00841	.15228	.00861	.00000	.67462	.00179	.01113	.01312
5100	.00811	.03695	.08228	.00284	.00001	.00965	.14909	.00980	.00000	.67126	.00235	.01299	.01467
5200	.00807	.04130	.07739	.00365	.00002	.01101	.14556	.01106	.00001	.66761	.00305	.01502	.01623
5300	.00803	.04573	.07239	.00466	.00002	.01248	.14168	.01239	.00001	.66368	.00391	.01722	.01779
5400	.00799	.05017	.06733	.00589	.00002	.01407	.13744	.01378	.00001	.65947	.00495	.01956	.01932

TABLE 31.5B .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.065046; EQUIV. RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CO	CO2	H	HO2	H2	H2O	NO	NO2	N2	O	OH	O2
1600	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1700	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1800	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
1900	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2000	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2100	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2200	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2300	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2400	.00836	.00000	.12289	.00000	.00000	.00000	.17179	.00000	.00000	.69696	.00000	.00000	.00000
2500	.00836	.00001	.12288	.00000	.00000	.00000	.17178	.00000	.00000	.69696	.00000	.00000	.00000
2600	.00836	.00001	.12288	.00000	.00000	.00001	.17178	.00001	.00000	.69695	.00000	.00000	.00001
2700	.00836	.00002	.12286	.00000	.00000	.00001	.17177	.00001	.00000	.69694	.00000	.00000	.00001
2800	.00836	.00004	.12285	.00000	.00000	.00002	.17176	.00002	.00000	.69693	.00000	.00001	.00002
2900	.00836	.00007	.12282	.00000	.00000	.00003	.17174	.00003	.00000	.69691	.00000	.00001	.00003
3000	.00836	.00011	.12277	.00000	.00000	.00005	.17172	.00004	.00000	.69688	.00000	.00002	.00005
3100	.00836	.00017	.12271	.00000	.00000	.00007	.17168	.00006	.00000	.69684	.00000	.00003	.00008
3200	.00836	.00026	.12261	.00000	.00000	.00010	.17164	.00009	.00000	.69678	.00000	.00005	.00012
3300	.00836	.00038	.12248	.00000	.00000	.00013	.17157	.00013	.00000	.69670	.00000	.00007	.00017
3400	.00836	.00054	.12230	.00000	.00000	.00018	.17148	.00019	.00000	.69659	.00000	.00011	.00024
3500	.00835	.00076	.12206	.00000	.00000	.00025	.17137	.00026	.00000	.69645	.00000	.00016	.00034
3600	.00835	.00105	.12175	.00000	.00000	.00033	.17122	.00036	.00000	.69626	.00000	.00022	.00046
3700	.00835	.00143	.12134	.00001	.00000	.00042	.17103	.00048	.00000	.69602	.00000	.00031	.00061
3800	.00835	.00190	.12083	.00001	.00000	.00054	.17080	.00063	.00000	.69571	.00001	.00043	.00080
3900	.00834	.00249	.12019	.00002	.00000	.00069	.17050	.00081	.00000	.69533	.00001	.00058	.00104
4000	.00834	.00321	.11940	.00003	.00000	.00086	.17014	.00104	.00000	.69487	.00002	.00077	.00132
4100	.00833	.00409	.11845	.00004	.00000	.00107	.16970	.00132	.00000	.69430	.00003	.00100	.00167
4200	.00833	.00514	.11730	.00006	.00000	.00131	.16918	.00165	.00000	.69362	.00004	.00130	.00207
4300	.00832	.00638	.11595	.00008	.00000	.00159	.16855	.00203	.00000	.69281	.00006	.00166	.00255
4400	.00831	.00783	.11438	.00012	.00000	.00192	.16781	.00248	.00000	.69186	.00009	.00209	.00309
4500	.00830	.00950	.11256	.00017	.00000	.00230	.16694	.00300	.00000	.69076	.00012	.00261	.00372
4600	.00829	.01140	.11049	.00023	.00001	.00273	.16594	.00360	.00000	.68950	.00018	.00322	.00442
4700	.00828	.01354	.10816	.00032	.00001	.00321	.16478	.00427	.00000	.68805	.00025	.00393	.00521
4800	.00826	.01593	.10555	.00043	.00001	.00376	.16346	.00502	.00000	.68642	.00034	.00475	.00607
4900	.00825	.01855	.10267	.00057	.00001	.00438	.16195	.00585	.00000	.68459	.00047	.00569	.00701
5000	.00823	.02142	.09953	.00076	.00001	.00506	.16026	.00677	.00001	.68256	.00063	.00675	.00803
5100	.00821	.02451	.09614	.00099	.00002	.00582	.15836	.00777	.00001	.68032	.00083	.00794	.00910
5200	.00818	.02780	.09251	.00127	.00002	.00665	.15624	.00885	.00001	.67787	.00108	.00927	.01024
5300	.00816	.03127	.08867	.00162	.00002	.00757	.15390	.01001	.00001	.67521	.00140	.01074	.01141
5400	.00813	.03490	.08464	.00206	.00003	.00857	.15132	.01124	.00001	.67234	.00179	.01234	.01262

TABLE 31C .- LOW TEMPERATURE EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.065046; EQUIV.RATIO = 1.000; CHEM. EQUIV. RATIO = 1.0000;
WET AIR (W/A= 0.03)

T R	AR	CO2	H2O(S)	H2O(L)	H2O	N2
		PRESSURE = 0.01 ATM				
360	.00836	.12289	.17166	.00000	.00013	.69696
400	.00836	.12289	.16892	.00000	.00287	.69696
440	.00836	.12289	.13483	.00000	.03696	.69696
		PRESSURE = 0.10 ATM				
360	.00836	.12289	.17178	.00000	.00001	.69696
400	.00836	.12289	.17150	.00000	.00029	.69696
440	.00836	.12289	.16824	.00000	.00355	.69696
480	.00836	.12289	.14196	.00000	.02983	.69696
520	.00836	.12289	.00000	.00000	.17179	.69696
		PRESSURE = 1.00 ATM				
360	.00836	.12289	.17179	.00000	.00000	.69696
400	.00836	.12289	.17176	.00000	.00003	.69696
440	.00836	.12289	.17143	.00000	.00035	.69696
480	.00836	.12289	.16890	.00000	.00289	.69696
520	.00836	.12289	.00000	.15698	.01481	.69696
537	.00836	.12289	.00000	.14519	.02660	.69696
560	.00836	.12289	.00000	.11430	.05749	.69696
600	.00836	.12289	.00000	.00000	.17179	.69696
		PRESSURE = 10.00 ATM				
360	.00836	.12289	.17179	.00000	.00000	.69696
400	.00836	.12289	.17179	.00000	.00000	.69696
440	.00836	.12289	.17175	.00000	.00004	.69696
480	.00836	.12289	.17150	.00000	.00029	.69696
520	.00836	.12289	.00000	.17033	.00146	.69696
537	.00836	.12289	.00000	.16920	.00259	.69696
560	.00836	.12289	.00000	.16638	.00541	.69696
600	.00836	.12289	.00000	.15517	.01662	.69696
640	.00836	.12289	.00000	.12743	.04436	.69696
680	.00836	.12289	.00000	.06382	.10797	.69696
		PRESSURE = 50.00 ATM				
360	.00836	.12289	.17179	.00000	.00000	.69696
400	.00836	.12289	.17179	.00000	.00000	.69696
440	.00836	.12289	.17178	.00000	.00001	.69696
480	.00836	.12289	.17173	.00000	.00006	.69696
520	.00836	.12289	.00000	.17150	.00029	.69696
537	.00836	.12289	.00000	.17127	.00052	.69696
560	.00836	.12289	.00000	.17071	.00108	.69696
600	.00836	.12289	.00000	.16852	.00327	.69696
640	.00836	.12289	.00000	.16328	.00851	.69696
680	.00836	.12289	.00000	.15223	.01955	.69696
720	.00836	.12289	.00000	.13095	.04084	.69696
760	.00836	.12289	.00000	.09236	.07943	.69696

TABLE 32.1D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
380	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
400	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
420	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
440	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
460	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
480	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
500	.00823	.02300	.00000	.12811	.00000	.00001	.15473	.00000	.00000	.00000	.68592	.00000	.00000	.00000
520	.00823	.02300	.00000	.12811	.00000	.00002	.15473	.00000	.00000	.00000	.68592	.00000	.00000	.00000
537	.00823	.02299	.00000	.12811	.00000	.00003	.15472	.00000	.00000	.00000	.68591	.00000	.00000	.00000
540	.00823	.02299	.00000	.12811	.00000	.00003	.15472	.00000	.00000	.00000	.68591	.00000	.00000	.00000
560	.00823	.02299	.00000	.12812	.00000	.00005	.15471	.00000	.00000	.00000	.68590	.00000	.00000	.00000
580	.00823	.02298	.00000	.12813	.00000	.00009	.15468	.00000	.00000	.00000	.68589	.00000	.00000	.00000
600	.00823	.02296	.00000	.12814	.00000	.00016	.15465	.00000	.00000	.00000	.68587	.00000	.00000	.00000
620	.00823	.02293	.00000	.12816	.00000	.00026	.15459	.00000	.00000	.00000	.68583	.00000	.00000	.00000
640	.00822	.02289	.00000	.12819	.00000	.00041	.15450	.00000	.00000	.00000	.68578	.00000	.00000	.00000
660	.00822	.02284	.00000	.12823	.00000	.00062	.15438	.00000	.00000	.00000	.68571	.00000	.00000	.00000
680	.00822	.02276	.00000	.12828	.00000	.00093	.15420	.00000	.00000	.00000	.68560	.00000	.00000	.00000
700	.00822	.02264	.00000	.12836	.00000	.00137	.15395	.00000	.00000	.00000	.68545	.00000	.00000	.00000
720	.00822	.02249	.00000	.12848	.00000	.00197	.15360	.00000	.00000	.00000	.68525	.00000	.00000	.00000
740	.00822	.02228	.00000	.12862	.00000	.00277	.15314	.00000	.00000	.00000	.68497	.00000	.00000	.00000
760	.00821	.02200	.00000	.12882	.00000	.00383	.15253	.00000	.00001	.00000	.68461	.00000	.00000	.00000
780	.00821	.02164	.00001	.12907	.00000	.00519	.15174	.00000	.00001	.00000	.68414	.00000	.00000	.00000
800	.00820	.02118	.00001	.12939	.00000	.00694	.15074	.00000	.00001	.00000	.68354	.00000	.00000	.00000
820	.00819	.02061	.00002	.12979	.00000	.00911	.14948	.00000	.00001	.00000	.68279	.00000	.00000	.00000
840	.00818	.01991	.00004	.13027	.00000	.01178	.14795	.00000	.00001	.00000	.68187	.00000	.00000	.00000
860	.00816	.01906	.00006	.13085	.00000	.01500	.14610	.00000	.00001	.00000	.68075	.00000	.00000	.00000
880	.00815	.01805	.00010	.13153	.00000	.01882	.14391	.00000	.00001	.00000	.67943	.00000	.00000	.00000
900	.00813	.01688	.00016	.13231	.00000	.02325	.14138	.00000	.00001	.00000	.67789	.00000	.00000	.00000
920	.00811	.01554	.00024	.13317	.00000	.02829	.13850	.00000	.00001	.00000	.67614	.00000	.00000	.00000
940	.00809	.01404	.00037	.13412	.00000	.03390	.13532	.00000	.00001	.00000	.67417	.00000	.00000	.00000
960	.00806	.01240	.00054	.13511	.00000	.03999	.13187	.00000	.00001	.00000	.67202	.00000	.00000	.00000
980	.00803	.01065	.00078	.13611	.00000	.04643	.12825	.00000	.00001	.00000	.66973	.00000	.00000	.00000
1000	.00800	.00885	.00110	.13708	.00000	.05302	.12458	.00000	.00001	.00000	.66736	.00000	.00000	.00000
1020	.00798	.00704	.00151	.13795	.00000	.05950	.12102	.00000	.00001	.00000	.66500	.00000	.00000	.00000
1040	.00795	.00533	.00201	.13866	.00000	.06555	.11774	.00000	.00001	.00000	.66275	.00000	.00000	.00000
1060	.00792	.00380	.00261	.13916	.00000	.07082	.11495	.00000	.00001	.00000	.66074	.00000	.00000	.00000
1080	.00790	.00253	.00327	.13940	.00000	.07502	.11280	.00000	.00001	.00000	.65907	.00000	.00000	.00000
1100	.00789	.00157	.00396	.13938	.00000	.07797	.11139	.00000	.00001	.00000	.65782	.00000	.00000	.00000
1120	.00788	.00093	.00467	.13914	.00000	.07974	.11067	.00000	.00001	.00000	.65697	.00000	.00000	.00000
1140	.00787	.00052	.00537	.13873	.00000	.08058	.11048	.00000	.00000	.00000	.65645	.00000	.00000	.00000

TABLE 32.1D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00787	.00029	.00607	.13819	.00000	.08077	.11067	.00000	.00000	.00000	.65614	.00000	.00000	.00000
1180	.00787	.00016	.00678	.13757	.00000	.08056	.11109	.00000	.00000	.00000	.65597	.00000	.00000	.00000
1200	.00787	.00009	.00750	.13690	.00000	.08011	.11165	.00000	.00000	.00000	.65587	.00000	.00000	.00000
1220	.00787	.00005	.00824	.13619	.00000	.07952	.11231	.00000	.00000	.00000	.65582	.00000	.00000	.00000
1240	.00787	.00003	.00901	.13544	.00000	.07884	.11302	.00000	.00000	.00000	.65579	.00000	.00000	.00000
1260	.00787	.00002	.00979	.13467	.00000	.07811	.11378	.00000	.00000	.00000	.65578	.00000	.00000	.00000
1280	.00786	.00001	.01059	.13387	.00000	.07733	.11456	.00000	.00000	.00000	.65577	.00000	.00000	.00000
1300	.00786	.00001	.01141	.13305	.00000	.07653	.11537	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1320	.00786	.00000	.01224	.13222	.00000	.07570	.11620	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1340	.00786	.00000	.01309	.13137	.00000	.07486	.11705	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1360	.00786	.00000	.01395	.13052	.00000	.07401	.11790	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1380	.00786	.00000	.01481	.12965	.00000	.07315	.11877	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1400	.00786	.00000	.01568	.12878	.00000	.07227	.11964	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1420	.00786	.00000	.01656	.12791	.00000	.07140	.12051	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1440	.00786	.00000	.01743	.12703	.00000	.07052	.12139	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1460	.00786	.00000	.01831	.12615	.00000	.06965	.12227	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1480	.00786	.00000	.01919	.12528	.00000	.06877	.12314	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1500	.00786	.00000	.02006	.12441	.00000	.06790	.12401	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1520	.00786	.00000	.02093	.12354	.00000	.06703	.12488	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1540	.00786	.00000	.02179	.12268	.00000	.06617	.12574	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1560	.00786	.00000	.02264	.12182	.00000	.06532	.12660	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1580	.00786	.00000	.02349	.12098	.00000	.06447	.12744	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1600	.00786	.00000	.02433	.12014	.00000	.06363	.12828	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1620	.00786	.00000	.02515	.11931	.00000	.06281	.12911	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1640	.00786	.00000	.02597	.11849	.00000	.06199	.12992	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1660	.00786	.00000	.02678	.11769	.00000	.06118	.13073	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1680	.00786	.00000	.02757	.11690	.00000	.06039	.13152	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1700	.00786	.00000	.02835	.11611	.00000	.05961	.13231	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1720	.00786	.00000	.02912	.11534	.00000	.05884	.13308	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1740	.00786	.00000	.02988	.11459	.00000	.05808	.13383	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1760	.00786	.00000	.03062	.11384	.00000	.05734	.13458	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1780	.00786	.00000	.03135	.11311	.00000	.05661	.13531	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1800	.00786	.00000	.03207	.11239	.00000	.05589	.13603	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1900	.00786	.00000	.03546	.10900	.00000	.05250	.13942	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2000	.00786	.00000	.03853	.10594	.00000	.04943	.14248	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2100	.00786	.00000	.04129	.10318	.00000	.04667	.14524	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2200	.00786	.00000	.04377	.10070	.00000	.04419	.14772	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2300	.00786	.00000	.04599	.09847	.00000	.04197	.14994	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2400	.00786	.00000	.04799	.09648	.00000	.03997	.15194	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2500	.00786	.00000	.04978	.09468	.00001	.03817	.15374	.00000	.00000	.00000	.65575	.00000	.00000	.00000

TABLE 32.1D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00786	.00000	.05140	.09307	.00002	.03655	.15535	.00000	.00000	.00000	.65575	.00000	.00000	.00000
2700	.00786	.00000	.05285	.09161	.00003	.03509	.15680	.00000	.00000	.00000	.65574	.00000	.00000	.00000
2800	.00786	.00000	.05417	.09029	.00006	.03377	.15811	.00000	.00000	.00000	.65573	.00000	.00001	.00000
2900	.00786	.00000	.05535	.08910	.00011	.03256	.15928	.00000	.00000	.00000	.65571	.00000	.00002	.00000
3000	.00786	.00000	.05643	.08802	.00019	.03146	.16032	.00000	.00000	.00000	.65568	.00000	.00005	.00000
3100	.00786	.00000	.05740	.08704	.00031	.03045	.16122	.00000	.00000	.00001	.65561	.00000	.00009	.00000
3200	.00786	.00000	.05828	.08613	.00051	.02952	.16199	.00000	.00000	.00002	.65551	.00000	.00018	.00001
3300	.00786	.00000	.05910	.08528	.00079	.02866	.16258	.00000	.00000	.00004	.65534	.00001	.00033	.00002
3400	.00786	.00000	.05987	.08445	.00121	.02788	.16295	.00000	.00000	.00008	.65506	.00002	.00058	.00005
3500	.00785	.00000	.06067	.08356	.00181	.02719	.16301	.00000	.00000	.00015	.65460	.00005	.00099	.00012
3600	.00784	.00000	.06159	.08249	.00264	.02665	.16260	.00000	.00000	.00028	.65384	.00012	.00164	.00031
3700	.00783	.00000	.06280	.08102	.00379	.02634	.16151	.00000	.00000	.00049	.65261	.00027	.00262	.00070
3800	.00781	.00000	.06458	.07884	.00539	.02641	.15942	.00000	.00000	.00082	.65064	.00057	.00403	.00147
3900	.00778	.00000	.06720	.07562	.00760	.02701	.15595	.00000	.00000	.00130	.64765	.00115	.00594	.00281
4000	.00773	.00000	.07079	.07115	.01066	.02824	.15080	.00000	.00000	.00192	.64334	.00215	.00838	.00484
4100	.00766	.00000	.07528	.06547	.01486	.03012	.14376	.00000	.00000	.00268	.63755	.00376	.01132	.00752
4200	.00758	.00000	.08037	.05885	.02058	.03254	.13479	.00000	.00000	.00356	.63020	.00617	.01468	.01068
4300	.00748	.00000	.08567	.05169	.02817	.03529	.12395	.00000	.00000	.00452	.62125	.00963	.01832	.01405
4400	.00736	.00000	.09076	.04439	.03800	.03810	.11142	.00000	.00000	.00553	.61072	.01434	.02204	.01735
4500	.00722	.00000	.09531	.03730	.05039	.04064	.09753	.00000	.00000	.00653	.59868	.02051	.02560	.02028
4600	.00706	.00000	.09907	.03069	.06547	.04254	.08276	.00000	.00000	.00749	.58529	.02830	.02871	.02260
4700	.00690	.00000	.10192	.02476	.08318	.04343	.06774	.00001	.00000	.00836	.57082	.03777	.03104	.02408
4800	.00672	.00000	.10383	.01959	.10313	.04302	.05322	.00001	.00000	.00909	.55567	.04882	.03231	.02460
4900	.00654	.00000	.10490	.01522	.12456	.04117	.03995	.00001	.00000	.00964	.54039	.06118	.03233	.02411
5000	.00636	.00000	.10527	.01163	.14645	.03795	.02857	.00002	.00000	.00998	.52560	.07442	.03107	.02267
5100	.00620	.00000	.10514	.00875	.16765	.03369	.01945	.00003	.00000	.01011	.51191	.08793	.02867	.02047
5200	.00605	.00000	.10472	.00650	.18708	.02885	.01263	.00005	.00000	.01002	.49980	.10107	.02545	.01779
5300	.00593	.00000	.10415	.00478	.20402	.02392	.00786	.00007	.00000	.00975	.48953	.11325	.02183	.01492
5400	.00583	.00000	.10355	.00348	.21813	.01931	.00473	.00010	.00000	.00933	.48116	.12406	.01817	.01214

TABLE 32.2D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
380	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
400	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
420	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
440	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
460	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
480	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
500	.00823	.02300	.00000	.12811	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
520	.00823	.02300	.00000	.12811	.00000	.00001	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
537	.00823	.02300	.00000	.12811	.00000	.00001	.15473	.00000	.00000	.00000	.68592	.00000	.00000	.00000
540	.00823	.02300	.00000	.12811	.00000	.00001	.15473	.00000	.00000	.00000	.68592	.00000	.00000	.00000
560	.00823	.02300	.00000	.12811	.00000	.00002	.15473	.00000	.00000	.00000	.68592	.00000	.00000	.00000
580	.00823	.02299	.00000	.12812	.00000	.00003	.15472	.00000	.00000	.00000	.68591	.00000	.00000	.00000
600	.00823	.02299	.00000	.12812	.00000	.00005	.15471	.00000	.00000	.00000	.68591	.00000	.00000	.00000
620	.00823	.02298	.00000	.12813	.00000	.00008	.15469	.00000	.00000	.00000	.68589	.00000	.00000	.00000
640	.00823	.02297	.00000	.12813	.00000	.00013	.15466	.00000	.00000	.00000	.68588	.00000	.00000	.00000
660	.00823	.02295	.00000	.12815	.00000	.00020	.15462	.00000	.00001	.00000	.68585	.00000	.00000	.00000
680	.00823	.02292	.00000	.12817	.00000	.00030	.15456	.00000	.00001	.00000	.68582	.00000	.00000	.00000
700	.00822	.02289	.00000	.12819	.00000	.00044	.15448	.00000	.00001	.00000	.68577	.00000	.00000	.00000
720	.00822	.02283	.00000	.12823	.00000	.00063	.15437	.00000	.00001	.00000	.68571	.00000	.00000	.00000
740	.00822	.02277	.00000	.12828	.00000	.00088	.15422	.00000	.00001	.00000	.68562	.00000	.00000	.00000
760	.00822	.02268	.00000	.12834	.00000	.00123	.15403	.00000	.00001	.00000	.68550	.00000	.00000	.00000
780	.00822	.02256	.00000	.12842	.00000	.00167	.15377	.00000	.00001	.00000	.68535	.00000	.00000	.00000
800	.00822	.02241	.00000	.12853	.00000	.00225	.15343	.00000	.00001	.00000	.68515	.00000	.00000	.00000
820	.00821	.02222	.00001	.12866	.00000	.00298	.15301	.00000	.00001	.00000	.68490	.00000	.00000	.00000
840	.00821	.02198	.00001	.12883	.00000	.00389	.15249	.00000	.00002	.00000	.68458	.00000	.00000	.00000
860	.00821	.02168	.00002	.12903	.00000	.00501	.15184	.00000	.00002	.00000	.68419	.00000	.00000	.00000
880	.00820	.02132	.00003	.12928	.00000	.00638	.15106	.00000	.00002	.00000	.68372	.00000	.00000	.00000
900	.00819	.02088	.00005	.12957	.00000	.00803	.15011	.00000	.00002	.00000	.68315	.00000	.00000	.00000
920	.00819	.02036	.00008	.12991	.00000	.00999	.14899	.00000	.00002	.00000	.68246	.00000	.00000	.00000
940	.00818	.01975	.00012	.13031	.00000	.01228	.14768	.00000	.00002	.00000	.68166	.00000	.00000	.00000
960	.00816	.01904	.00018	.13075	.00000	.01494	.14617	.00000	.00002	.00000	.68073	.00000	.00000	.00000
980	.00815	.01822	.00026	.13125	.00000	.01798	.14445	.00000	.00002	.00000	.67966	.00000	.00000	.00000
1000	.00814	.01730	.00037	.13180	.00000	.02141	.14252	.00000	.00002	.00000	.67844	.00000	.00000	.00000
1020	.00812	.01626	.00053	.13238	.00000	.02523	.14038	.00000	.00003	.00000	.67708	.00000	.00000	.00000
1040	.00810	.01510	.00074	.13299	.00000	.02942	.13804	.00000	.00003	.00000	.67557	.00000	.00000	.00000
1060	.00808	.01385	.00102	.13360	.00000	.03395	.13555	.00000	.00003	.00000	.67392	.00000	.00000	.00000
1080	.00806	.01249	.00138	.13420	.00000	.03876	.13292	.00000	.00003	.00000	.67215	.00000	.00000	.00000
1100	.00804	.01106	.00184	.13476	.00000	.04377	.13022	.00000	.00003	.00000	.67027	.00000	.00000	.00000
1120	.00802	.00958	.00241	.13525	.00000	.04889	.12752	.00000	.00003	.00000	.66832	.00000	.00000	.00000
1140	.00799	.00807	.00311	.13562	.00000	.05396	.12488	.00000	.00002	.00000	.66634	.00000	.00000	.00000

TABLE 32.2D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00797	.00658	.00393	.13586	.00000	.05883	.12242	.00000	.00002	.00000	.66439	.00000	.00000	.00000
1180	.00795	.00517	.00486	.13593	.00000	.06331	.12023	.00000	.00002	.00000	.66254	.00000	.00000	.00000
1200	.00793	.00388	.00589	.13582	.00000	.06720	.11841	.00000	.00002	.00000	.66085	.00000	.00000	.00000
1220	.00791	.00278	.00696	.13553	.00000	.07034	.11705	.00000	.00002	.00000	.65940	.00000	.00000	.00000
1240	.00789	.00190	.00805	.13507	.00000	.07263	.11619	.00000	.00002	.00000	.65825	.00000	.00000	.00000
1260	.00788	.00124	.00911	.13448	.00000	.07408	.11580	.00000	.00002	.00000	.65739	.00000	.00000	.00000
1280	.00788	.00079	.01013	.13378	.00000	.07481	.11582	.00000	.00001	.00000	.65679	.00000	.00000	.00000
1300	.00787	.00049	.01110	.13302	.00000	.07498	.11613	.00000	.00001	.00000	.65640	.00000	.00000	.00000
1320	.00787	.00030	.01204	.13221	.00000	.07476	.11666	.00000	.00001	.00000	.65615	.00000	.00000	.00000
1340	.00787	.00018	.01296	.13138	.00000	.07429	.11732	.00000	.00001	.00000	.65600	.00000	.00000	.00000
1360	.00787	.00011	.01386	.13052	.00000	.07366	.11806	.00000	.00001	.00000	.65590	.00000	.00000	.00000
1380	.00787	.00007	.01476	.12966	.00000	.07293	.11886	.00000	.00001	.00000	.65585	.00000	.00000	.00000
1400	.00787	.00004	.01565	.12879	.00000	.07214	.11970	.00000	.00001	.00000	.65581	.00000	.00000	.00000
1420	.00787	.00003	.01653	.12791	.00000	.07132	.12055	.00000	.00001	.00000	.65579	.00000	.00000	.00000
1440	.00787	.00002	.01742	.12703	.00000	.07047	.12141	.00000	.00000	.00000	.65578	.00000	.00000	.00000
1460	.00787	.00001	.01830	.12616	.00000	.06961	.12228	.00000	.00000	.00000	.65577	.00000	.00000	.00000
1480	.00786	.00001	.01918	.12528	.00000	.06875	.12315	.00000	.00000	.00000	.65577	.00000	.00000	.00000
1500	.00786	.00000	.02005	.12441	.00000	.06788	.12402	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1520	.00786	.00000	.02092	.12354	.00000	.06702	.12488	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1540	.00786	.00000	.02179	.12268	.00000	.06616	.12574	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1560	.00786	.00000	.02264	.12182	.00000	.06531	.12660	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1580	.00786	.00000	.02349	.12098	.00000	.06447	.12744	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1600	.00786	.00000	.02432	.12014	.00000	.06363	.12828	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1620	.00786	.00000	.02515	.11931	.00000	.06280	.12911	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1640	.00786	.00000	.02597	.11850	.00000	.06199	.12992	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1660	.00786	.00000	.02677	.11769	.00000	.06118	.13073	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1680	.00786	.00000	.02757	.11690	.00000	.06039	.13152	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1700	.00786	.00000	.02835	.11611	.00000	.05961	.13231	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1720	.00786	.00000	.02912	.11534	.00000	.05884	.13308	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1740	.00786	.00000	.02988	.11459	.00000	.05808	.13383	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1760	.00786	.00000	.03062	.11384	.00000	.05734	.13458	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1780	.00786	.00000	.03135	.11311	.00000	.05661	.13531	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1800	.00786	.00000	.03207	.11239	.00000	.05589	.13602	.00000	.00000	.00000	.65576	.00000	.00000	.00000
1900	.00786	.00000	.03546	.10900	.00000	.05250	.13942	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2000	.00786	.00000	.03853	.10594	.00000	.04943	.14248	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2100	.00786	.00000	.04129	.10318	.00000	.04667	.14524	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2200	.00786	.00000	.04377	.10070	.00000	.04419	.14772	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2300	.00786	.00000	.04599	.09847	.00000	.04197	.14995	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2400	.00786	.00000	.04799	.09648	.00000	.03997	.15194	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2500	.00786	.00000	.04978	.09468	.00000	.03817	.15374	.00000	.00000	.00000	.65576	.00000	.00000	.00000

TABLE 32.2D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00786	.00000	.05140	.09306	.00001	.03656	.15535	.00000	.00000	.00000	.65575	.00000	.00000	.00000
2700	.00786	.00000	.05286	.09161	.00001	.03510	.15681	.00000	.00000	.00000	.65575	.00000	.00000	.00000
2800	.00786	.00000	.05417	.09029	.00002	.03378	.15812	.00000	.00000	.00000	.65575	.00000	.00000	.00000
2900	.00786	.00000	.05537	.08909	.00003	.03258	.15931	.00000	.00000	.00000	.65574	.00000	.00001	.00000
3000	.00786	.00000	.05645	.08801	.00006	.03149	.16038	.00000	.00000	.00000	.65573	.00000	.00001	.00000
3100	.00786	.00000	.05743	.08702	.00010	.03049	.16135	.00000	.00000	.00000	.65571	.00000	.00003	.00000
3200	.00786	.00000	.05833	.08612	.00016	.02958	.16220	.00000	.00000	.00001	.65568	.00000	.00006	.00000
3300	.00786	.00000	.05914	.08529	.00025	.02874	.16296	.00000	.00000	.00001	.65563	.00000	.00010	.00000
3400	.00786	.00000	.05990	.08452	.00038	.02797	.16360	.00000	.00000	.00003	.65555	.00000	.00018	.00000
3500	.00786	.00000	.06060	.08379	.00057	.02727	.16411	.00000	.00000	.00005	.65541	.00000	.00032	.00001
3600	.00786	.00000	.06128	.08308	.00083	.02663	.16446	.00000	.00000	.00009	.65521	.00001	.00053	.00003
3700	.00786	.00000	.06196	.08233	.00119	.02606	.16460	.00000	.00000	.00016	.65489	.00003	.00085	.00007
3800	.00785	.00000	.06271	.08149	.00168	.02559	.16446	.00000	.00000	.00028	.65439	.00006	.00134	.00017
3900	.00784	.00000	.06361	.08044	.00232	.02526	.16392	.00000	.00000	.00046	.65362	.00013	.00204	.00036
4000	.00783	.00000	.06479	.07903	.00318	.02513	.16282	.00000	.00000	.00074	.65247	.00026	.00303	.00071
4100	.00781	.00000	.06643	.07706	.00431	.02529	.16099	.00000	.00000	.00114	.65076	.00050	.00438	.00134
4200	.00779	.00000	.06867	.07434	.00580	.02583	.15820	.00000	.00000	.00169	.64832	.00091	.00612	.00233
4300	.00775	.00000	.07161	.07076	.00777	.02682	.15428	.00000	.00000	.00239	.64502	.00158	.00827	.00377
4400	.00770	.00000	.07520	.06631	.01035	.02829	.14912	.00000	.00000	.00323	.64075	.00258	.01083	.00564
4500	.00765	.00000	.07931	.06114	.01373	.03018	.14267	.00000	.00000	.00419	.63547	.00404	.01374	.00787
4600	.00758	.00000	.08372	.05547	.01808	.03244	.13495	.00000	.00000	.00525	.62918	.00605	.01695	.01033
4700	.00750	.00000	.08817	.04953	.02359	.03494	.12602	.00000	.00000	.00638	.62189	.00873	.02036	.01288
4800	.00740	.00000	.09244	.04357	.03046	.03753	.11600	.00000	.00000	.00755	.61363	.01220	.02385	.01536
4900	.00730	.00000	.09634	.03779	.03885	.04004	.10507	.00000	.00000	.00872	.60445	.01654	.02727	.01762
5000	.00719	.00000	.09971	.03233	.04888	.04228	.09346	.00001	.00000	.00986	.59443	.02185	.03045	.01955
5100	.00707	.00000	.10247	.02732	.06061	.04404	.08146	.00001	.00000	.01094	.58366	.02818	.03322	.02103
5200	.00694	.00000	.10458	.02281	.07399	.04512	.06943	.00002	.00000	.01192	.57229	.03553	.03539	.02199
5300	.00680	.00000	.10606	.01883	.08885	.04536	.05773	.00002	.00000	.01277	.56053	.04386	.03681	.02238
5400	.00666	.00000	.10696	.01539	.10489	.04466	.04675	.00003	.00000	.01347	.54861	.05303	.03735	.02219

TABLE 32.3D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
360	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
380	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
400	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
420	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
440	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
460	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
480	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
500	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
520	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
537	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
540	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.00000	.68592	.00000	.00000	.00000
560	.00823	.02300	.00000	.12811	.00000	.00000	.00001	.15473	.00000	.00000	.00000	.68592	.00000	.00000	.00000
580	.00823	.02300	.00000	.12811	.00000	.00000	.00001	.15473	.00000	.00000	.00000	.68592	.00000	.00000	.00000
600	.00823	.02300	.00000	.12811	.00000	.00000	.00002	.15473	.00000	.00001	.00000	.68592	.00000	.00000	.00000
620	.00823	.02299	.00000	.12812	.00000	.00000	.00003	.15472	.00000	.00001	.00000	.68591	.00000	.00000	.00000
640	.00823	.02299	.00000	.12812	.00000	.00000	.00004	.15471	.00000	.00001	.00000	.68591	.00000	.00000	.00000
660	.00823	.02298	.00000	.12812	.00000	.00000	.00006	.15470	.00000	.00001	.00000	.68590	.00000	.00000	.00000
680	.00823	.02297	.00000	.12813	.00000	.00000	.00009	.15468	.00000	.00001	.00000	.68589	.00000	.00000	.00000
700	.00823	.02296	.00000	.12814	.00000	.00000	.00014	.15465	.00000	.00001	.00000	.68587	.00000	.00000	.00000
720	.00823	.02294	.00000	.12815	.00000	.00000	.00020	.15462	.00000	.00001	.00000	.68585	.00000	.00000	.00000
740	.00823	.02292	.00000	.12817	.00000	.00000	.00028	.15457	.00000	.00002	.00000	.68582	.00000	.00000	.00000
760	.00823	.02289	.00000	.12819	.00000	.00000	.00039	.15450	.00000	.00002	.00000	.68578	.00000	.00000	.00000
780	.00822	.02285	.00000	.12822	.00000	.00000	.00053	.15442	.00000	.00002	.00000	.68573	.00000	.00000	.00000
800	.00822	.02281	.00000	.12825	.00000	.00000	.00072	.15431	.00000	.00002	.00000	.68567	.00000	.00000	.00000
820	.00822	.02274	.00000	.12829	.00000	.00000	.00095	.15417	.00000	.00002	.00000	.68559	.00000	.00000	.00000
840	.00822	.02266	.00000	.12835	.00000	.00000	.00125	.15400	.00000	.00003	.00000	.68549	.00000	.00000	.00000
860	.00822	.02257	.00001	.12842	.00000	.00000	.00161	.15379	.00000	.00003	.00000	.68536	.00000	.00000	.00000
880	.00822	.02245	.00001	.12850	.00000	.00000	.00206	.15353	.00000	.00003	.00000	.68520	.00000	.00000	.00000
900	.00822	.02230	.00002	.12860	.00000	.00000	.00261	.15321	.00000	.00004	.00000	.68501	.00000	.00000	.00000
920	.00821	.02213	.00002	.12871	.00000	.00000	.00327	.15283	.00000	.00004	.00000	.68478	.00000	.00000	.00000
940	.00821	.02191	.00004	.12885	.00000	.00000	.00406	.15238	.00000	.00004	.00000	.68450	.00000	.00000	.00000
960	.00821	.02167	.00006	.12901	.00000	.00000	.00499	.15185	.00000	.00004	.00000	.68418	.00000	.00000	.00000
980	.00820	.02137	.00008	.12919	.00000	.00000	.00608	.15123	.00000	.00005	.00000	.68380	.00000	.00000	.00000
1000	.00820	.02103	.00012	.12940	.00000	.00000	.00734	.15052	.00000	.00005	.00000	.68335	.00000	.00000	.00000
1020	.00819	.02064	.00017	.12963	.00000	.00000	.00879	.14970	.00000	.00005	.00000	.68283	.00000	.00000	.00000
1040	.00818	.02019	.00024	.12988	.00000	.00000	.01045	.14877	.00000	.00006	.00000	.68224	.00000	.00000	.00000
1060	.00817	.01967	.00033	.13015	.00000	.00000	.01232	.14773	.00000	.00006	.00000	.68157	.00000	.00000	.00000
1080	.00817	.01909	.00045	.13044	.00000	.00000	.01441	.14657	.00000	.00006	.00000	.68081	.00000	.00000	.00000
1100	.00816	.01844	.00061	.13075	.00000	.00000	.01674	.14529	.00000	.00006	.00000	.67995	.00000	.00000	.00000
1120	.00814	.01772	.00082	.13106	.00000	.00000	.01930	.14390	.00000	.00006	.00000	.67900	.00000	.00000	.00000
1140	.00813	.01692	.00108	.13136	.00000	.00000	.02210	.14239	.00000	.00007	.00000	.67795	.00000	.00000	.00000

TABLE 32.3D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
1160	.00812	.01604	.00141	.13166	.00000	.00000	.02512	.14078	.00000	.00007	.00000	.67680	.00000	.00000	.00000
1180	.00810	.01508	.00183	.13192	.00000	.00000	.02836	.13909	.00000	.00007	.00000	.67555	.00000	.00000	.00000
1200	.00809	.01405	.00234	.13215	.00000	.00000	.03179	.13732	.00000	.00007	.00000	.67420	.00000	.00000	.00000
1220	.00807	.01295	.00295	.13231	.00000	.00000	.03538	.13551	.00000	.00007	.00000	.67275	.00000	.00000	.00000
1240	.00805	.01179	.00369	.13240	.00000	.00000	.03909	.13368	.00000	.00007	.00000	.67123	.00000	.00000	.00000
1260	.00803	.01057	.00456	.13240	.00000	.00000	.04288	.13186	.00000	.00007	.00000	.66963	.00000	.00000	.00000
1280	.00801	.00932	.00556	.13229	.00000	.00000	.04667	.13010	.00000	.00007	.00000	.66799	.00000	.00000	.00000
1300	.00799	.00805	.00670	.13205	.00000	.00000	.05039	.12843	.00000	.00007	.00000	.66632	.00000	.00000	.00000
1320	.00797	.00679	.00795	.13169	.00000	.00000	.05394	.12691	.00000	.00006	.00000	.66467	.00000	.00000	.00000
1340	.00795	.00558	.00931	.13119	.00000	.00000	.05723	.12559	.00000	.00006	.00000	.66308	.00000	.00000	.00000
1360	.00794	.00445	.01074	.13058	.00000	.00000	.06014	.12451	.00000	.00006	.00000	.66160	.00000	.00000	.00000
1380	.00792	.00343	.01218	.12985	.00000	.00000	.06258	.12372	.00000	.00005	.00000	.66026	.00000	.00000	.00000
1400	.00791	.00256	.01361	.12904	.00000	.00000	.06449	.12322	.00000	.00005	.00000	.65912	.00000	.00000	.00000
1420	.00789	.00185	.01499	.12817	.00000	.00000	.06584	.12303	.00000	.00005	.00000	.65819	.00000	.00000	.00000
1440	.00789	.00130	.01628	.12727	.00000	.00000	.06665	.12311	.00000	.00004	.00000	.65747	.00000	.00000	.00000
1460	.00788	.00089	.01748	.12635	.00000	.00000	.06701	.12341	.00000	.00004	.00000	.65693	.00000	.00000	.00000
1480	.00787	.00061	.01860	.12544	.00000	.00000	.06700	.12390	.00000	.00003	.00000	.65656	.00000	.00000	.00000
1500	.00787	.00041	.01965	.12453	.00000	.00000	.06671	.12450	.00000	.00003	.00000	.65629	.00000	.00000	.00000
1520	.00787	.00027	.02064	.12363	.00000	.00000	.06624	.12520	.00000	.00003	.00000	.65612	.00000	.00000	.00000
1540	.00787	.00018	.02159	.12275	.00000	.00000	.06564	.12595	.00000	.00002	.00000	.65600	.00000	.00000	.00000
1560	.00787	.00012	.02250	.12188	.00000	.00000	.06496	.12673	.00000	.00002	.00000	.65592	.00000	.00000	.00000
1580	.00787	.00008	.02339	.12102	.00000	.00000	.06423	.12753	.00000	.00002	.00000	.65587	.00000	.00000	.00000
1600	.00787	.00006	.02426	.12017	.00000	.00000	.06347	.12834	.00000	.00002	.00000	.65583	.00000	.00000	.00000
1620	.00787	.00004	.02510	.11934	.00000	.00000	.06269	.12914	.00000	.00002	.00000	.65581	.00000	.00000	.00000
1640	.00787	.00003	.02593	.11851	.00000	.00000	.06191	.12995	.00000	.00001	.00000	.65579	.00000	.00000	.00000
1660	.00787	.00002	.02675	.11770	.00000	.00000	.06112	.13074	.00000	.00001	.00000	.65578	.00000	.00000	.00000
1680	.00787	.00001	.02755	.11691	.00000	.00000	.06035	.13153	.00000	.00001	.00000	.65577	.00000	.00000	.00000
1700	.00787	.00001	.02834	.11612	.00000	.00000	.05958	.13231	.00000	.00001	.00000	.65577	.00000	.00000	.00000
1720	.00786	.00001	.02911	.11535	.00000	.00000	.05881	.13308	.00000	.00001	.00000	.65577	.00000	.00000	.00000
1740	.00786	.00000	.02987	.11459	.00000	.00000	.05806	.13383	.00000	.00001	.00000	.65576	.00000	.00000	.00000
1760	.00786	.00000	.03061	.11385	.00000	.00000	.05732	.13458	.00000	.00001	.00000	.65576	.00000	.00000	.00000
1780	.00786	.00000	.03135	.11312	.00000	.00000	.05659	.13531	.00000	.00001	.00000	.65576	.00000	.00000	.00000
1800	.00786	.00000	.03207	.11240	.00000	.00000	.05588	.13602	.00000	.00001	.00000	.65576	.00000	.00000	.00000
1900	.00786	.00000	.03546	.10901	.00000	.00000	.05249	.13941	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2000	.00786	.00000	.03853	.10594	.00000	.00000	.04943	.14248	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2100	.00786	.00000	.04129	.10318	.00000	.00000	.04667	.14524	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2200	.00786	.00000	.04377	.10070	.00000	.00000	.04419	.14772	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2300	.00786	.00000	.04599	.09847	.00000	.00000	.04197	.14994	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2400	.00786	.00000	.04799	.09648	.00000	.00000	.03997	.15194	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2500	.00786	.00000	.04978	.09468	.00000	.00000	.03817	.15374	.00000	.00000	.00000	.65576	.00000	.00000	.00000

TABLE 32.3D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	N	NH3	NO	N2	O	OH	O2
2600	.00786	.00000	.05140	.09306	.00000	.00000	.03656	.15535	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2700	.00786	.00000	.05286	.09161	.00000	.00000	.03510	.15681	.00000	.00000	.00000	.65576	.00000	.00000	.00000
2800	.00786	.00000	.05418	.09029	.00001	.00000	.03378	.15813	.00000	.00000	.00000	.65575	.00000	.00000	.00000
2900	.00786	.00000	.05537	.08909	.00001	.00000	.03258	.15932	.00000	.00000	.00000	.65575	.00000	.00000	.00000
3000	.00786	.00000	.05646	.08801	.00002	.00000	.03150	.16040	.00000	.00000	.00000	.65575	.00000	.00000	.00000
3100	.00786	.00000	.05744	.08702	.00003	.00000	.03051	.16138	.00000	.00000	.00000	.65574	.00000	.00001	.00000
3200	.00786	.00000	.05834	.08612	.00005	.00000	.02960	.16227	.00000	.00000	.00000	.65573	.00000	.00002	.00000
3300	.00786	.00000	.05916	.08529	.00008	.00000	.02877	.16307	.00000	.00000	.00000	.65572	.00000	.00003	.00000
3400	.00786	.00000	.05992	.08454	.00012	.00000	.02801	.16379	.00000	.00000	.00001	.65569	.00000	.00006	.00000
3500	.00786	.00000	.06061	.08383	.00018	.00000	.02731	.16443	.00000	.00000	.00002	.65565	.00000	.00010	.00000
3600	.00786	.00000	.06125	.08318	.00026	.00000	.02667	.16498	.00000	.00000	.00003	.65559	.00000	.00017	.00000
3700	.00786	.00000	.06186	.08255	.00038	.00000	.02608	.16544	.00000	.00000	.00005	.65550	.00000	.00027	.00001
3800	.00786	.00000	.06244	.08194	.00053	.00000	.02555	.16578	.00000	.00000	.00009	.65535	.00001	.00043	.00002
3900	.00786	.00000	.06302	.08133	.00073	.00000	.02507	.16600	.00000	.00000	.00015	.65514	.00001	.00066	.00004
4000	.00786	.00000	.06362	.08067	.00100	.00000	.02465	.16604	.00000	.00000	.00024	.65484	.00003	.00099	.00008
4100	.00785	.00000	.06429	.07991	.00134	.00000	.02432	.16586	.00000	.00000	.00039	.65438	.00005	.00145	.00015
4200	.00784	.00000	.06509	.07899	.00177	.00000	.02409	.16539	.00000	.00000	.00060	.65373	.00010	.00209	.00029
4300	.00783	.00000	.06609	.07782	.00232	.00000	.02401	.16454	.00000	.00000	.00090	.65281	.00019	.00295	.00053
4400	.00782	.00000	.06739	.07628	.00302	.00000	.02412	.16321	.00000	.00000	.00132	.65151	.00033	.00406	.00093
4500	.00780	.00000	.06908	.07427	.00391	.00000	.02447	.16128	.00000	.00000	.00187	.64977	.00056	.00546	.00153
4600	.00778	.00000	.07123	.07169	.00503	.00000	.02511	.15866	.00000	.00000	.00256	.64747	.00092	.00716	.00238
4700	.00775	.00000	.07386	.06852	.00644	.00000	.02606	.15526	.00000	.00000	.00339	.64457	.00144	.00918	.00351
4800	.00771	.00000	.07692	.06478	.00822	.00000	.02735	.15103	.00000	.00000	.00436	.64104	.00218	.01150	.00490
4900	.00767	.00000	.08033	.06057	.01044	.00000	.02894	.14597	.00000	.00000	.00544	.63685	.00318	.01409	.00651
5000	.00762	.00000	.08395	.05602	.01319	.00000	.03080	.14009	.00000	.00000	.00661	.63203	.00450	.01691	.00828
5100	.00756	.00000	.08765	.05126	.01656	.00001	.03288	.13341	.00000	.00000	.00786	.62660	.00618	.01991	.01012
5200	.00750	.00000	.09129	.04643	.02064	.00001	.03512	.12601	.00001	.00000	.00915	.62058	.00829	.02302	.01196
5300	.00743	.00000	.09476	.04166	.02552	.00001	.03742	.11795	.00001	.00000	.01047	.61401	.01086	.02618	.01372
5400	.00735	.00000	.09795	.03706	.03128	.00001	.03971	.10934	.00001	.00000	.01178	.60691	.01395	.02930	.01535

TABLE 32.4D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
380	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
400	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
420	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
440	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
460	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
480	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
500	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
520	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
537	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
540	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00001	.00000	.68592	.00000	.00000	.00000
560	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15473	.00001	.00000	.68592	.00000	.00000	.00000
580	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15473	.00001	.00000	.68592	.00000	.00000	.00000
600	.00823	.02300	.00000	.12811	.00000	.00000	.00001	.15473	.00001	.00000	.68592	.00000	.00000	.00000
620	.00823	.02300	.00000	.12811	.00000	.00000	.00001	.15473	.00001	.00000	.68592	.00000	.00000	.00000
640	.00823	.02299	.00000	.12812	.00000	.00000	.00001	.15472	.00001	.00000	.68591	.00000	.00000	.00000
660	.00823	.02299	.00000	.12812	.00000	.00000	.00002	.15472	.00002	.00000	.68591	.00000	.00000	.00000
680	.00823	.02299	.00000	.12812	.00000	.00000	.00003	.15471	.00002	.00000	.68591	.00000	.00000	.00000
700	.00823	.02298	.00000	.12813	.00000	.00000	.00004	.15470	.00002	.00000	.68590	.00000	.00000	.00000
720	.00823	.02298	.00000	.12813	.00000	.00000	.00006	.15469	.00002	.00000	.68589	.00000	.00000	.00000
740	.00823	.02297	.00000	.12814	.00000	.00000	.00009	.15467	.00003	.00000	.68588	.00000	.00000	.00000
760	.00823	.02296	.00000	.12814	.00000	.00000	.00012	.15465	.00003	.00000	.68587	.00000	.00000	.00000
780	.00823	.02294	.00000	.12815	.00000	.00000	.00017	.15462	.00004	.00000	.68585	.00000	.00000	.00000
800	.00823	.02293	.00000	.12817	.00000	.00000	.00023	.15458	.00004	.00000	.68583	.00000	.00000	.00000
820	.00823	.02291	.00000	.12818	.00000	.00000	.00030	.15453	.00004	.00000	.68581	.00000	.00000	.00000
840	.00823	.02288	.00000	.12820	.00000	.00000	.00040	.15448	.00005	.00000	.68577	.00000	.00000	.00000
860	.00822	.02285	.00000	.12822	.00000	.00000	.00051	.15441	.00005	.00000	.68573	.00000	.00000	.00000
880	.00822	.02281	.00000	.12825	.00000	.00000	.00066	.15432	.00006	.00000	.68568	.00000	.00000	.00000
900	.00822	.02276	.00001	.12829	.00000	.00000	.00083	.15422	.00006	.00000	.68561	.00000	.00000	.00000
920	.00822	.02270	.00001	.12833	.00000	.00000	.00105	.15409	.00007	.00000	.68554	.00000	.00000	.00000
940	.00822	.02263	.00001	.12837	.00000	.00000	.00130	.15394	.00007	.00000	.68545	.00000	.00000	.00000
960	.00822	.02255	.00002	.12843	.00000	.00000	.00161	.15376	.00008	.00000	.68534	.00000	.00000	.00000
980	.00822	.02245	.00003	.12849	.00000	.00000	.00196	.15356	.00009	.00000	.68521	.00000	.00000	.00000
1000	.00822	.02233	.00004	.12856	.00000	.00000	.00238	.15331	.00009	.00000	.68506	.00000	.00000	.00000
1020	.00821	.02220	.00005	.12864	.00000	.00000	.00287	.15304	.00010	.00000	.68489	.00000	.00000	.00000
1040	.00821	.02205	.00008	.12873	.00000	.00000	.00343	.15272	.00010	.00000	.68469	.00000	.00000	.00000
1060	.00821	.02187	.00010	.12883	.00000	.00000	.00407	.15235	.00011	.00000	.68445	.00000	.00000	.00000
1080	.00821	.02167	.00014	.12893	.00000	.00000	.00480	.15194	.00012	.00000	.68419	.00000	.00000	.00000
1100	.00820	.02143	.00019	.12905	.00000	.00000	.00563	.15148	.00012	.00000	.68389	.00000	.00000	.00000
1120	.00820	.02117	.00026	.12917	.00000	.00000	.00656	.15097	.00013	.00000	.68354	.00000	.00000	.00000
1140	.00819	.02087	.00035	.12929	.00000	.00000	.00760	.15040	.00013	.00000	.68315	.00000	.00000	.00000

TABLE 32.4D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00819	.02054	.00046	.12942	.00000	.00000	.00875	.14978	.00014	.00000	.68272	.00000	.00000	.00000
1180	.00818	.02017	.00059	.12955	.00000	.00000	.01003	.14910	.00014	.00000	.68223	.00000	.00000	.00000
1200	.00818	.01976	.00076	.12967	.00000	.00000	.01143	.14836	.00015	.00000	.68169	.00000	.00000	.00000
1220	.00817	.01930	.00097	.12979	.00000	.00000	.01296	.14756	.00016	.00000	.68109	.00000	.00000	.00000
1240	.00816	.01880	.00123	.12989	.00000	.00000	.01462	.14670	.00016	.00000	.68043	.00000	.00000	.00000
1260	.00815	.01824	.00155	.12997	.00000	.00000	.01642	.14580	.00016	.00000	.67971	.00000	.00000	.00000
1280	.00814	.01764	.00193	.13002	.00000	.00000	.01834	.14484	.00017	.00000	.67891	.00000	.00000	.00000
1300	.00813	.01698	.00238	.13003	.00000	.00000	.02040	.14385	.00017	.00000	.67805	.00000	.00000	.00000
1320	.00812	.01627	.00292	.13000	.00000	.00000	.02258	.14281	.00018	.00000	.67712	.00000	.00000	.00000
1340	.00811	.01550	.00355	.12992	.00000	.00000	.02488	.14175	.00018	.00000	.67611	.00000	.00000	.00000
1360	.00810	.01468	.00429	.12977	.00000	.00000	.02729	.14067	.00018	.00000	.67504	.00000	.00000	.00000
1380	.00808	.01380	.00513	.12955	.00000	.00000	.02979	.13958	.00018	.00000	.67389	.00000	.00000	.00000
1400	.00807	.01288	.00609	.12924	.00000	.00000	.03237	.13849	.00018	.00000	.67267	.00000	.00000	.00000
1420	.00805	.01190	.00717	.12885	.00000	.00000	.03501	.13743	.00018	.00000	.67140	.00000	.00000	.00000
1440	.00804	.01089	.00838	.12837	.00000	.00000	.03767	.13640	.00018	.00000	.67007	.00000	.00000	.00000
1460	.00802	.00985	.00970	.12779	.00000	.00000	.04033	.13542	.00018	.00000	.66871	.00000	.00000	.00000
1480	.00800	.00879	.01113	.12711	.00000	.00000	.04295	.13452	.00018	.00000	.66732	.00000	.00000	.00000
1500	.00799	.00773	.01266	.12633	.00000	.00000	.04549	.13370	.00017	.00000	.66592	.00000	.00000	.00000
1520	.00797	.00669	.01426	.12548	.00000	.00000	.04789	.13299	.00017	.00000	.66455	.00000	.00000	.00000
1540	.00796	.00568	.01591	.12454	.00000	.00000	.05012	.13241	.00016	.00000	.66323	.00000	.00000	.00000
1560	.00794	.00472	.01757	.12356	.00000	.00000	.05210	.13197	.00016	.00000	.66198	.00000	.00000	.00000
1580	.00793	.00385	.01922	.12253	.00000	.00000	.05382	.13168	.00015	.00000	.66083	.00000	.00000	.00000
1600	.00791	.00307	.02081	.12149	.00000	.00000	.05521	.13156	.00014	.00000	.65980	.00000	.00000	.00000
1620	.00790	.00240	.02233	.12045	.00000	.00000	.05628	.13159	.00013	.00000	.65892	.00000	.00000	.00000
1640	.00789	.00184	.02374	.11943	.00000	.00000	.05702	.13176	.00012	.00000	.65818	.00000	.00000	.00000
1660	.00789	.00138	.02505	.11845	.00000	.00000	.05746	.13207	.00012	.00000	.65759	.00000	.00000	.00000
1680	.00788	.00103	.02625	.11750	.00000	.00000	.05763	.13249	.00011	.00000	.65712	.00000	.00000	.00000
1700	.00788	.00076	.02735	.11659	.00000	.00000	.05757	.13299	.00010	.00000	.65676	.00000	.00000	.00000
1720	.00787	.00055	.02837	.11571	.00000	.00000	.05735	.13356	.00009	.00000	.65650	.00000	.00000	.00000
1740	.00787	.00040	.02932	.11487	.00000	.00000	.05699	.13417	.00008	.00000	.65630	.00000	.00000	.00000
1760	.00787	.00029	.03020	.11407	.00000	.00000	.05653	.13481	.00007	.00000	.65615	.00000	.00000	.00000
1780	.00787	.00021	.03103	.11329	.00000	.00000	.05601	.13547	.00007	.00000	.65605	.00000	.00000	.00000
1800	.00787	.00016	.03183	.11253	.00000	.00000	.05545	.13613	.00006	.00000	.65597	.00000	.00000	.00000
1900	.00787	.00003	.03539	.10905	.00000	.00000	.05238	.13943	.00004	.00000	.65581	.00000	.00000	.00000
2000	.00787	.00001	.03850	.10596	.00000	.00000	.04939	.14248	.00003	.00000	.65577	.00000	.00000	.00000
2100	.00786	.00000	.04127	.10319	.00000	.00000	.04665	.14524	.00002	.00000	.65576	.00000	.00000	.00000
2200	.00786	.00000	.04376	.10071	.00000	.00000	.04418	.14772	.00001	.00000	.65576	.00000	.00000	.00000
2300	.00786	.00000	.04599	.09848	.00000	.00000	.04196	.14994	.00001	.00000	.65576	.00000	.00000	.00000
2400	.00786	.00000	.04798	.09648	.00000	.00000	.03996	.15194	.00001	.00000	.65576	.00000	.00000	.00000
2500	.00786	.00000	.04978	.09468	.00000	.00000	.03817	.15374	.00001	.00000	.65576	.00000	.00000	.00000

TABLE 32.4D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00786	.00000	.05140	.09307	.00000	.00000	.03656	.15535	.00000	.00000	.65576	.00000	.00000	.00000
2700	.00786	.00000	.05286	.09161	.00000	.00000	.03510	.15681	.00000	.00000	.65576	.00000	.00000	.00000
2800	.00786	.00000	.05418	.09029	.00000	.00000	.03378	.15813	.00000	.00000	.65576	.00000	.00000	.00000
2900	.00786	.00000	.05537	.08909	.00000	.00000	.03258	.15933	.00000	.00000	.65576	.00000	.00000	.00000
3000	.00786	.00000	.05646	.08801	.00001	.00000	.03150	.16041	.00000	.00000	.65575	.00000	.00000	.00000
3100	.00786	.00000	.05744	.08702	.00001	.00000	.03051	.16139	.00000	.00000	.65575	.00000	.00000	.00000
3200	.00786	.00000	.05834	.08612	.00002	.00000	.02961	.16229	.00000	.00000	.65575	.00000	.00001	.00000
3300	.00786	.00000	.05917	.08529	.00003	.00000	.02878	.16311	.00000	.00000	.65574	.00000	.00001	.00000
3400	.00786	.00000	.05992	.08454	.00004	.00000	.02803	.16385	.00000	.00000	.65574	.00000	.00002	.00000
3500	.00786	.00000	.06062	.08384	.00006	.00000	.02733	.16453	.00000	.00000	.65572	.00000	.00003	.00000
3600	.00786	.00000	.06126	.08320	.00008	.00000	.02669	.16514	.00000	.00001	.65570	.00000	.00005	.00000
3700	.00786	.00000	.06185	.08260	.00012	.00000	.02610	.16569	.00000	.00002	.65568	.00000	.00009	.00000
3800	.00786	.00000	.06240	.08204	.00017	.00000	.02556	.16617	.00000	.00003	.65563	.00000	.00014	.00000
3900	.00786	.00000	.06292	.08151	.00023	.00000	.02506	.16659	.00000	.00005	.65557	.00000	.00021	.00000
4000	.00786	.00000	.06342	.08099	.00031	.00000	.02460	.16692	.00000	.00008	.65548	.00000	.00031	.00001
4100	.00786	.00000	.06391	.08048	.00042	.00000	.02419	.16718	.00000	.00012	.65535	.00001	.00046	.00002
4200	.00786	.00000	.06440	.07996	.00056	.00000	.02382	.16733	.00000	.00019	.65517	.00001	.00067	.00003
4300	.00786	.00000	.06491	.07940	.00073	.00000	.02351	.16736	.00000	.00030	.65491	.00002	.00096	.00006
4400	.00785	.00000	.06547	.07878	.00094	.00000	.02325	.16724	.00000	.00045	.65455	.00004	.00134	.00010
4500	.00785	.00000	.06612	.07805	.00120	.00000	.02306	.16693	.00000	.00065	.65406	.00006	.00184	.00018
4600	.00784	.00000	.06688	.07716	.00152	.00000	.02297	.16639	.00000	.00093	.65340	.00011	.00248	.00031
4700	.00783	.00000	.06782	.07607	.00191	.00000	.02299	.16556	.00000	.00130	.65252	.00017	.00330	.00051
4800	.00782	.00000	.06899	.07471	.00239	.00000	.02315	.16439	.00000	.00179	.65137	.00028	.00430	.00081
4900	.00781	.00000	.07042	.07302	.00297	.00000	.02348	.16283	.00000	.00239	.64990	.00044	.00552	.00123
5000	.00779	.00000	.07216	.07095	.00368	.00000	.02399	.16081	.00000	.00312	.64807	.00066	.00696	.00180
5100	.00777	.00000	.07422	.06850	.00454	.00000	.02472	.15830	.00000	.00398	.64585	.00098	.00862	.00252
5200	.00774	.00000	.07658	.06567	.00558	.00001	.02566	.15527	.00000	.00497	.64322	.00140	.01049	.00340
5300	.00771	.00000	.07920	.06250	.00683	.00001	.02682	.15172	.00000	.00607	.64019	.00195	.01258	.00442
5400	.00768	.00000	.08203	.05905	.00833	.00001	.02818	.14764	.00000	.00726	.63675	.00265	.01485	.00556

TABLE 32.5D .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
360	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
380	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
400	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
420	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
440	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
460	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
480	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
500	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00000	.00000	.68592	.00000	.00000	.00000
520	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15474	.00001	.00000	.68592	.00000	.00000	.00000
537	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15473	.00001	.00000	.68592	.00000	.00000	.00000
540	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15473	.00001	.00000	.68592	.00000	.00000	.00000
560	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15473	.00001	.00000	.68592	.00000	.00000	.00000
580	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15473	.00001	.00000	.68592	.00000	.00000	.00000
600	.00823	.02300	.00000	.12811	.00000	.00000	.00000	.15473	.00002	.00000	.68592	.00000	.00000	.00000
620	.00823	.02299	.00000	.12812	.00000	.00000	.00000	.15473	.00002	.00000	.68591	.00000	.00000	.00000
640	.00823	.02299	.00000	.12812	.00000	.00000	.00001	.15472	.00002	.00000	.68591	.00000	.00000	.00000
660	.00823	.02299	.00000	.12812	.00000	.00000	.00001	.15472	.00002	.00000	.68591	.00000	.00000	.00000
680	.00823	.02299	.00000	.12812	.00000	.00000	.00001	.15471	.00003	.00000	.68591	.00000	.00000	.00000
700	.00823	.02298	.00000	.12813	.00000	.00000	.00002	.15471	.00003	.00000	.68591	.00000	.00000	.00000
720	.00823	.02298	.00000	.12813	.00000	.00000	.00003	.15470	.00004	.00000	.68590	.00000	.00000	.00000
740	.00823	.02298	.00000	.12813	.00000	.00000	.00004	.15469	.00004	.00000	.68590	.00000	.00000	.00000
760	.00823	.02297	.00000	.12814	.00000	.00000	.00006	.15467	.00005	.00000	.68589	.00000	.00000	.00000
780	.00823	.02296	.00000	.12814	.00000	.00000	.00008	.15466	.00005	.00000	.68588	.00000	.00000	.00000
800	.00823	.02295	.00000	.12815	.00000	.00000	.00010	.15464	.00006	.00000	.68587	.00000	.00000	.00000
820	.00823	.02294	.00000	.12816	.00000	.00000	.00014	.15461	.00007	.00000	.68586	.00000	.00000	.00000
840	.00823	.02293	.00000	.12817	.00000	.00000	.00018	.15459	.00007	.00000	.68584	.00000	.00000	.00000
860	.00823	.02291	.00000	.12818	.00000	.00000	.00023	.15455	.00008	.00000	.68582	.00000	.00000	.00000
880	.00823	.02289	.00000	.12820	.00000	.00000	.00029	.15451	.00009	.00000	.68579	.00000	.00000	.00000
900	.00823	.02287	.00000	.12822	.00000	.00000	.00037	.15446	.00010	.00000	.68576	.00000	.00000	.00000
920	.00822	.02284	.00000	.12824	.00000	.00000	.00047	.15440	.00010	.00000	.68573	.00000	.00000	.00000
940	.00822	.02281	.00001	.12826	.00000	.00000	.00058	.15432	.00011	.00000	.68568	.00000	.00000	.00000
960	.00822	.02277	.00001	.12829	.00000	.00000	.00072	.15424	.00012	.00000	.68563	.00000	.00000	.00000
980	.00822	.02272	.00001	.12832	.00000	.00000	.00088	.15414	.00013	.00000	.68557	.00000	.00000	.00000
1000	.00822	.02267	.00002	.12835	.00000	.00000	.00107	.15403	.00014	.00000	.68550	.00000	.00000	.00000
1020	.00822	.02260	.00002	.12839	.00000	.00000	.00129	.15390	.00015	.00000	.68542	.00000	.00000	.00000
1040	.00822	.02253	.00003	.12843	.00000	.00000	.00155	.15375	.00016	.00000	.68533	.00000	.00000	.00000
1060	.00822	.02245	.00005	.12848	.00000	.00000	.00184	.15358	.00017	.00000	.68522	.00000	.00000	.00000
1080	.00822	.02235	.00006	.12853	.00000	.00000	.00218	.15338	.00018	.00000	.68510	.00000	.00000	.00000
1100	.00822	.02224	.00009	.12859	.00000	.00000	.00256	.15317	.00019	.00000	.68496	.00000	.00000	.00000
1120	.00821	.02212	.00012	.12865	.00000	.00000	.00299	.15292	.00020	.00000	.68479	.00000	.00000	.00000
1140	.00821	.02198	.00016	.12871	.00000	.00000	.00347	.15265	.00021	.00000	.68461	.00000	.00000	.00000

TABLE 32.5D CONTINUED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
1160	.00821	.02182	.00020	.12878	.00000	.00000	.00401	.15235	.00022	.00000	.68441	.00000	.00000	.00000
1180	.00821	.02164	.00027	.12884	.00000	.00000	.00462	.15203	.00023	.00000	.68417	.00000	.00000	.00000
1200	.00820	.02144	.00034	.12891	.00000	.00000	.00528	.15167	.00024	.00000	.68392	.00000	.00000	.00000
1220	.00820	.02122	.00044	.12897	.00000	.00000	.00602	.15127	.00025	.00000	.68363	.00000	.00000	.00000
1240	.00820	.02098	.00056	.12903	.00000	.00000	.00683	.15085	.00026	.00000	.68331	.00000	.00000	.00000
1260	.00819	.02070	.00070	.12908	.00000	.00000	.00771	.15040	.00027	.00000	.68295	.00000	.00000	.00000
1280	.00819	.02040	.00088	.12912	.00000	.00000	.00867	.14991	.00027	.00000	.68256	.00000	.00000	.00000
1300	.00818	.02007	.00109	.12915	.00000	.00000	.00971	.14939	.00028	.00000	.68213	.00000	.00000	.00000
1320	.00818	.01971	.00134	.12915	.00000	.00000	.01083	.14884	.00029	.00000	.68165	.00000	.00000	.00000
1340	.00817	.01931	.00163	.12914	.00000	.00000	.01204	.14826	.00030	.00000	.68113	.00000	.00000	.00000
1360	.00816	.01888	.00198	.12910	.00000	.00000	.01333	.14766	.00031	.00000	.68057	.00000	.00000	.00000
1380	.00816	.01841	.00239	.12902	.00000	.00000	.01471	.14703	.00032	.00000	.67995	.00000	.00000	.00000
1400	.00815	.01790	.00287	.12891	.00000	.00000	.01617	.14639	.00032	.00000	.67929	.00000	.00000	.00000
1420	.00814	.01735	.00342	.12875	.00000	.00000	.01772	.14572	.00033	.00000	.67857	.00000	.00000	.00000
1440	.00813	.01676	.00405	.12855	.00000	.00000	.01934	.14505	.00034	.00000	.67779	.00000	.00000	.00000
1460	.00812	.01613	.00476	.12828	.00000	.00000	.02104	.14436	.00034	.00000	.67696	.00000	.00000	.00000
1480	.00811	.01545	.00557	.12796	.00000	.00000	.02282	.14368	.00035	.00000	.67607	.00000	.00000	.00000
1500	.00810	.01473	.00648	.12756	.00000	.00000	.02466	.14299	.00035	.00000	.67513	.00000	.00000	.00000
1520	.00809	.01397	.00748	.12710	.00000	.00000	.02655	.14232	.00035	.00000	.67413	.00000	.00000	.00000
1540	.00807	.01317	.00859	.12656	.00000	.00000	.02850	.14167	.00035	.00000	.67309	.00000	.00000	.00000
1560	.00806	.01234	.00980	.12594	.00000	.00000	.03048	.14103	.00035	.00000	.67199	.00000	.00000	.00000
1580	.00805	.01147	.01112	.12524	.00000	.00000	.03248	.14043	.00035	.00000	.67086	.00000	.00000	.00000
1600	.00803	.01058	.01253	.12447	.00000	.00000	.03448	.13987	.00035	.00000	.66968	.00000	.00000	.00000
1620	.00802	.00967	.01402	.12362	.00000	.00000	.03647	.13936	.00035	.00000	.66849	.00000	.00000	.00000
1640	.00801	.00875	.01559	.12270	.00000	.00000	.03843	.13890	.00035	.00000	.66728	.00000	.00000	.00000
1660	.00799	.00783	.01722	.12172	.00000	.00000	.04032	.13850	.00034	.00000	.66608	.00000	.00000	.00000
1680	.00798	.00692	.01890	.12069	.00000	.00000	.04212	.13817	.00033	.00000	.66489	.00000	.00000	.00000
1700	.00796	.00604	.02059	.11963	.00000	.00000	.04380	.13792	.00033	.00000	.66373	.00000	.00000	.00000
1720	.00795	.00520	.02228	.11853	.00000	.00000	.04534	.13775	.00032	.00000	.66263	.00000	.00000	.00000
1740	.00794	.00442	.02394	.11743	.00000	.00000	.04671	.13767	.00031	.00000	.66159	.00000	.00000	.00000
1760	.00793	.00369	.02555	.11634	.00000	.00000	.04789	.13768	.00029	.00000	.66064	.00000	.00000	.00000
1780	.00791	.00304	.02708	.11526	.00000	.00000	.04886	.13778	.00028	.00000	.65979	.00000	.00000	.00000
1800	.00791	.00247	.02853	.11422	.00000	.00000	.04961	.13796	.00027	.00000	.65904	.00000	.00000	.00000
1900	.00788	.00074	.03427	.10970	.00000	.00000	.05058	.13988	.00019	.00000	.65676	.00000	.00000	.00000
2000	.00787	.00020	.03815	.10619	.00000	.00000	.04886	.14256	.00013	.00000	.65604	.00000	.00000	.00000
2100	.00787	.00006	.04115	.10329	.00000	.00000	.04646	.14524	.00009	.00000	.65585	.00000	.00000	.00000
2200	.00787	.00002	.04370	.10076	.00000	.00000	.04410	.14770	.00007	.00000	.65579	.00000	.00000	.00000
2300	.00787	.00001	.04595	.09851	.00000	.00000	.04191	.14993	.00005	.00000	.65577	.00000	.00000	.00000
2400	.00787	.00000	.04796	.09650	.00000	.00000	.03994	.15193	.00004	.00000	.65577	.00000	.00000	.00000
2500	.00787	.00000	.04977	.09470	.00000	.00000	.03815	.15373	.00003	.00000	.65576	.00000	.00000	.00000

TABLE 32.5D CONCLUDED .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	CH4	CO	CO2	H	HO2	H2	H2O	NH3	NO	N2	O	OH	O2
2600	.00786	.00000	.05139	.09308	.00000	.00000	.03654	.15535	.00002	.00000	.65576	.00000	.00000	.00000
2700	.00786	.00000	.05285	.09162	.00000	.00000	.03509	.15681	.00002	.00000	.65576	.00000	.00000	.00000
2800	.00786	.00000	.05417	.09030	.00000	.00000	.03377	.15813	.00001	.00000	.65576	.00000	.00000	.00000
2900	.00786	.00000	.05537	.08910	.00000	.00000	.03258	.15932	.00001	.00000	.65576	.00000	.00000	.00000
3000	.00786	.00000	.05645	.08801	.00000	.00000	.03149	.16041	.00001	.00000	.65576	.00000	.00000	.00000
3100	.00786	.00000	.05744	.08702	.00000	.00000	.03051	.16139	.00001	.00000	.65576	.00000	.00000	.00000
3200	.00786	.00000	.05834	.08612	.00001	.00000	.02961	.16229	.00001	.00000	.65575	.00000	.00000	.00000
3300	.00786	.00000	.05917	.08530	.00001	.00000	.02878	.16312	.00001	.00000	.65575	.00000	.00000	.00000
3400	.00786	.00000	.05992	.08454	.00002	.00000	.02803	.16387	.00000	.00000	.65575	.00000	.00001	.00000
3500	.00786	.00000	.06062	.08385	.00003	.00000	.02733	.16455	.00000	.00000	.65574	.00000	.00001	.00000
3600	.00786	.00000	.06125	.08321	.00004	.00000	.02669	.16518	.00000	.00000	.65573	.00000	.00002	.00000
3700	.00786	.00000	.06184	.08261	.00005	.00000	.02611	.16575	.00000	.00001	.65572	.00000	.00004	.00000
3800	.00786	.00000	.06239	.08206	.00007	.00000	.02556	.16626	.00000	.00001	.65570	.00000	.00006	.00000
3900	.00786	.00000	.06290	.08155	.00010	.00000	.02506	.16673	.00000	.00002	.65567	.00000	.00009	.00000
4000	.00786	.00000	.06338	.08106	.00014	.00000	.02460	.16714	.00000	.00003	.65563	.00000	.00014	.00000
4100	.00786	.00000	.06383	.08060	.00019	.00000	.02418	.16749	.00000	.00006	.65558	.00000	.00021	.00000
4200	.00786	.00000	.06427	.08015	.00025	.00000	.02379	.16779	.00000	.00009	.65550	.00000	.00030	.00001
4300	.00786	.00000	.06470	.07970	.00032	.00000	.02343	.16801	.00000	.00013	.65539	.00000	.00043	.00001
4400	.00786	.00000	.06513	.07924	.00042	.00000	.02312	.16816	.00000	.00020	.65524	.00001	.00060	.00002
4500	.00786	.00000	.06557	.07876	.00053	.00000	.02284	.16822	.00000	.00030	.65503	.00001	.00083	.00004
4600	.00786	.00000	.06605	.07824	.00068	.00000	.02261	.16817	.00000	.00043	.65475	.00002	.00113	.00007
4700	.00785	.00000	.06658	.07765	.00085	.00000	.02243	.16799	.00000	.00061	.65438	.00004	.00151	.00011
4800	.00785	.00000	.06719	.07696	.00105	.00000	.02232	.16765	.00000	.00085	.65390	.00006	.00200	.00018
4900	.00784	.00000	.06790	.07614	.00130	.00000	.02228	.16712	.00000	.00116	.65327	.00009	.00260	.00029
5000	.00783	.00000	.06876	.07515	.00159	.00000	.02233	.16638	.00000	.00156	.65246	.00015	.00334	.00044
5100	.00783	.00000	.06978	.07396	.00194	.00000	.02249	.16538	.00000	.00205	.65145	.00022	.00422	.00066
5200	.00781	.00000	.07101	.07253	.00235	.00000	.02277	.16410	.00000	.00266	.65020	.00033	.00527	.00096
5300	.00780	.00000	.07246	.07083	.00284	.00000	.02319	.16249	.00000	.00338	.64869	.00048	.00648	.00136
5400	.00778	.00000	.07414	.06884	.00342	.00001	.02376	.16053	.00000	.00422	.64689	.00068	.00787	.00185

TABLE 32.1E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 0.14696 LB/IN2 (0.01 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O	NH3	N2
360	.00786	.04398	.00000	.00000	.10048	.00000	.19179	.00012	.00000	.65576
400	.00786	.04398	.00000	.00000	.10048	.00000	.18927	.00264	.00000	.65576
440	.00787	.04394	.00002	.00000	.10051	.00000	.15778	.03410	.00000	.65579
480	.00789	.04144	.00133	.00000	.10208	.00000	.00000	.18976	.00000	.65750
520	.00790	.03973	.00222	.00000	.10316	.00001	.00000	.18832	.00000	.65867
537	.00791	.03887	.00267	.00000	.10370	.00002	.00000	.18758	.00000	.65926
560	.00792	.03751	.00338	.00000	.10456	.00004	.00000	.18642	.00000	.66018
600	.00794	.03481	.00477	.00000	.10627	.00012	.00000	.18409	.00000	.66201
640	.00796	.03171	.00633	.00000	.10825	.00033	.00000	.18135	.00000	.66406
680	.00799	.02830	.00799	.00000	.11048	.00079	.00000	.17820	.00000	.66624
720	.00802	.02465	.00965	.00000	.11295	.00173	.00000	.17457	.00000	.66842
760	.00804	.02081	.01120	.00000	.11568	.00347	.00000	.17033	.00000	.67045
800	.00806	.01683	.01251	.00001	.11873	.00645	.00000	.16524	.00001	.67216
840	.00808	.01272	.01342	.00003	.12218	.01118	.00000	.15904	.00001	.67335
880	.00808	.00848	.01379	.00009	.12609	.01816	.00000	.15145	.00001	.67385
920	.00808	.00409	.01353	.00023	.13052	.02778	.00000	.14225	.00001	.67351
960	.00806	.00000	.01240	.00054	.13511	.03999	.00000	.13187	.00001	.67202
1000	.00800	.00000	.00885	.00110	.13708	.05302	.00000	.12458	.00001	.66736
1040	.00795	.00000	.00533	.00201	.13866	.06555	.00000	.11774	.00001	.66275
1080	.00790	.00000	.00253	.00327	.13940	.07502	.00000	.11280	.00001	.65907
1120	.00788	.00000	.00093	.00467	.13914	.07974	.00000	.11067	.00001	.65697
1160	.00787	.00000	.00029	.00607	.13819	.08077	.00000	.11067	.00000	.65614
1200	.00787	.00000	.00009	.00750	.13690	.08011	.00000	.11165	.00000	.65587
1240	.00787	.00000	.00003	.00901	.13544	.07884	.00000	.11302	.00000	.65579
1280	.00786	.00000	.00001	.01059	.13387	.07733	.00000	.11456	.00000	.65577
1320	.00786	.00000	.00000	.01224	.13222	.07570	.00000	.11620	.00000	.65576
1360	.00786	.00000	.00000	.01395	.13052	.07401	.00000	.11790	.00000	.65576
1400	.00786	.00000	.00000	.01568	.12878	.07227	.00000	.11964	.00000	.65576

TABLE 32.2E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 1.46959 LB/IN2 (0.10 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00786	.04398	.00000	.00000	.10048	.00000	.19190	.00000	.00001	.00000	.65576
400	.00786	.04398	.00000	.00000	.10048	.00000	.19165	.00000	.00026	.00000	.65576
440	.00786	.04398	.00000	.00000	.10048	.00000	.18864	.00000	.00328	.00000	.65576
480	.00787	.04393	.00003	.00000	.10052	.00000	.16434	.00000	.02752	.00000	.65579
520	.00789	.04073	.00170	.00000	.10252	.00000	.00000	.02503	.16414	.00000	.65798
537	.00791	.03887	.00267	.00000	.10370	.00001	.00000	.00000	.18759	.00000	.65926
560	.00792	.03752	.00338	.00000	.10455	.00001	.00000	.00000	.18644	.00000	.66019
600	.00794	.03484	.00477	.00000	.10624	.00004	.00000	.00000	.18416	.00000	.66201
640	.00796	.03179	.00635	.00000	.10816	.00010	.00000	.00000	.18154	.00000	.66408
680	.00799	.02846	.00805	.00000	.11028	.00025	.00000	.00000	.17865	.00000	.66631
720	.00802	.02497	.00980	.00000	.11253	.00055	.00000	.00000	.17552	.00001	.66861
760	.00805	.02138	.01153	.00000	.11489	.00111	.00000	.00000	.17216	.00001	.67087
800	.00807	.01775	.01316	.00000	.11735	.00209	.00000	.00000	.16853	.00001	.67302
840	.00810	.01414	.01463	.00001	.11991	.00369	.00000	.00000	.16456	.00001	.67495
880	.00811	.01057	.01585	.00003	.12260	.00615	.00000	.00000	.16012	.00002	.67655
920	.00813	.00705	.01674	.00007	.12544	.00975	.00000	.00000	.15508	.00002	.67771
960	.00814	.00360	.01721	.00017	.12847	.01476	.00000	.00000	.14931	.00002	.67833
1000	.00814	.00017	.01721	.00037	.13169	.02140	.00000	.00000	.14267	.00002	.67833
1040	.00810	.00000	.01510	.00074	.13299	.02942	.00000	.00000	.13804	.00003	.67557
1080	.00806	.00000	.01249	.00138	.13420	.03876	.00000	.00000	.13292	.00003	.67215
1120	.00802	.00000	.00958	.00241	.13525	.04889	.00000	.00000	.12752	.00003	.66832
1160	.00797	.00000	.00658	.00393	.13586	.05883	.00000	.00000	.12242	.00002	.66439
1200	.00793	.00000	.00388	.00589	.13582	.06720	.00000	.00000	.11841	.00002	.66085
1240	.00789	.00000	.00190	.00805	.13507	.07263	.00000	.00000	.11619	.00002	.65825
1280	.00788	.00000	.00079	.01013	.13378	.07481	.00000	.00000	.11582	.00001	.65679
1320	.00787	.00000	.00030	.01204	.13221	.07476	.00000	.00000	.11666	.00001	.65615
1360	.00787	.00000	.00011	.01386	.13052	.07366	.00000	.00000	.11806	.00001	.65590
1400	.00787	.00000	.00004	.01565	.12879	.07214	.00000	.00000	.11970	.00001	.65581

TABLE 32.3E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 14.6959 LB/IN2 (1.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00786	.04398	.00000	.00000	.10048	.00000	.19191	.00000	.00000	.00000	.65576
400	.00786	.04398	.00000	.00000	.10048	.00000	.19189	.00000	.00003	.00000	.65576
440	.00786	.04398	.00000	.00000	.10048	.00000	.19159	.00000	.00033	.00000	.65576
480	.00786	.04398	.00000	.00000	.10048	.00000	.18925	.00000	.00267	.00000	.65576
520	.00786	.04396	.00001	.00000	.10050	.00000	.00000	.17823	.01367	.00000	.65577
537	.00787	.04389	.00005	.00000	.10054	.00000	.00000	.16729	.02455	.00000	.65582
560	.00787	.04344	.00028	.00000	.10083	.00000	.00000	.13834	.05311	.00000	.65613
600	.00794	.03485	.00477	.00000	.10623	.00001	.00000	.00000	.18418	.00000	.66202
640	.00796	.03181	.00636	.00000	.10814	.00003	.00000	.00000	.18160	.00001	.66409
680	.00799	.02852	.00806	.00000	.11022	.00008	.00000	.00000	.17879	.00001	.66633
720	.00802	.02507	.00984	.00000	.11240	.00017	.00000	.00000	.17582	.00001	.66866
760	.00805	.02156	.01163	.00000	.11464	.00035	.00000	.00000	.17274	.00002	.67101
800	.00808	.01805	.01338	.00000	.11691	.00067	.00000	.00000	.16959	.00002	.67331
840	.00810	.01459	.01505	.00000	.11917	.00118	.00000	.00000	.16637	.00003	.67550
880	.00813	.01122	.01660	.00001	.12144	.00199	.00000	.00000	.16306	.00003	.67753
920	.00815	.00797	.01798	.00002	.12370	.00320	.00000	.00000	.15961	.00004	.67934
960	.00817	.00484	.01915	.00005	.12596	.00492	.00000	.00000	.15598	.00004	.68088
1000	.00818	.00184	.02008	.00012	.12824	.00730	.00000	.00000	.15209	.00005	.68210
1040	.00818	.00000	.02019	.00024	.12988	.01045	.00000	.00000	.14877	.00006	.68224
1080	.00817	.00000	.01909	.00045	.13044	.01441	.00000	.00000	.14657	.00006	.68081
1120	.00814	.00000	.01772	.00082	.13106	.01930	.00000	.00000	.14390	.00006	.67900
1160	.00812	.00000	.01604	.00141	.13166	.02512	.00000	.00000	.14078	.00007	.67680
1200	.00809	.00000	.01405	.00234	.13215	.03179	.00000	.00000	.13732	.00007	.67420
1240	.00805	.00000	.01179	.00369	.13240	.03909	.00000	.00000	.13368	.00007	.67123
1280	.00801	.00000	.00932	.00556	.13229	.04667	.00000	.00000	.13010	.00007	.66799
1320	.00797	.00000	.00679	.00795	.13169	.05394	.00000	.00000	.12691	.00006	.66467
1360	.00794	.00000	.00445	.01074	.13058	.06014	.00000	.00000	.12451	.00006	.66160
1400	.00791	.00000	.00256	.01361	.12904	.06449	.00000	.00000	.12322	.00005	.65912

TABLE 32.4E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 146.959 LB/IN2 (10.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00786	.04398	.00000	.00000	.10048	.00000	.19191	.00000	.00000	.00000	.65576
400	.00786	.04398	.00000	.00000	.10048	.00000	.19191	.00000	.00000	.00000	.65576
440	.00786	.04398	.00000	.00000	.10048	.00000	.19188	.00000	.00003	.00000	.65576
480	.00786	.04398	.00000	.00000	.10048	.00000	.19165	.00000	.00027	.00000	.65576
520	.00786	.04398	.00000	.00000	.10048	.00000	.00000	.19057	.00134	.00000	.65576
537	.00786	.04398	.00000	.00000	.10049	.00000	.00000	.18953	.00239	.00000	.65576
560	.00786	.04398	.00000	.00000	.10049	.00000	.00000	.18692	.00499	.00000	.65576
600	.00787	.04391	.00003	.00000	.10053	.00000	.00000	.17652	.01534	.00000	.65580
640	.00787	.04331	.00035	.00000	.10090	.00000	.00000	.15036	.04099	.00000	.65621
680	.00791	.03876	.00273	.00000	.10377	.00001	.00000	.08661	.10087	.00001	.65933
720	.00802	.02510	.00985	.00000	.11236	.00006	.00000	.00000	.17591	.00002	.66868
760	.00805	.02161	.01166	.00000	.11457	.00011	.00000	.00000	.17292	.00003	.67105
800	.00808	.01813	.01345	.00000	.11677	.00021	.00000	.00000	.16992	.00004	.67340
840	.00810	.01473	.01518	.00000	.11895	.00038	.00000	.00000	.16694	.00005	.67568
880	.00813	.01142	.01684	.00000	.12107	.00063	.00000	.00000	.16399	.00006	.67785
920	.00815	.00825	.01839	.00001	.12314	.00102	.00000	.00000	.16108	.00007	.67989
960	.00818	.00521	.01983	.00002	.12515	.00158	.00000	.00000	.15818	.00008	.68177
1000	.00820	.00233	.02112	.00004	.12710	.00237	.00000	.00000	.15529	.00009	.68347
1040	.00821	.00000	.02205	.00008	.12873	.00343	.00000	.00000	.15272	.00010	.68469
1080	.00821	.00000	.02167	.00014	.12893	.00480	.00000	.00000	.15194	.00012	.68419
1120	.00820	.00000	.02117	.00026	.12917	.00656	.00000	.00000	.15097	.00013	.68354
1160	.00819	.00000	.02054	.00046	.12942	.00875	.00000	.00000	.14978	.00014	.68272
1200	.00818	.00000	.01976	.00076	.12967	.01143	.00000	.00000	.14836	.00015	.68169
1240	.00816	.00000	.01880	.00123	.12989	.01462	.00000	.00000	.14670	.00016	.68043
1280	.00814	.00000	.01764	.00193	.13002	.01834	.00000	.00000	.14484	.00017	.67891
1320	.00812	.00000	.01627	.00292	.13000	.02258	.00000	.00000	.14281	.00018	.67712
1360	.00810	.00000	.01468	.00429	.12977	.02729	.00000	.00000	.14067	.00018	.67504
1400	.00807	.00000	.01288	.00609	.12924	.03237	.00000	.00000	.13849	.00018	.67267

TABLE 32.5E .- EQUILIBRIUM COMPOSITIONS (MOLE FRACTIONS)

FUEL H/C ATOM RATIO = 2.100; F/A = 0.081307; EQUIV. RATIO = 1.250; CHEM. EQUIV. RATIO = 1.2239; P = 734.797 LB/IN2 (50.00 ATM)
WET AIR (W/A= 0.03)

T R	AR	C(S)	CH4	CO	CO2	H2	H2O(S)	H2O(L)	H2O	NH3	N2
360	.00786	.04398	.00000	.00000	.10048	.00000	.19191	.00000	.00000	.00000	.65576
400	.00786	.04398	.00000	.00000	.10048	.00000	.19191	.00000	.00000	.00000	.65576
440	.00786	.04398	.00000	.00000	.10048	.00000	.19191	.00000	.00001	.00000	.65576
480	.00786	.04398	.00000	.00000	.10048	.00000	.19186	.00000	.00005	.00000	.65576
520	.00786	.04398	.00000	.00000	.10048	.00000	.00000	.19165	.00027	.00000	.65576
537	.00786	.04398	.00000	.00000	.10048	.00000	.00000	.19144	.00048	.00000	.65576
560	.00786	.04398	.00000	.00000	.10048	.00000	.00000	.19092	.00099	.00000	.65576
600	.00786	.04398	.00000	.00000	.10049	.00000	.00000	.18889	.00302	.00000	.65576
640	.00787	.04396	.00001	.00000	.10050	.00000	.00000	.18404	.00785	.00000	.65577
680	.00787	.04381	.00009	.00000	.10059	.00000	.00000	.17372	.01805	.00000	.65588
720	.00787	.04301	.00050	.00000	.10110	.00001	.00000	.15332	.03777	.00000	.65642
760	.00790	.03942	.00237	.00000	.10336	.00002	.00000	.11395	.07409	.00001	.65887
800	.00802	.02520	.00979	.00000	.11231	.00008	.00000	.03381	.14216	.00004	.66860
840	.00810	.01476	.01521	.00000	.11890	.00017	.00000	.00000	.16707	.00007	.67572
880	.00813	.01147	.01690	.00000	.12099	.00028	.00000	.00000	.16421	.00008	.67793
920	.00816	.00832	.01849	.00000	.12301	.00046	.00000	.00000	.16143	.00010	.68003
960	.00818	.00530	.02000	.00001	.12495	.00071	.00000	.00000	.15873	.00012	.68200
1000	.00820	.00244	.02139	.00002	.12682	.00107	.00000	.00000	.15610	.00014	.68383
1040	.00822	.00000	.02253	.00003	.12843	.00155	.00000	.00000	.15375	.00016	.68533
1080	.00822	.00000	.02235	.00006	.12853	.00218	.00000	.00000	.15338	.00018	.68510
1120	.00821	.00000	.02212	.00012	.12865	.00299	.00000	.00000	.15292	.00020	.68479
1160	.00821	.00000	.02182	.00020	.12878	.00401	.00000	.00000	.15235	.00022	.68441
1200	.00820	.00000	.02144	.00034	.12891	.00528	.00000	.00000	.15167	.00024	.68392
1240	.00820	.00000	.02098	.00056	.12903	.00683	.00000	.00000	.15085	.00026	.68331
1280	.00819	.00000	.02040	.00088	.12912	.00867	.00000	.00000	.14991	.00027	.68256
1320	.00818	.00000	.01971	.00134	.12915	.01083	.00000	.00000	.14884	.00029	.68165
1360	.00816	.00000	.01888	.00198	.12910	.01333	.00000	.00000	.14766	.00031	.68057
1400	.00815	.00000	.01790	.00287	.12891	.01617	.00000	.00000	.14639	.00032	.67929

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
NASA TP-1909		

4. Title and Subtitle	5. Report Date
THERMODYNAMIC AND TRANSPORT COMBUSTION PROPERTIES OF HYDROCARBONS WITH AIR IV - COMPOSITIONS CORRESPONDING TO RANKINE TEMPERATURE SCHEDULES IN PART III	July 1982
	6. Performing Organization Code: 505-32-72
7. Author(s): Sanford Gordon	8. Performing Organization Report No.: E-949
9. Performing Organization Name and Address: National Aeronautics and Space Administration, Lewis Research Center, Cleveland, Ohio 44135	10. Work Unit No.
	11. Contract or Grant No.
12. Sponsoring Agency Name and Address: National Aeronautics and Space Administration, Washington, D.C. 20546	13. Type of Report and Period Covered: Technical Paper
	14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

Thermodynamic and transport combustion properties have been calculated for a wide range of conditions for the reaction of hydrocarbons with air. Three hydrogen-carbon atom ratios were selected to represent the range of aircraft fuels (H/C = 1.7, 2.0, and 2.1). For each of these H/C ratios, combustion properties were calculated for the following conditions:

Equivalence ratio: 0, 0.25, 0.5, 0.75, 1.0, and 1.25

Water - dry air mass ratio: 0 and 0.03

Pressure, kPa: 1.01325, 10.1325, 101.325, 1013.25, and 5066.25 (or in atm: 0.01, 0.1, 1, 10, and 50)

Temperature, K: every 10 degrees from 200 to 900 K; every 50 degrees from 900 to 3000 K

Temperature, $^{\circ}$R: every 20 degrees from 360° to 1600° R; every 100 degrees from 1600° to 5400° R

The properties presented are composition, density, molecular weight, enthalpy, entropy, specific heat at constant pressure, volume derivatives, isentropic exponent, velocity of sound, viscosity, thermal conductivity, and Prandtl number. Property tables are based on compositions that were calculated by assuming both (1) chemical equilibrium (for both homogeneous and heterogeneous phases) and (2) constant compositions for all temperatures. Properties in SI units are presented in part I (TP-1906) for the Kelvin temperature schedules, and the corresponding compositions are presented in part II (TP-1907). Properties in U.S. customary units are presented in part III (TP-1908) for the Rankine temperature schedules, and corresponding compositions are presented in this report.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
Hydrocarbon combustion; Combustion products; Combustion temperature; Thermodynamic properties; Transport properties; Chemical equilibrium; Heat of combustion	Unclassified - unlimited STAR Category 77

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price*
Unclassified	Unclassified	280	A13

* For sale by the National Technical Information Service, Springfield, Virginia 22161

NASA-Langley, 1982